## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

## MANITOBA INDUSTRIAL POWER USERS GROUP ("MIPUG") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## MIPUG/MH/PRE-ASK-1

## Question:

In appendix 5.7 it is indicated at page 1 that the depreciation study was initiated in 2009. Please provide a copy of any Hydro requests or instructions, as amended from time to time, leading to Gannett Fleming's proposal to Hydro to complete the depreciation study, the Gannett Fleming scope of work provided by Hydro and any revisions to this scope of work during the course of the assignment leading to the preparation of the Gannett Fleming Reports.

## Response:

Manitoba Hydro met with Mr. Larry Kennedy of Gannett Fleming, Inc. in January 2009 to discuss the requirement to review Manitoba Hydro's depreciation practices under IFRS. In total, the engagement with Gannett Fleming spanned a period of almost 3 years from January 2009 through to November 2011 during which there was an extensive volume of communications back and forth. Manitoba Hydro has provided an outline of the process from the start of the engagement through to the receipt of the final depreciation study.

Gannett Fleming was first engaged to assist Manitoba Hydro with understanding how the transition to IFRS would impact annual depreciation expense. The engagement transitioned into a full depreciation study for the electric and gas operations. Included in the response are copies of scoping documents received from Gannett Fleming, with respect to each engagement, as well as draft depreciation study reports as requested in MIPUG/MH/Pre-Ask4a.

In March 2009, Gannett Fleming provided a proposal to Manitoba Hydro outlining the scope of services they could provide to assist Manitoba Hydro with the depreciation aspect of the IFRS conversion. Please see Attachment 1 for a copy of the Gannett Fleming proposal. Based on Mr. Kennedy’s proposal, Manitoba Hydro engaged Gannett Fleming to provide advice and assistance with the following as it pertained to the IFRS conversion project:

- Development of asset groupings that comply with the componentization requirements of IFRS;
- Development of IFRS compliant depreciation policies and practices applicable to each asset group;
- Development of the model to determine gains and losses on asset retirements;
- Development of historic cost and accumulated depreciation balances for the new and existing component groups; and
- Development of net salvage concepts and policies that are compliant with IFRS

In June 2009, Mr. Kennedy spent 3 days touring various Manitoba Hydro facilities with IFRS project and operational staff. The tour was designed to refresh Mr. Kennedy’s knowledge of Manitoba Hydro’s plant assets and to identify potential increases to the existing component groupings.

In September 2009, Gannett Fleming provided their first draft of suggested depreciation component groups, as well as the assumptions supporting the development of the different components and estimated depreciation rates for each of the components. Mr. Kennedy indicated that the level of components was similar to what he was seeing among a number of electric utilities. Overall, changes were recommended in several areas where prior component groups included significant items with different expected service lives.

In November 2009, Gannett Fleming met with IFRS project team members along with operational and engineering staff to discuss and refine the component list further. These meetings also involved discussions as to the service lives of the various components under consideration so that the information could be used in the development of depreciation rates for each component group.

In January 2010 a meeting was held between Manitoba Hydro and Gannett Fleming to discuss Gannett Fleming’s analysis on the component data files, to discuss the various IFRS conversion issues as previously identified, and to determine the next steps in the project.

In February 2010, Gannett Fleming provided Manitoba Hydro with a Status Update Letter regarding IFRS implementation activities related to Property, Plant \& Equipment. Please see Attachment 2 for a copy of the Gannett Fleming letter dated February 9, 2010.

In May of 2010, Manitoba Hydro and Gannett Fleming discussed the next steps required for a full depreciation study for Manitoba Hydro and Centra Gas. It was determined that the study should incorporate the changes to the asset depreciation components for determination of IFRS compliant depreciation rates and should include depreciation rates both with and without the inclusion of net salvage so as to understand the financial impact of net salvage on
depreciation rates. The study would require Gannett Fleming to conduct further investigative work into determining the appropriate depreciation rates to recommend based on the new asset component groups.

In April 2011, Manitoba Hydro received a scoping memo from Gannett Fleming that provided a summary of the work required for the completion of a full and comprehensive depreciation study for both the electric and gas operations. Please see Attachment 3 for a copy of the scoping letter from Gannett Fleming. In May 2011, Manitoba Hydro engaged Gannett Fleming for consulting services for the completion of a full depreciation study for the electric and gas operations.

The development of IFRS compliant depreciation rates required a significantly different approach from past studies given that new component groupings had been developed and there existed a multitude of other possible changes with respect to net salvage, the adoption of the ELG, and the continuation of Canadian GAAP for a period subsequent to the completion of the study, but before the transition to IFRS.

Gannett Fleming visited Manitoba Hydro during the May 17-19, 2011 period and conducted extensive interviews of operational and engineering staff to obtain their views on factors impacting asset service lives for new and existing components.

Manitoba Hydro received the first draft of the full depreciation study on October 14, 2011. The report was prepared using the ELG procedure for group depreciation with a provision for net salvage as directed by Manitoba Hydro. (Please see Attachment 4 for a copy of the first draft report).

Based on Manitoba Hydro’s review, Manitoba Hydro requested the following changes:

- Removal of the provision for net salvage from the numerical schedules in Section III for compliance with IFRS.
- Modification of the discussion in Sections I and II of the report to reflect removal of the provision for net salvage.
- A clarification change to the described scope in Section I to indicate that the depreciation rates were determined for financial reporting purposes.

Manitoba Hydro received the 2nd Draft Report on October 22, 2011. This draft incorporated the changes requested by Manitoba Hydro from the review of the 1st draft. (Please see Attachment 5 for a copy of this report). Manitoba Hydro requested some minor editorial revisions, such as correction of typographical errors and the relocation of the Life Span Estimates section of the report. In addition, Manitoba Hydro requested that the commentary be expanded in the following areas, where significant changes had occurred, to more fully
describe the nature and basis of the changes (page references relate to the 2nd draft dated October 22, 2011):

- International Financial Reporting Standards - pages I-3 to I-4
- Survivor Curve Judgments - pages II-24 to II-25
- Account Grouping A - Dams, Dykes and Weirs - pages II-25 to II-26
- Account Grouping 4000J - Poles and Fixtures - page II-32
- Account Grouping 4000L - Overhead Conductor and Devices - page II-32
- The addition of a new section explaining the removal of net salvage
- Group Depreciation Procedures - The addition of a simple example illustrating the differences between ASL and ELG, and the addition of commentary regarding the conformance of ELG to IFRS - section begins on page II-35

The 3rd Draft Report was received from Manitoba Hydro on October 25, 2011. This draft incorporated the changes requested by Manitoba Hydro from the review of the 2nd draft. (Please see Attachment 6 for a copy of this report)

The 4th Draft Report dated November 2, 2011 incorporated editorial changes requested by Gannett Fleming Inc.'s Head office in Harrisburg, PA based on their review of the 3rd draft. (Please see Attachment 7 for a copy of this report)

The final version of the report was dated November 28, 2011. There were no significant changes from 4th draft dated Nov 2, 2011 (Please see Appendix 5.7 to the Application).

# Gunnett Fleming 

## GANNETT FLEMING, $\operatorname{INC}$.

## Via email

March 2, 2009

Manitoba Hydro
Attn: Mr. Darryl Martin
P.O. Box 1287

Winnipeg, Manitoba R3C 2Z1

Dear Darryl:
During our meetings in Winnipeg on January 27, 2009, I committed to providing a scoping memo of potential Gannett Fleming support in your implementation of the International Financial Accounting Standards ("IFRS").

Based on our conversations, I have developed the following potential areas where Gannett Fleming may be able to provide consultation assistance:

## Phase $2 / 3$ assistance

- Development of appropriate accounts to conform to the categorization requirements of IFRS. It is anticipated that this would involve a further analysis of the categorization of generation plant equipment used by Manitoba Hydro in the development of the Equipment Heath Analysis system that is presently being implemented. Additionally, further review of the distribution and transmission systems would be analyzed to ensure that the requirements of IAS 16 are adhered to, giving consideration to the level of interim retirement activity that is inherent in the IOWA curves used for the average service selection for most accounts.
- Development of appropriate alternatives and scenarios relating to depreciation policy and concepts in order to ensure compliance with IFRS and meet regulatory requirements. This would entail the review of the applicability of group depreciation concepts in the era of IFRS and the applicability of both the Average Service Life (ASL) and Equal Life Group (ELG) procedures in the development of depreciation rates. Appropriate straight line unit depreciation concepts will be reviewed for specific assets that are not reasonable candidates for group depreciation within IAS 16.
- Development and justification of appropriate net salvage concepts for both tolling purposes and IFRS compliance. Gannett Fleming will work with Manitoba Hydro to ensure that appropriate recovery for the future costs of retirement are included in the depreciation policies for both GAAP and for regulatory purposes.
- Assistance in the development of IFRS compliant procedures for the development of the values of each of the asset components or component groups, in accordance with LAS 1. It is anticipated that procedures will be developed for a number of valuation options that Manitoba Hydro may need to consider. These valuation options include, but are not limited to the use of the current Net Book Value as the recognition valued of the fair value of plant as at the conversion date; the use of allocation and appropriate assumptions to rebuild the asset and accumulated deprecation balances incorporating the historic use of the current IFRS requirements; and the development of an Engineering based replacement (or reproduction) type valuation of the current plant assets.


## Phase 4 assistance

- Assistance in the determination of the value of asset groups in the circumstances that a fair value determination must be made in order to comply with IAS 1. Based on the procedure and method deemed appropriate in the Phase $2 / 3$ work, it is anticipated that Gannett Fleming would be able to provide a significant level of assistance in the actual development of the gross asset amount of the capitalized plant assets. In the circumstances of an actual engineering type of replacement study, the Engineering group of Gannett Fleming is widely recognized throughout North America in its expertise in the Hydro Electric generation field. If other method of valuation are deemed appropriate (such as using allocation methods), Gannett Fleming has recognized expertise and experience to develop such allocation factors.
- Allocation of booked accumulated depreciation balances for all asset categories and groups. Gannett Fleming has developed a number of models for the categorization of accumulated depreciation balances that have been tested in a number of regulatory forums.
- Development of a full and comprehensive depreciation study to determine the appropriate depreciation rates for all asset groups. Based on the categorization and development of plant and accumulated depreciation values, Gannett Fleming would develop a full and comprehensive depreciation study to develop appropriate depreciation rates that incorporate all of the analysis and work completed in Phases $2 / 3$ and 4. As such, it is anticipated that the depreciation study would be the final work product produced and may not be delivered until the 2010 calendar year.

Gannett Fleming recommends that the completion of the tasks as identified for Phase $2 / 3$ completion would be on an "as required" basis to be billed in accordance with the attached 2009 Gannett Fleming Billing Schedule. Generally, this work would be to provide guidance and
assistance to the internal Manitoba Hydro IFRS teams. As such it is not anticipated that a significant amount of detailed data analysis would be required during this phase. However it is anticipated that up to three meetings in the offices of Manitoba Hydro may be required. Overall Gannett Fleming anticipates that approximately 15 to 20 man days of work would be required for the guidance associated with the tasks as outlined in Phase $2 / 3$ of the IFRS implementation throughout the 2009 calendar year. As such it is estimated that billings (including travel) related to phase $2 / 3$ work would not exceed $\$$ Cdn.

It is anticipated that the specific Gannett Fleming work associated with the Phase 4 Implementation would be more extensive. For example, the allocation of gross plant and accumulated depreciation amounts may be based on models developed and run by Gannett Fleming. Furthermore, the calculation of Asset Retirement Obligation amounts could also be developed through the use of Gannett Fleming models. Lastly, the full and comprehensive depreciation study for the Manitoba Hydro Gas and Electric system assets requires an extensive commitment of Gannett Fleming resources. Gannett Fleming would complete the work on a time and expense basis but has developed the following estimated amounts for the phase 4 work:

- Development of the value of the capitalized assets will vary greatly based on the method chosen in Phase $2 / 3$. If the current net book value can be used, no additional costs would be incurred beyond those billed as part of the Phase $2 / 3$ work. If allocation methods are determined to be approiate, Gannett Fleming estimates approximately of billings be required which includes 2 trips to the offices of Manitoba Hydro. In the circumstance where detailed engineering based replacement valuations are required, additional scoping will be required prior to the Engineering groups of Gannett Fleming being able to provide any cost estimates.
- Allocation of accumulated depreciation balances in accordance with IAS 1 and the results of the additional componentization of assets in conformance with IAS 16 would include two functions. Firstly, the development of the amount of the accumulated depreciation balance in accordance with the valuation procedures used for the gross plant assets will need to be carried into the determination of value for accumulated depreciation. Importantly, the manner in which the recognition and derecognition issues of IAS 16 are resolved, could require the estimated of historic gains/losses from all historic retirement activity. While Gannett Fleming considers that the use of reasonable assumptions and allocations could be of assistance, a significant amount of work could be required in this area. Secondly, historic accumulated depreciation balances will need to be developed for any new asset classes (and re-calculated for the existing class) that is developed as a result of the componentization requirements of IAS 16. Gannett Fleming estimates that total billings for this function could vary from as low as $\$$ to $\$$ depending on the resolution of the recognition issue associated with IAS 16.
- The development of full and comprehensive depreciation studies for both the gas and electric systems would be similar in nature and scope as the depreciation studies completed in 2006. While depreciation parameters may need to be developed for additional categories, it is anticipated that cost sufficient cost efficiencies can be
gained from the other phase $2 / 3$ and 4 work to offset the work associated with any additional catagories. As such, Gannett Fleming anticipates that the depreciation studies for both the gas and electric systems can be completed for approximately
- Development of Asset Retirement Obligation (ARO) calculations in the circumstance where it is determined in the phase $2 / 3$ work that specific ARO calculations are required for IAS 16 compliance. It is anticipated that these calculations would be different and separate from the net salvage used in the depreciation study, and as such will require unique calculations. Estimated billings for this work would vary depending on the number ARO calculations required. However, it is assumed that the same model could be used for most of the ARO calculations. As such, Gannett Fleming estimates total billings of $\$$ to $\$$ for this work.

In summary, Gannett Fleming views that our expertise and experience would be of great benefit to the IFRS implementation at Manitoba Hydro for both the Phase $2 / 3$ and Phase 4 work as outlined above. We estimate that our billings associated with phase $2 / 3$ consulting would not exceed $\$$ Our estimated billings for phase 4 work could vary widely from $\$$ to

Additionally, detailed Engineering work for the determination of replacement or reproduction value of the Hydro Generation facilities would be in addition to these amounts based on the scope of service required.

If you have any questions on this or wish to discuss, please call me at (403)257-5946.

## Sincerely,

GANNETT FLEMING, INC


Larry E. Kennedy
Director, Canadian Services
Valuation and Rate Division

GANNETT FLEMING, INC.
Suite 277
200 Rivercrest Drive S.E.
Calgary, Alberta T2C 2X5
Office: (403) 257-5946
Fax: (403) 257-5947
www.gannettfleming.com

## Via email

February 9, 2010

Manitoba Hydro
Attn: Mr. Darryl Martin
P.O. Box 1287

Winnipeg, Manitoba R3C 2Z1
RE: Status Update regarding the International Financial Reporting Standards Implementation Activities related to Property Plant and Equipment

As requested during our meetings on January 28, 2010, I am providing a status update on the property. Plant and Equipment related activities impacted by the implementation of the International Financial Reporting Standards ("IFRS"). Gannett Fleming, Inc. ("Gannett Fleming") has provided consulting services relating to many of the activities and this updates provides the status on the activities in which Gannett Fleming has had input or knowledge related to the internally completed Manitoba Hydro activities.

The implementation of IFRS requires the depreciation of assets over the estimated life of the assets. As such, the level of the grouping of assets required review to determine if the current grouping resulted in compliance with IAS 16. Gannett Fleming has completed the review of the current level of componentization and recommended a number of new asset categories, most predominantly in the area of hydro generation. The development of additional components has required the development of the original cost and accumulated depreciation for each of the new components. This costing activity is now in the final stages of completion, with only verification of the costs for both the new and previous categories.

Gannett Fleming has provided an average service life estimate for each of the new and currently existing asset categories in order that each asset category is depreciated over the estimated service life of the assets. The average service life estimates were based on the professional judgement of Gannett Fleming considering the estimate as determined in the previous depreciation study, the specific experience of Manitoba Hydro as determined through interviews with the operational and management staff of each of the business segments., and the experience of peer electric utilities from across Canada for which Gannett Fleming has completed studies. Additionally Gannett Fleming has provided net salvage percentages for each
of the existing and new components. Again these estimates were based on the professional judgement of Gannett Fleming based similar considerations as were used in the average service life estimation.

Based on the allocations of both the original cost and accumulated depreciation from the existing accounts to the new components, combined with the estimated average service life and net salvage percentages, Gannett Fleming is in now determining the estimated impact of the implementation of IFRS on the annual depreciation expense. In order to deal with the provisions of the IFRS regarding the cost of removal expenditures, Gannett Fleming is developing separate annual accrual rates for the recovery of original costs and for the provision of the estimated costs of removal.

Gannett Fleming is providing consulting services to a large number of regulated Canadian utilities related to the implementation of the IFRS. Based on our experience, the amount of additional componentization required for Manitoba Hydro is greater than the amount of additional components required by other peer Canadian electric utilities. As a result, the costing activities have been more extensive than that experience by other utilities. However, it should be noted that Manitoba Hydro is generally in a similar position with regard to the progress made relating to the Property Plant and Equipment issues related to the implementation of IFRS. Notwithstanding the larger than average amount of work required for the development and costing of the additional components, Manitoba Hydro has progressed the implementation process at a similar pace as most Canadian utilities.

With regard to the Manitoba Hydro gas distribution assets, Gannett Fleming did not recommend any additional componentization. The existing account structure was in accordance with the Canadian Gas Association's uniform system of accounts. It is the experience of Gannett Fleming that this uniform system of accounts has been generally accepted as an acceptable level of componentization, and therefore has limited the effort required for the implementation of the IFRS.

If you have any questions on this or wish to discuss, please call me at (403)257-5946.
Sincerely,
GANNETT FLEMING, INC


Larry E. Kennedy
Director, Canadian Services
Valuation and Rate Division

Via email

April 27, 2011

Manitoba Hydro
Attn: Mr. Darryl Martin
P.O. Box 1287

Winnipeg, Manitoba R3C 2Z1

## Dear Darryl:

This scoping memo provides a summary of the work required for the completion of the full and comprehensive depreciation studies for both your electric and natural gas distribution plant. This work represents the completion of the studies that were started in late 2010, and following our work on the International Financial Reporting Standards (IFRS) Implementation project.

Over the summer and early fall, Manitoba Hydro completed an extensive componentization process required for the implementation of the IFRS. Additionally Manitoba Hydro has expended a significant amount of effort to develop the retirement history and aged account balances for as many of the new component groups as possible. A significant amount of this data has been forwarded to Gannett Fleming in order that the average service analysis could begin. To date all of the average service life data related to natural gas distribution plant has been forward to Gannett Fleming and a preliminary average service life analysis on this plant has been completed. Additionally, Gannett Fleming estimates that the data associated with approximately $50 \%$ of the electric utility plant has been forwarded to Gannett Fleming and preliminary data audits and analysis has been completed for these accounts. Gannett Fleming notes the excellent quality of the data received to date has allowed for an accelerated audit and analysis phase to date.

The data associated with a number of electric utility accounts remain outstanding. However, Ganneit Fleming and Manitoba Hydro discussed the approach to data development and submission of the data associated with these outstanding accounts on March 4, 2011. A plan is in place for the development and submission of data files to Gannett Fleming by April $30^{\text {th }}$. Based on our most recent conversation and the approach to the data development being taken by Manitoba Hydro, I am confident that the standard of data delivered to date will continue for the

Mr. Daryl Martin
Gannett Fleming, Inc
Manitoba Hydro
March 4, 2011
Page 2 of 2
remaining files. As such, the audit and the preliminary life estimate phases remaining to be undertaken by Gannett Fleming are expected to proceed in the same manner as the files received to date. We do note that some of the files to be received by April $30^{\text {th }}$ will require additional simulation steps by Gannett Fleming.

In order to complete the project, Gannett Fleming has identified the following timeline:

- Receipt of remaining aaset data files - April 30, 2011;
- Completion of Preliniinary Life estimates by Gannett Fleming - May 13, 2011;
- Operational and Management interviews in Winnipeg - week of May 16, depending on availably of parties to be interviewed;
- Completion of Net Salvage Percentages - May 27, 2011;
- Final determination of life spans for generation plants - May 31, 2011;
- Delivery of preliminary depreciation rate schedules - June 10, 2011
- Delivery of preliminary report - June 24, 2011;
- Scenario analysis and running of additional cases - June 24 through July 15, 2011
- Determination of final case - July 29, 2011;
- Delivery of final report - Auguṣt 12, 2011.

Gannett Fleming estimates that the total billings from March 1, 2011 through to the final delivery of the report based on the above work schedule will be $\$$. This estimate was based on a labour component of $\$$ plus direct expenses of $\$$. In the development of these estimates Gannett Fleming has considered that we would be on-site for three days of Management and Operational interviews plus one day for the review of the study results. Also, we have considered that four additional scenarios would be run in addition to the first draft of results to be delivered by June $24^{\text {it }}$.

If you have any questions on this or wish to discuss, please call me at (403)257-5946.
$Y$

> Sincerely,

## MANITOBA HYDRO

Winnipeg, Manitoba

## DEPRECIATION STUDY

# CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES APPLICABLE TO DEPRECIABLE ASSETS IN SERVICE AS OF MARCH 31, 2010 

## DRAFT



# Gannett Fleming 

Excellence Delivered As Promised

October 14, 2011

Manitoba Hydro
P.O. Box 1287

Winnipeg, Manitoba R3C 2 Z1
Attention: Mr. Vince Warden, Vice President
Finance \& Administration \& Chief Financial Officer
Gentlemen,
Pursuant to your request, we have conducted a depreciation study related to the electric generation, transmission, substation, distribution and general plant systems of Manitoba Hydro as of March 31, 2010. Our report presents a description of the methods used in the estimation of depreciation, the statistical analyses of service life and net salvage calculations, and the summary and detailed tabulations of annual and accrued depreciation.

The calculated annual depreciation accrual rates presented in the report are applicable to plant in service as of March 31, 2010. The depreciation rates are based on the straight-line method, equal life group procedure applied on a whole life basis, using the equal life group procedure, with any accumulated depreciation variances amortized over the estimated remaining life of the assets.

Respectfully submitted, GANNETT FLEMING, INC.

## DRAFT

Larry E. Kennedy
Director, Canadian Services Valuation and Rate Division

LEK/hac
Project: 052988.100

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## PART I. INTRODUCTION

## MANITOBA HYDRO

DEPRECIATION STUDY

## CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES

 APPLICABLE TO DEPRECIABLE ASSETS IN SERVICEAT MARCH 31, 2010

## PART I. INTRODUCTION

## SCOPE

This report sets forth the results of the depreciation study conducted for the depreciable assets of Manitoba Hydro to determine the annual depreciation accrual rates and amounts for ratemaking purposes applicable to the original cost of plant at March 31, 2010.

The depreciation accrual rates presented herein are based on generallyaccepted methods and procedures for calculating depreciation. The estimated survivor curves and estimated net salvage percents used in this report are based on studies incorporating data through 2010.

Part I, Introduction, contains statements with respect to the scope of the report and the basis of the study. Part II, Methods Used in the Estimation of Depreciation, presents the methods used in the estimation of average service lives, survivor curves and provides the recommendations related to net salvage percentages to be used in the calculation of depreciation. Part III, Results of Study, presents a summary of annual depreciation. Included in the Supporting Materials is Part IV, Service Life Statistics which represent the statistical analyses of service lives and Part V , Detailed Depreciation Calculations, which provides the detailed tabulations of annual depreciation, for all accounts.

## BASIS OF THE STUDY

Depreciation. The depreciation accrual rates and accrued depreciation were calculated using the straight line method, the equal life group (ELG) procedure, applied on a whole life basis. The calculation was based on the attained ages and estimated service life and net salvage characteristics for each depreciable group of assets. A separate net salvage rate has been provided for the accumulation cost for removal related to the terminal retirement of assets.

Service Life Estimates. The method of estimating service life consisted of compiling the service life history of the plant accounts and subaccounts, reducing this history to trends through the use of analytical techniques that have been generally accepted in various regulatory jurisdictions, and forecasting the trend of survivors for each depreciable group on the basis of interpretations of past trends and consideration of Company plans for the future. The combination of the historical trend and the estimated future trend yielded a complete pattern of life characteristics from which the average service life was derived. The service life estimates used in the depreciation calculation incorporated historical data compiled through March 31, 2010. Such data included plant additions, retirements, transfers and other plant activity.

A general understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirement was confirmed through contact with Company personnel.

A provision for the cost of removal related to asset groupings that are expected to not be replaced are recommended and calculated on Schedule 1 in the Results section of this report. In circumstances where assets are replaced Gannett Fleming
understands that Manitoba Hydro intends to adopt a policy to include the retirement cost of replaced assets as a component of the capital cost of the replacement asset. Therefore, the net salvage percentages as shown on Schedule 1 are related to only the estimated final retirement transactions and are calculated over the estimated remaining life of the asset group.

International Financial Reporting Standards The Canadian Accounting Standards Board has announced that Canadian Generally Accepted Accounting Principles (GAAP) will be converged to comply for reporting purposes with the International Financial Reporting Standards (IFRS) by $2011^{1}$. Gannett Fleming views that the depreciation methods and procedures as recommended in this report will, in addition to better matching the depreciation expense to the consumption of the service value of the Manitoba Hydro assets, better comply with the IFRS.

As such, and in preparation for this change Gannett Fleming has developed depreciation rates and parameters that are in compliance with the new standard. In the view of Gannett Fleming, group accounting methods using the ELG procedure are compliant with the new standard.

Additionally, Gannett Fleming has reviewed the depreciable groupings established by Manitoba Hydro and believes that the groups as provided to Gannett Fleming are in conformance with the componentization requirements of IFRS and continue to provide a reasonable grouping of homogeneous assets for regulatory purposes.

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## RECOMMENDATIONS

The calculated annual depreciation accrual rates set forth herein apply specifically to plant in service as of March 31, 2010. Continued surveillance and periodic revisions are normally required to maintain continued use of appropriate depreciation rates, and to comply with the standards as set out in International Accounting Standard ("IAS") 16 of the IFRS.

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

PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

## PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

## DEPRECIATION

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

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

The calculation of annual and accrued depreciation based on the straight line method requires the estimation of survivor curves and the selection of group depreciation procedures. These subjects are discussed in the sections that follow.

## ESTIMATION OF SURVIVOR CURVES

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

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

Figure 1. A Typical Survivor Curve and Derived Curves
differences between the amount of property surviving at the beginning and at the end of each interval.
lowa Type Curves. The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the lowa type curves. There are four families in the lowa system, labeled in accordance with the location of the modes of the retirements in relationship to the average life and the relative height of the modes. The left moded curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded curves, presented in Figure 3, are those in which the greatest frequency of retirement occurs at average service life. The right moded curves, presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves ( $\mathrm{L}, \mathrm{S}, \mathrm{R}$ or O ) represents the location of the mode of the associated frequency curve with respect to the average service life. The numbers represent the relative heights of the modes of the frequency curves within each family.

The lowa curves were developed at the lowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the

Experiment Station's Bulletin $125 .{ }^{2}$ These curve types have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation." ${ }^{3}$ In 1957, Frank V. B. Couch, Jr., an lowa State College graduate student, submitted a thesis ${ }^{4}$ presenting his development of the fourth family consisting of the four O type survivor curves.

Retirement Rate Method of Analysis. The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to property groups for which aged accounting experience is available and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text, and is also explained in several publications, including "Statistical Analyses of Industrial Property Retirements," ${ }^{5}$ "Engineering Valuation and Depreciation," ${ }^{6}$ and "Depreciation Systems." ${ }^{77}$

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginnings of the age intervals during the same period. The period of observation is referred to as the experience band, and the band

[^1]
Figure 2. Left Modal or "L" Iowa Type Survivor Curves

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

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

Figure 5. Origin Modal or "O" Iowa Type Survivor Curves
of years which represent the installation dates of the property exposed to retirement the band of years which represent the installation dates of the property exposed to retirement during the experience band is referred to as the placement band. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

Schedules of Annual Transactions in Plant Records. The property group used to illustrate the retirement rate method is observed for the experience band 2001-2010 during which there were placements during the years 1996-2010. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Tables 1 and 2 on pages II-14 and II-15. In Table 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, $\$ 10,000$ of the dollars invested in 1996 was retired in 2001. The $\$ 10,000$ retirement occurred during the age interval between $41 / 2$ and $51 / 2$ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of $\$ 143,000$ retired for age interval $4 \frac{1}{2}-5 \frac{1}{2}$ is the
sum of the retirements entered on Table 1 immediately above the stair step line drawn on the table beginning with the 2001 retirements of 1996 installations and ending with the 2010 retirements of the 2005 installations. Thus, the total amount of 143 for age interval $41 / 2-51 / 2$ equals the sum of:

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

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

Schedule of Plant Exposed to Retirement. The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Table 3 on page II-16. The surviving plant at the beginning of each year from 2001 through 2010 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Table 3 for each successive year following the beginning balance or addition are obtained by adding or subtracting the net entries shown on Tables 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown
at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2006 are calculated in the following manner:

| Exposures at age $0=$ amount of addition | $=\$ 750,000$ |
| :--- | :--- |
| Exposures at age $1 / 2=\$ 750,000-\$ 8,000$ | $=\$ 742,000$ |
| Exposures at age $11 / 2=\$ 742,000-\$ 18,000$ | $=\$ 724,000$ |
| Exposures at age $21 / 2=\$ 724,000-\$ 20,000-\$ 19,000$ | $=\$ 685,000$ |
| Exposures at age $31 / 2=\$ 685,000-\$ 22,000$ | $=\$ 663,000$ |

For the entire experience band 2001-2010, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Table 1). For example, the figure of 3,789 , shown as the total exposures at the beginning of age interval $41 / 2-51 / 2$, is obtained by summing:

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

Original Life Table. The original life table, illustrated in Table 4 on page II-18, is developed from the totals shown on the schedules of retirements and exposures, Tables 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios,

| Experience Band 2001-2010 |  |  |  |  |  |  |  |  |  |  | Placement Band 1996-2010 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Retirements, Thousands of Dollars |  |  |  |  |  |  |  |  |  |  |  |
| Year $\longrightarrow$ During Year |  |  |  |  |  |  |  |  |  |  | Total During Age Interval | $\begin{gathered} \text { Age } \\ \text { Interval } \end{gathered}$ |
| (1) | $\frac{2001}{(2)}$ | $\frac{2002}{(3)}$ | $\frac{2003}{(4)}$ | $\frac{2004}{(5)}$ | $\frac{2005}{(6)}$ | $\frac{2006}{(7)}$ | $\frac{2007}{(8)}$ | $\frac{2008}{(9)}$ | $\frac{2009}{(10)}$ | $\frac{2010}{(11)}$ | (12) | (13) |
| 1996 | 10 | 11 | 12 | 13 | 14 | 16 | 23 | 24 | 25 | 26 | 26 | 131/2-141/2 |
| 1997 | 11 | 12 | 13 | 15 | 16 | 18 | 20 | 21 | 22 | 19 | 44 | 121/2-131/2 |
| 1998 | 11 | 12 | 13 | 14 | 16 | 17 | 19 | 21 | 22 | 18 | 64 | 111/2-121/2 |
| 1999 | 8 | 9 | 10 | 11 | 11 | 13 | 14 | 15 | 16 | 17 | 83 | 101/2-111/2 |
| 2000 | 9 | 10 | 11 | 12 | 13 | 14 | 16 | 17 | 19 | 20 | 93 | $91 / 2-10^{1 / 2}$ |
| 2001 | 4 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 20 | 105 | $8{ }^{1 / 2}-9 \frac{1 / 2}{}$ |
| 2002 |  | 5 | 11 | 12 | 13 | 14 | 15 | 16 | 18 | 20 | 113 | 71/2-81/2 |
| 2003 |  |  | 6 | 12 | 13 | 15 | 16 | 17 | 19 | 19 | 124 | $6{ }^{1 / 2}-7 \frac{1}{2}$ |
| 2004 |  |  |  | 6 | 13 | 15 | 16 | 17 | 19 | 19 | 131 | $5112-61 / 2$ |
| 2005 |  |  |  |  | 7 | 14 | 16 | 17 | 19 | 20 | 143 | 41/2-51/2 |
| 2006 |  |  |  |  |  | 8 | 18 | 20 | 22 | 23 | 146 | $3{ }^{1 / 2}-4 \frac{1}{2}$ |
| 2007 |  |  |  |  |  |  | 9 | 20 | 22 | 25 | 150 | $2^{1 / 2}-3^{1 / 2}$ |
| 2008 |  |  |  |  |  |  |  | 11 | 23 | 25 | 151 | 11/2-21/2 |
| 2009 |  |  |  |  |  |  |  |  | 11 | 24 | 153 | 1/2-11/2 |
| 2010 |  |  | - |  |  |  | - | - |  | 13 | 80 | 0-1/2 |
| Total | $\underline{\underline{53}}$ | $\underline{\underline{68}}$ | 86 | $\underline{\underline{106}}$ | 128 | $\underline{\underline{157}}$ | $\underline{\underline{196}}$ | $\underline{231}$ | $\underline{\underline{273}}$ | $\underline{308}$ | 1.606 |  |

TABLE 2. OTHER TRANSACTIONS FOR EACH YEAR 2001-2010
Acquisitions, Transfers and Sales, Thousands of Dollars

| Placed | Acquisitions, Transfers and Sales, Thousands of Dollars |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | During Year |  |  |  |  |  |  |  |  |  |
|  | 2001 | 2002 | 2003 | $\underline{2004}$ | $\underline{2005}$ | 2006 | 2007 | 2008 | 2009 | 2010 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| 1996 | - | - | - | - | - | - | $60^{\text {a }}$ | - | - | - |
| 1997 | - | - | - | - | - | - | - | - | - | - |
| 1998 | - | - | - | - | - | - | - | - | - | - |
| 1999 | - | - | - | - | - | - | - | $(5)^{\text {b }}$ | - | - |
| 2000 | - | - | - | - | - | - | - | $6^{\text {a }}$ | - | - |
| 2001 |  | - | - | - | - | - | - | - | - | - |
| 2002 |  |  | - | - | - | - | - | - | - | - |
| 2003 |  |  | - | - | - | - | - | - | - | - |
| 2004 |  |  |  | - | - | - | - | $(12)^{\text {b }}$ | - | - |
| 2005 |  |  |  |  | - | - | - | - | $22^{\text {a }}$ | - |
| 2006 |  |  |  |  |  | - | - | $(19){ }^{\text {b }}$ | - | - |
| 2007 |  |  |  |  |  |  | - | - | - | - |
| 2008 |  |  |  |  |  |  |  | - | - | (102) ${ }^{\text {c }}$ |
| 2009 |  |  |  |  |  |  |  |  | - | - |
| 2010 | - |  | - | - | - | - | - |  |  | - |
| Total | - | - | $\underline{-}$ | - | - | - | $\underline{\underline{60}}$ | (30) | $\underline{\underline{22}}$ | (102) |


©
Total $\doteq \doteq \doteq \doteq \doteq$
${ }^{\mathrm{a}}$ Transfer Affecting Exposures at Beginning of Year
${ }^{\mathrm{b}}$ Transfer Affecting Exposures at End of Year
Sale with Continued Use
Parentheses denote Credit amount.
TABLE 3. PLANT EXPOSED TO RETIREMENT JANUARY 1
SUMMARIZED BY AGE INTERVAL
Placement Band 1996-2010
each of which equals one minus the retirement ratio. The percent surviving is developed by starting with $100 \%$ at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age $51 / 2$ are as follows:

| Percent surviving at age $41 / 2$ | $=88.15$ |  |
| :--- | :--- | ---: |
| Exposures at age $41 / 2$ | $=3,789,000$ |  |
| Retirements from age $41 / 2$ to $51 / 2$ | $=143,000$ |  |
| Retirement Ratio | $=143,000 \div 3,789,000=0.0377$ |  |
| Survivor Ratio | $=$ | $1.000-0.0377=0.9623$ |
| Percent surviving at age $51 / 2$ | $=$ | $(88.15) \times(0.9623)=84.83$ |

The totals of the exposures and retirements (columns 2 and 3 ) are shown for the purpose of checking with the respective totals in Tables 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless.

The original survivor curve is plotted from the original life table (column 6, Table 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

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

TABLE 4. ORIGINAL LIFE TABLE CALCULATED BY THE RETIREMENT RATE METHOD
(Exposure and Retirement Amounts are in Thousands of Dollars)

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

Column 2 from Table 3, Column 12, Plant Exposed to Retirement.
Column 3 from Table 1, Column 12, Retirements for Each Year.
Column 4 = Column 3 divided by Column 2.
Column $5=1.0000$ minus Column 4.
Column $6=$ Column 5 multiplied by Column 6 as of the Preceding Age Interval.

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the lowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Table 4 is compared with the $L, S$, and $R$ lowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0.

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

## Compliance of the Retirement Rate Method of Analysis to IFRS

The Canadian Accounting Standards Board has announced that Canadian Generally Accepted Accounting Principles (GAAP) will cease to exist as at a target date in 2011 (or 2012 for regulated entities that elect to defer implementation for 1 year). As at that date many organizations will be required to report under the International Financial Accounting Standards (IFRS). The International Accounting Standard (IAS) 16 deals with reporting of property, plant and equipment.

This standard requires that the depreciation expense associated with an asset be aligned with the average service expectations of the asset. Gannett Fleming notes that




the requirements and implementation of the IFRS are generally aligned with the appropriate and reasonable depreciation practices and procedures commonly used for regulatory purposes.

In the view of Gannett Fleming, the use of an lowa curve in the estimation of average service life and retirement expectations of a group of homogenous assets meets the requirements of IAS 16. However, the account structure of the utility must be analyzed to ensure that the assets included in each group are like in nature and service of the asset to the utility is similar. In this manner, it can be expected that any one of the assets in the group are equally likely to be subjected to any of the forces of retirement to which the group of assets are subjected.

In order to better meet the componentization requirements as discussed above, and to continue to use group accounting and depreciation practices, the company reviewed the type of physical assets included in all plant accounts. As a result of this review, Manitoba Hydro has developed a significant number of new accounts, particularly with regard to electric generation plant. Also as part of this development of new accounts, the company has recreated a database of aged plant accounting retirements and balances. Gannett Fleming used this database to perform a detailed retirement rate analysis as described previously in the report. In a limited number of accounts, Manitoba Hydro was not able to develop aged retirement balances. In these circumstances, Gannett Fleming statistically aged the unaged transactions in order that the retirement rate analysis could be completed for all accounts.

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

## Generation Accounts.

Gannett Fleming developed unique depreciation rate calculations for each of the hydraulic generation plants in order to specially recognize the life span of each of the plants. However, the retirement rate analysis was prepared on the basis of a grouping at an account level of the plant accounting data related to the combined databases from all hydraulic generation sites. Therefore, the analysis presented in Section IV of the Supporting Documents and as discussed below, are based on the combined data from all locations for each account.

Account Grouping A - Dams, Dykes, and Weirs, represents 10\% of the generation and $4.3 \%$ of depreciable assets studied. The investment in this account related mainly to the geo-technical components, including the earthen structures. Company management and operational staff have indicated that these structures were engineered to a higher standard in order to provide an increased level of safety and longevity. As such, it is expected that the investment in this account would have a longer average life expectation than many of the peer group of Canadian electric generation utilities. Additionally, on a yearly basis the company invests between $\$ 4$ and $\$ 5$ million on dam safety programs throughout its system.

The retirement rate analysis as presented at page IV-3 has reviewed the retirement history from 1952 through 2010. The currently approved lowa curve related
to these assets was the lowa $100-\mathrm{R} 3$. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate and an increase to the mode of the retirement dispersion curve to the Iowa 125-R4.

Account Grouping B - Powerhouse, represents $20 \%$ of the generation assets and $8.4 \%$ of the depreciable assets studied. The investment in this account relates to the powerhouses and civil buildings, including the structural and concrete components.

The hydraulic generation powerhouses are normally part of the physical concrete dam structure. However, in the circumstance of the Grand Rapids generation site, the powerhouse is physically located behind the dam in a separate structure. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the Iowa125-R4 from lowa 100-R3 lowa curve for the powerhouses related to the hydraulic assets. In this recommendation, the average service life characteristics of the powerhouse will be matched to the estimated retirement dispersion related to the Dams, Dykes and Weirs account.

With regard to the powerhouses related to thermal generation plants, the powerhouse is a more typical of industrial concrete or steel buildings. As such it is estimated that the average service life associated with powerhouse buildings related to thermal plant locations would have a shorter average service life than that estimates for the hydraulic generation sites. Therefore, based on the retirement rate analysis and on the expectations of operational staff, Gannett Fleming recommends continuation of the currently approved Iowa 65-R4 curve for thermal assets.

Account Grouping D - Spillway, represents 7\% of the generation assets and $3.1 \%$ of the depreciable assets studied. The typical average service lives for spillways within the Canadian electric generation industry range from 60 to 100 years. The investment in this account was, in previous deprecation studies, included in the large group of civil assets and depreciated with an lowa 100-R3 curve. Given the ability to separately analyze this investment, based on the retirement rate analysis as presented at page IV-10 of the supporting documents and on the expectations of operational staff, Gannett Fleming recommends the reduction of the average service life estimate for this account to the lowa 75-R2 curve

Account Grouping E - Water Control Systems, represents 6\% of the generation assets and $2.5 \%$ of the deprecated assets studied. The investment in this account includes the investment related to gates, guides and hoists. These types of assets are subjected to wear and tear and will require replacement over the life of the generation plant. The average service life estimates among Canadian peer utilities ranges from 45 to 75 years.

Interviews with company operation staff have indicated an expectation of a 50 year life. Based on the retirement rate analysis as presented at page IV-14 of the supporting documents, and on the expectations of operational staff, Gannett Fleming recommends the continued use of a 50 year average service life estimate and an increase in the mode of the lowa curve from R3 to S4, resulting in a recommend lowa 50-S4 curve.

Account Grouping P - A/C Electrical Power Systems, represents $22 \%$ of the generation assets and $9.2 \%$ of the depreciable assets studied. The investment in this account relates to the station electric transformer and station service. The assets in this account were previously depreciated with the main civil structures using the lowa 100-R3 curve. With the separation of this account, a retirement rate analysis was undertaken. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends the reduction of the average service life estimate for this account to the lowa 50-R3.

## Diesel Accounts

Account 1300B - Buildings, represents $21 \%$ of the diesel assets and less than $1 \%$ of the depreciable assets studied. The statistical analysis indicates a 30 year average service life expectation. In addition, the Diesel Buildings are subjected to increased amounts of wear and tear than other generation buildings within the Manitoba Hydro system, and therefore will have a shorter life expectation. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the 30-R3 from the 18-R2 lowa curve which was previously applied to one common diesel generating group in prior studies.

Account $1300 N$ - Engines and Generators, represents $41 \%$ of the diesel assets and less than $1 \%$ of the depreciable assets studied. The statistical analysis indicates a life of approximately 25 years. The operational staff at Manitoba Hydro also confirms the life expectation of 25 years. In addition, the industry peer average service life
estimates range from 20 to 30 years. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the lowa 25-R2.

Account 1300 - Accessory Station Equipment, represents $30 \%$ of the diesel assets and less than $1 \%$ of the depreciable assets studied. The investment in this account includes the investment related to step-up transformers, and control panels which where all replaced approximately 15 to 20 years ago. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the Iowa 20-R3.

## Transmission Accounts

Account 2000G - Metal Towers and Concrete Poles, represents $45 \%$ of the transmission assets and $2.8 \%$ of the depreciable assets studied. The company had a previously approved life estimate of 85 years for this account. The original survivor curve as shown on page IV-67 indicated a modest level of retirement activity through age 42, with an indication of increased retirement activity thereafter. The transmission towers have historically withstood environmental influences such as ice storms, severe winter conditions, and corrosion. There are some replacements that will be required with the need to replace the 105 year old towers from Point du Bois, but there is no other significant replacement plans over the next 25 to 30 years. The industry average service life ranges from 50 to 65 years.

Interviews with company operation staff have indicated an expectation of a longer life than the industry peers. Based on the retirement rate analysis as presented at page IV-67 of the supporting documents, and on the expectations of operational staff, Gannett Fleming recommends the continued use of an 85 year average service life estimate and an increase in the mode of the lowa curve from R3 to R4, resulting in a recommended lowa 85-R4 curve.

Account 2000L - Overhead Conductor and Devices, represents $40 \%$ of the transmission assets and $3 \%$ of the depreciable assets studied. The retirement pattern shows only modest retirements up until age 22 and retirements increasing at a low rate thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account from a 60-L4 lowa curve to the lowa 5-R4.

## Substations Accounts

Account 3100R - Power Transformers, represents $12 \%$ of the substations assets and $2 \%$ of the depreciable assets studied. The retirement pattern shows modest retirements starting about year five and increasing thereafter. The operations staff has not identified any problems with Manitoba Hydro's transformers. Manitoba Hydro also has a standard practice to repair through operating budgets for as long of a period as possible in order to extend the lives as long as possible for transformers. Additionally, newer transformers are expected to have shorter lives than the older units, as the new units are being manufactured to tighter capacity tolerances. The typical industry lives
range from 40 to 60 years. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 50-R2 curve.

Account 3100T - Interrupting Equipment, represents 6\% of the substations assets and $1 \%$ of the depreciable assets studied. The retirement pattern shows modest retirements starting about year five and increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 45-R2 curve.

Account 3100U - Other Station Equipment, represents $21 \%$ of the substations assets and $4 \%$ of the depreciable assets studied. Comparable utilities with the electric industry have lives ranging from 45 and 53 years. The retirement pattern as shown at page IV-98 shows modest retirements starting about year five and increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 43-R2 curve.

Account 3100V - Electronic Equipment and Batteries represents 6\% of the substations assets and $1 \%$ of the depreciable assets studied. Comparable utilities within the electric industry have lives ranging from 15 and 25 years. The retirement pattern as shown at page IV-102 shows modest retirements starting about year five and increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa curve of 20-R2.

Account 3200P - Convertor Equipment HVDC, represents 9\% of the substations assets and $2 \%$ of the depreciable assets studied. The retirement pattern as shown on page IV-109 shows modest retirements starting about year nine and slowly increasing until about age 25 and increasing at a faster rate thereafter. Based on the retirement
rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 25-R3 curve.

Account 3200S - Serialized Equipment-HVDC, represents $26 \%$ of the substations assets and 5\% of the depreciable assets studied. The retirement pattern as shown on page IV-111 shows retirements starting at year two and then increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an Iowa 25-R2 curve

## Distribution Accounts

Account 4000J - Poles and Fixtures, represents $24 \%$ of the distribution assets and $5 \%$ of the depreciable assets studied. The poles are a mix of pine and cedar with wood poles making up about $99.5 \%$ of the poles in service. Typical industry lives for wood poles range from 38 to 55 years. Based on the retirement rate analysis as shown on page IV-123, and as confirmed through interviews with operational staff along with industry comparables, Gannett Fleming recommends an lowa 55-R3 curve.

Account 4000L - Overhead Conductor and Devices, represents $26 \%$ of the distribution assets and $5.1 \%$ of the depreciable assets studied. Operations staff indicated they are seeing no major issues with conductors and they would expect lives to be longer than the poles. Typical industry averages show lives ranging from 45 and 60 years. Based on the retirement rate analysis as displayed at page IV-126 the expectations of operational staff, and industry comparables, Gannett Fleming recommends an lowa 60-R2 curve.

Account 4000N - Underground Cable and Devices - Primary, represents $11 \%$ of the distribution assets and 2\% of the depreciable assets studied. Operations indicated there are no major issues with newer underground cable installed within the last 25 years. However, the older cable previously installed was of inferior quality and is starting to be retired at about 45 years. Typical industry averages show lives ranging from 40 and 80 years. Based on the retirement rate analysis as shown on page IV-131 and on the expectations of operational staff and industry comparables, Gannett Fleming recommends an lowa 60-R4 curve.

Account 4000P - Underground Cable and Devices - Secondary, represents 8\% of the distribution assets and $2 \%$ of the depreciable assets studied. The newer underground cable is about 25 years old and is showing no major issues according to Manitoba Hydro's operations staff. In addition, the older underground cable is starting to retire at about 45 years. Typical industry averages are indicating lives between 40 and 80 years. Based on the retirement rate analysis as shown on page IV-134 the expectations of operational staff along with industry comparables, Gannett Fleming recommends an lowa 45-R4 curve.

Account 4000Q - Serialized Equipment - Overhead, represents 8\% of the distribution assets and $2 \%$ of the depreciable assets studied. The investment in this account primarily relates to pole top transformers. Interviews with operations staff indicated the company intends to continue to refurbish and reuse transformers. Comparable Industry averages range from 27 to 45 years. Expectations of operational staff along with industry comparables, Gannett Fleming recommends an lowa 35-R3 curve.

4000 - Serialized Equipment - Underground, represents 7\% of the distribution assets and $1 \%$ of the depreciable assets studied. The investment in this account primarily relates to pad mounted transformers for underground service. Interviews with operations staff indicated the company intends to continue to refurbish and reuse these transformers. Comparable industry averages range from 27 to 45 years. Expectations of operational staff along with industry comparables, Gannett Fleming recommends an Iowa 40-R3 curve.

The survivor curve estimates for the remaining accounts were based on similar considerations of historical analyses, management outlook and estimates for this company and other electric utilities.

## Life Span Estimates

Life expectancy of electric generation plant assets are impacted by not only physical wear and tear of the assets but also on economic factors including the feasibility of the economic replacement of major operating components or the economic viability of the plant as a whole. In circumstances where the replacement of major operating components is not economically feasible, the life of the major component can be the determining factor of the generation plant and all of the assets within the plant. As such, the depreciable remaining life of electric generation plant assets is the lesser of the physical life expectation of the asset or the period to the end of the life span of the generation plant.

The use of life span dates for determining depreciable lives for regulated electric generation plant is common through many North American Regulatory jurisdictions.

The basis for the determination of the life span date is usually based on one or all of the following:

- The physical life estimation of the major and vital components of the generating plant;
- The duration of operating licenses;
- Precedent and policy of the regulatory jurisdiction;
- Expiration of the supply source for which the generation plant is dependent; and
- Expiration of market demand upon which the generation plant is dependent.

In prior depreciation reviews, Manitoba Hydro has determined a life span date for each of the regulated hydraulic plants based on an overall life estimate of 100 years. The management and operational staff of Manitoba Hydro have reviewed this policy and determined that the economic life of the generation plants should be extended to 140 years beyond the date of initial construction. This application of this policy was reviewed for its reasonableness at each of the generation plants and was modified in only two circumstances as follows:

- Pointe Du Bois - March 31, 2031
- Laurie River - March 31, 2032


## NET SALVAGE

Manitoba Hydro has implemented a policy where the costs of removal related to replaced assets will be capitalized as part of the capital costs of the replacement assets. However, Gannett Fleming recommends that a net salvage rate related to the cost of
removal for non-replacement assets be established and has calculated a rate related to these non-replacement costs of removal in Schedule 1 in the Results section of this report. In circumstances where assets are replaced, Gannett Fleming understands that Manitoba Hydro intends to adopt a policy to include the retirement cost of replaced assets as a component of the capital cost of the replacement asset. Therefore, the net salvage percentages as shown on Schedule 1 are related to only the estimated terminal retirement transactions and are calculated to be recovered over the estimated remaining life of the asset group.

## CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

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

In the average service life procedure, the rate of annual depreciation is based on the average life or average service life of the group, and this rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life. In this procedure, the accrued depreciation is based on the average service life of the group and the average
remaining life of each vintage within the group derived from the area under the survivor curve between the attained age of the vintage and the maximum age.

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

The table on the following page presents an illustration of the calculation of equal life group depreciation using the Iowa 15-R3 survivor curve, 0 percent net salvage and a December 31, 2010 calculation date. In the table, each equal life group is defined by the age interval shown in columns 1 and 2. These are the ages at which the first and last retirement of each group occurs, and the group's equal life, shown in column 3, is the midpoint of the interval. For purposes of the calculation, each vintage is divided into equal life groups arranged so that the midpoint of each one-year age interval coincides with the calculation date, e.g., December 31 in this case. This enables the calculation of annual accruals for a twelve-month period centered on the date of calculation.

The retirement during the age interval, shown in column 4, is the size of each equal life group and is derived from the lowa $15-\mathrm{R} 3$ survivor curve and 0 percent net salvage. It is the difference between the percents surviving at the beginning and end of the age interval. Each equal life group's annual accrual, shown in column 5, equals the group's size (column 4) divided by its life (column 3).

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

| INPUT PARAMETERS: |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CALCULATION DATE. . 12-31-2010 |  |  |  |  |  |  |  |  |  |
| SURVIVOR CURVE.... 15-R3 |  |  |  |  |  |  |  |  |  |
|  |  |  | RETIREMENTS | GROUP |  | SUMMATION | AVERAGE |  |  |
| AGE IN | INTERVAL |  | DURING | ANNUAL | YEAR | OF ANNUAL | PERCENT | ANNUAL | ACCRUED |
| BEG | END | LIFE | INTERVAL | ACCRUAL | INST | ACCRUALS | SURVIVING | FACTOR | FACTOR |
| (1) | (2) | (3) | (4) | $(5)=(4) /(3)$ | (6) | (7) | (8) | (9) | (10) |
| 0.000 | -1.000 | 0.500 | 0.13204 | 0.13204000000 | 2010 | 7.73951870976 | 99.939619 | 0.0774 | 0.0387 |
| 1.000 | - 2.000 | 1.500 | 0.22004 | 0.14669333333 | 2009 | 7.53413204309 | 99.757940 | 0.0755 | 0.1133 |
| 2.000 | - 3.000 | 2.500 | 0.34901 | 0.13960400000 | 2008 | 7.39098337643 | 99.473416 | 0.0743 | 0.1858 |
| 3.000 | - 4.000 | 3.500 | 0.53168 | 0.15190857143 | 2007 | 7.24522709071 | 99.033069 | 0.0732 | 0.2562 |
| 4.000 | - 5.000 | 4.500 | 0.77648 | 0.17255111111 | 2006 | 7.08299724944 | 98.378988 | 0.0720 | 0.3240 |
| 5.000 | - 6.000 | 5.500 | 1.09520 | 0.19912727273 | 2005 | 6.89715805752 | 97.443149 | 0.0708 | 0.3894 |
| 6.000 | 7.000 | 6.500 | 1.50085 | 0.23090000000 | 2004 | 6.68214442116 | 96.145127 | 0.0695 | 0.4518 |
| 7.000 | - 8.000 | 7.500 | 1.99686 | 0.26624800000 | 2003 | 6.43357042116 | 94.396275 | 0.0682 | 0.5115 |
| 8.000 | - 9.000 | 8.500 | 2.59836 | 0.30568941176 | 2002 | 6.14760171528 | 92.098663 | 0.0668 | 0.5678 |
| 9.000 | 10.000 | 9.500 | 3.32846 | 0.35036421053 | 2001 | 5.81957490413 | 89.135249 | 0.0653 | 0.6204 |
| 10.000 | 11.000 | 10.500 | 4.20015 | 0.40001428571 | 2000 | 5.44438565601 | 85.370944 | 0.0638 | 0.6699 |
| 11.000 | 12.000 | 11.500 | 5.24273 | 0.45588956522 | 1999 | 5.01643373055 | 80.649505 | 0.0622 | 0.7153 |
| 12.000 | 13.000 | 12.500 | 6.46397 | 0.51711760000 | 1998 | 4.52993014794 | 74.796157 | 0.0606 | 0.7575 |
| 13.000 | -14.000 | 13.500 | 7.78086 | 0.57636000000 | 1997 | 3.98319134794 | 67.673742 | 0.0589 | 0.7952 |
| 14.000 | -15.000 | 14.500 | 9.04123 | 0.62353310345 | 1996 | 3.38324479621 | 59.262695 | 0.0571 | 0.8280 |
| 15.000 | -16.000 | 15.500 | 9.97724 | 0.64369290323 | 1995 | 2.74963179287 | 49.753461 | 0.0553 | 0.8572 |
| 16.000 | 17.000 | 16.500 | 10.26569 | 0.62216303030 | 1994 | 2.11670382611 | 39.631994 | 0.0534 | 0.8811 |
| 17.000 | 18.000 | 17.500 | 9.71888 | 0.55536457143 | 1993 | 1.52794002524 | 29.639708 | 0.0516 | 0.9030 |
| 18.000 | 19.000 | 18.500 | 8.35418 | 0.45157729730 | 1992 | 1. 02446909088 | 20.603179 | 0.0497 | 0.9195 |
| 19.000 | 20.000 | 19.500 | 6.50335 | 0.33350512821 | 1991 | 0.63192787812 | 13.174414 | 0.0480 | 0.9360 |
| 20.000 | 21.000 | 20.500 | 4.58978 | 0.22389170732 | 1990 | 0.35322946036 | 7.627850 | 0.0463 | 0.9492 |
| 21.000 | 22.000 | 21.500 | 2.91547 | 0.13560325581 | 1989 | 0.17348197879 | 3.875224 | 0.0448 | 0.9632 |
| 22.000 | - 23.000 | 22.500 | 1.61144 | 0.07161955556 | 1988 | 0.06987057311 | 1.611769 | 0.0434 | 0.9765 |
| 23.000 | - 24.000 | 23.500 | 0.66967 | 0.02849659574 | 1987 | 0.01981249746 | 0.471215 | 0.0420 | 0.9870 |
| 24.000 | - 25.000 | 24.500 | 0.13425 | 0.00547959184 | 1986 | 0.00282440367 | 0.069256 | 0.0408 | 0.9996 |
| 25.000 | 25.350 | 25.175 | 0.00213 | 0.00008460775 | 1985 | 0.00001480636 | 0.000373 | 0.0397 | 1.0000 |
| TOTAL |  |  | 100.00000 |  |  |  |  |  |  |

Columns 6 through 10 show the derivation of the annual and accrued factors for each vintage based on the information developed in the first five columns. The year installed is shown in column 6. For all vintages other than 2010, the summation of annual accruals for each year installed, shown in column 7, is calculated by adding onehalf of the group annual accrual (column 5) for that vintage's current age interval plus the group annual accruals for all succeeding age intervals. For example, the figure 7.53413204309 for 2009 equals one-half of 0.1466933333 plus all of the succeeding figures in column 5. Only one-half of the annual accrual for the vintage's current age interval group is included in the summation because the equal life group for that interval has reached the year during which it is expected to be retired.

The summation of annual accruals (column 7) for installations during 2010 is calculated on the basis of an in-service date at the midpoint of the year, i.e., June 30 .

Inasmuch as the overall calculation is centered on December 31, 2010, the first figure in column 7, for vintage 2010, equals all of the group annual accrual for the first equal life group plus the accruals for all of the subsequent equal life groups.

The average percent surviving derived from the lowa $15-\mathrm{R} 3$ survivor curve and 0 percent net salvage, is shown in column 8 for each age interval. The annual factor, shown in column 9, is the result of dividing the summation of annual accruals (column 7) by the average percent surviving (column 8). The accrued factor, shown in column 10, equals the annual factor multiplied by the age of the group at December 31, 2010.

## CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION

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

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

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

|  |  | AMORTIZATION |
| :---: | :---: | :---: |
| ACCOUNT | TITLE | PERIOD, <br> YEARS |
|  |  |  |
| 000C | POWERHOUSE RENOVATIONS |  |
| 000L | LICENCE RENEWAL | 50 |
| 000W | SUPPORT BUILDING RENOVATIONS | 20 |
| 000M | COMBUSTION TURBINE OVERHAULS | 10 |
| 1125Z | COMMUNITY DEVELOPMENT COSTS | 81 |
| 1140Z | COMMUNITY DEVELOPMENT COSTS | 80 |
| 1160Z | COMMUNITY DEVELOPMENT COSTS | 10 |
| $1165 Z$ | COMMUNITY DEVELOPMENT COSTS | 10 |
| 1300C | BUILDING RENOVATIONS | 15 |
| 1300M | ENGINES AND GENERATORS - OVERHAULS | 5 |
| 3000C | BUILDING RENOVATIONS | 20 |
| 4000K | GROUND LINE TREATMENT | 10 |
| 4000V | ELECTRONIC EQUIPMENT | 10 |
| 5000C | BUILDING RENOVATIONS | 20 |
| 5000K | OPERATIONAL IT EQUIPMENT | 5 |
| 5000M | MOBILE RADIO, TELEPHONE AND VIDEO CONFERENCING | 8 |
| 5000N | OPERATIONAL DATA NETWORK | 8 |
| 8000C | BUILDING RENOVATIONS | 20 |
| 9000H | TOOLS, SHOP AND GARAGE EQUIPMENT | 15 |
| 9000K | COMPUTER EQUIPMENT | 5 |
| 9000L | OFFICE FURNITURE AND EQUIPMENT | 20 |
| 9000M | HOT WATER TANKS | 6 |
| A200H | COMPUTER DEVELOPMENT - SMALL SYSTEMS | 10 |
| A200J | COMPUTER SOFTWARE - GENERAL | 5 |
| A200K | COMMUNICATION/OPERATIONAL | 5 |

For the purpose of calculating annual amortization amounts as of March 31, 2010, the book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The book reserve assigned to vintages with an age greater than the amortization period is equal to the vintage's original cost. The remaining book
reserve is allocated among vintages with an age less than the amortization period in proportion to the calculated accrued amortization. The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization period. The annual amortization amount is determined by dividing the future amortizations (original cost less allocated book reserve) by the remaining period of amortization for the vintage.

## MONITORING OF BOOK ACCUMULATED DEPRECIATION

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

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

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

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

The book costs and lives of the several equal life groups, which are summed in the foregoing equation, are defined by the estimated future survivor curve.

Inasmuch as book cost divided by life equals the whole life annual accrual, the foregoing equation reduces to the following form:

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

PART III. RESULTS OF STUDY

## PART III. RESULTS OF STUDY

## QUALIFICATION OF RESULTS

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

## DESCRIPTION OF DETAILED TABULATIONS

The service life estimates were based on judgment that incorporated statistical analysis of retirement data, discussions with management and consideration of estimates made for other electric utilities. The results of the statistical analysis of service life are presented in the section beginning on pages IV-2, within the supporting documents of this report.

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

The tables of the calculated annual depreciation applicable to depreciable assets as of March 31, 2010 are presented in account sequence starting on page V -2 of the supporting documents. The tables indicate the estimated average survivor curves and net salvage percents used in the calculations. The tables set forth, for each installation year, the original cost, calculated accrued depreciation, and the calculated annual accrual.
MANITOBA HYDRO
SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \\ & \text { DATE } \\ & \hline \end{aligned}$ | EStIMATED SURVIVOR CURVE (2) | $\begin{gathered} \begin{array}{c} \text { ESTIMATED } \\ \text { NET } \\ \text { SALVAGE } \end{array} \\ \hline(3) \end{gathered}$ | $\begin{gathered} \begin{array}{c} \text { SURVIVING } \\ \text { ORIGINAL COST } \\ \text { AT 03/31/2010 } \end{array} \\ \hline(4) \end{gathered}$ | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  |
|  | (1) |  |  |  |  | (5) | (6)=(5)/(4) |  |
| 11200 | SLAVE FALLS |  |  |  |  |  |  |  |
| 1120A | DAMS, DYKES AND WEIRS | 2072 | 125-R4 | (10) | 954,684 | 14,817 | 1.55 | (153) |
| 1120B | POWERHOUSE | 2072 | 125-R4 | (10) | 45,692,194 | 663,677 | 1.45 | $(17,065)$ |
| 1120 C | POWERHOUSE RENOVATIONS | 2072 | 25-SQ | (10) |  |  |  |  |
| 1120D | SPILLWAY | 2072 | 75-R2 | (10) | 760,201 | 15,394 | 2.03 | 58 |
| 1120E | WATER CONTROL SYSTEMS | 2072 | 50-S4 | (10) | 318,933 | 6,602 | 2.07 | (96) |
| 1120F | ROADS AND SITE IMPROVEMENTS | 2072 | 50-R3 | (10) | 769,506 | 17,545 | 2.28 | (107) |
| 1120G | TURBINES AND GENERATORS | 2072 | 65-S3 | (10) | 11,630,909 | 200,112 | 1.72 | $(4,924)$ |
| 1120 H | GOVERNORS AND EXCITATION SYSTEMS | 2072 | 50-R4 | (10) |  |  |  |  |
| 1120L | LICENCE RENEWAL | 2072 | 50-SQ | 0 |  |  |  |  |
| 1120P | A/C ELECTRICAL POWER SYSTEMS | 2072 | 50-R3 | (10) | 21,815,741 | 505,179 | 2.32 | $(2,972)$ |
| 1120Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2072 | 23-L2 | (10) | 786,382 | 42,365 | 5.39 | 217 |
| 1120R | AUXILIARY STATION PROCESSES | 2072 | 40-R2.5 | (10) | 2,201,466 | 68,661 | 3.12 | 262 |
| 1120X | SUPPORT BUILDINGS | 2072 | 65-R3 | (10) | 3,724,095 | 67,791 | 1.82 | (955) |
| 1120w | SUPPORT BUILDING RENOVATIONS | 2072 | $20-S Q$ | (10) |  |  |  |  |
|  | TOTAL SLAVE FALLS |  |  |  | 88,654,109 | 1,602,143 | 1.81 | $(25,735)$ |
| 11250 | PINE FALLS |  |  |  |  |  |  |  |
| 1125A | DAMS, DYKES AND WEIRS | 2092 | 125-R4 | (10) | 14,110,589 | 156,702 | 1.11 | $(6,323)$ |
| 1125B | POWERHOUSE | 2092 | 125-R4 | (10) | 10,060,843 | 87,828 | 0.87 | $(15,968)$ |
| 1125 C | POWERHOUSE RENOVATIONS | 2092 | 25-SQ | (10) |  |  |  |  |
| 1125D | SPILLWAY | 2092 | 75-R2 | (10) | 93,376 | 1,804 | 1.93 | 8 |
| 1125E | WATER CONTROL SYSTEMS | 2092 | 50-S4 | (10) | 3,564,106 | 67,205 | 1.89 | $(15,006)$ |
| 1125F | ROADS AND SITE IMPROVEMENTS | 2092 | 50-R3 | (10) | 1,178,575 | 19,598 | 1.66 | $(18,921)$ |
| 1125 G | TURBINES AND GENERATORS | 2092 | 65-S3 | (10) | 9,464,220 | 145,587 | 1.54 | $(25,177)$ |
| 1125 H | GOVERNORS AND EXCITATION SYSTEMS | 2092 | 50-R4 | (10) |  |  |  |  |
| 1125L | LICENCE RENEWAL | 2092 | 50-SQ | 0 |  |  |  |  |
| 1125P | A/C ELECTRICAL POWER SYSTEMS | 2092 | 50-R3 | (10) | 5,071,108 | 104,504 | 2.06 | $(9,469)$ |
| 1125Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2092 | 23-L2 | (10) | 2,156,586 | 99,187 | 4.60 | $(3,305)$ |
| 1125R | AUXILIARY STATION PROCESSES | 2092 | 40-R2.5 | (10) | 3,790,230 | 99,575 | 2.63 | $(7,530)$ |
| 1125X | SUPPORT BUILDINGS | 2092 | 65-R3 | (10) | 336,412 | 5,683 | 1.69 | (241) |
| 11258 | SUPPORT BUILDING RENOVATIONS | 2092 | 20-SQ | (10) |  |  |  |  |
|  | COMMUNITY DEVELOPMENT COSTS | 2092 | 81-SQ | 0 | 4,425,543 | 54,434 | 1.23 | $(2,471)$ |
|  | TOTAL PINE FALLS |  |  |  | 54,251,587 | 842,107 | 1.55 | $(104,404)$ |
| 11300 | MCARTHUR FALLS |  |  |  |  |  |  |  |
| 1130A | DAMS, DYKES AND WEIRS | 2095 | 125-R4 | (10) | 3,578,068 | 32,928 | 0.92 | $(3,695)$ |
| 1130B | POWERHOUSE | 2095 | 125-R4 | (10) | 9,523,798 | 83,002 | 0.87 | $(12,467)$ |
| 1130 C | POWERHOUSE RENOVATIONS | 2095 | 25-SQ | (10) |  |  |  |  |
| 1130D | SPILLWAY | 2095 | 75-R2 | (10) | 2,351,438 | 28,217 | 1.20 | $(4,929)$ |
| 1130 E | WATER CONTROL SYSTEMS | 2095 | 50-S4 | (10) | 11,703,203 | 238,168 | 2.04 | $(26,096)$ |
| 1130F | ROADS AND SITE IMPROVEMENTS | 2095 | 50-R3 | (10) | 234,820 | 4,758 | 2.03 | (551) |
| 1130G | TURBINES AND GENERATORS | 2095 | 65-S3 | (10) | 5,096,367 | 72,094 | 1.41 | (44,855) |
| 1130 H | GOVERNORS AND EXCITATION SYSTEM | 2095 | 50-R4 | (10) | 119,315 | 2,513 | 2.11 | (166) |
| 1130L | LICENCE RENEWAL | 2095 | 50-SQ | 0 |  |  |  |  |
| 1130P | A/C ELECTRICAL POWER SYSTEMS | 2095 | 50-R3 | (10) | 2,480,539 | 45,912 | 1.85 | $(9,219)$ |
| 1130Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2095 | 23-L2 | (10) | 1,245,885 | 49,056 | 3.94 | $(4,082)$ |
| 1130R | AUXILIARY STATION PROCESSES | 2095 | 40-R2.5 | (10) | 3,440,197 | 90,405 | 2.63 | $(5,443)$ |
| 1130X | SUPPORT BUILDINGS | 2095 | 65-R3 | (10) | 227,212 | 3,840 | 1.69 | (133) |
| 1130W | SUPPORT BUILDING RENOVATIONS | 2095 | $20-\mathrm{SQ}$ | (10) |  |  |  |  |
|  | TOTAL MCARTHUR FALLS |  |  |  | 40,000,842 | 650,893 | 1.63 | $(111,636)$ |

MANITOBA HYDRO
SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \end{aligned}$ DATE | ESTIMATED SURVIVOR CURVE | $\begin{gathered} \text { ESTIMATED } \\ \text { NET } \\ \text { SALVAGE } \\ \hline \end{gathered}$ | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED AN AMOUNT | RATE (\%) | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) |  | (2) | (3) | (4) | (5) | (6)=(5)/(4) | (7) |
| 11350 | Kelsey |  |  |  |  |  |  |  |
| 1135A | DAMS, DYKES AND WEIRS | 2101 | 125-R4 | (10) | 11,066,409 | 110,124 | 1.00 | $(3,623)$ |
| 1135B | POWERHOUSE | 2101 | 125-R4 | (10) | 27,569,817 | 239,892 | 0.87 | $(19,889)$ |
| 1135C | POWERHOUSE RENOVATIONS | 2101 | 25-SQ | (10) |  |  |  |  |
| 1135D | SPILLWAY | 2101 | 75-R2 | (10) | 5,331,929 | 66,116 | 1.24 | $(2,091)$ |
| 1135E | WATER CONTROL SYSTEMS | 2101 | 50-S4 | (10) | 11,792,566 | 233,252 | 1.98 | $(20,286)$ |
| 1135F | ROADS AND SITE IMPROVEMENTS | 2101 | 50-R3 | (10) | 6,442,928 | 126,660 | 1.97 | $(12,225)$ |
| 1135 G | TURBINES AND GENERATORS | 2101 | 65-S3 | (10) | 130,323,693 | 2,139,901 | 1.64 | $(18,996)$ |
| 1135 H | GOVERNORS AND EXCITATION SYSTEM | 2101 | 50-R4 | (10) | 88,651 | 1,871 | 2.11 | (87) |
| 1135L | LICENCE RENEWAL | 2101 | 50-SQ | , |  |  |  |  |
| 1135P | A/C ELECTRICAL POWER SYSTEMS | 2101 | 50-R3 | (10) | 5,751,610 | 113,771 | 1.98 | $(12,141)$ |
| 1135Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2101 | 23-L2 | (10) | 3,595,490 | 162,610 | 4.52 | 3,100 |
| 1135R | AUXILIARY STATION PROCESSES | 2101 | 40-R2.5 | (10) | 7,788,815 | 203,179 | 2.61 | $(4,650)$ |
| 1135X | SUPPORT BUILDINGS | 2101 | 65-R3 | (10) | 9,953,977 | 170,743 | 1.72 | $(2,021)$ |
| 1135W | SUPPORT BUILDING RENOVATIONS | 2101 | $20-\mathrm{SQ}$ | (10) |  |  |  |  |
|  | total kelsey |  |  |  | 219,705,886 | 3,568,119 | 1.62 | (92,910) |
| 11400 | GRAND RAPIDS |  |  |  |  |  |  |  |
| 1140A | DAMS, DYKES AND WEIRS | 2091 | 125-R4 | (10) | 53,468,974 | 514,944 | 0.96 | $(46,792)$ |
| 1140B | POWERHOUSE | 2091 | 125-R4 | (10) | 24,506,522 | 223,336 | 0.91 | $(25,953)$ |
| 1140 C | POWERHOUSE RENOVATIONS | 2091 | 25-SQ | (10) |  |  |  |  |
| 1140D | SPILLWAY | 2091 | 75-R2 | (10) | 5,308,334 | 68,207 | 1.28 | $(4,198)$ |
| 1140E | WATER CONTROL SYSTEMS | 2091 | 50-S4 | (10) | 15,982,492 | 309,243 | 1.93 | $(61,544)$ |
| 1140F | ROADS AND SITE IMPROVEMENTS | 2091 | 50-R3 | (10) | 2,581,475 | 47,126 | 1.83 | $(15,904)$ |
| 1140G | TURBINES AND GENERATORS | 2091 | 65-S3 | (10) | 113,066,160 | 1,856,605 | 1.64 | $(81,564)$ |
| 1140 H | GOVERNORS AND EXCITATION SYSTEM | 2091 | 50-R4 | (10) | 42,718 | 897 | 2.10 | (44) |
| 1140L | LICENCE RENEWAL | 2091 | 50-SQ | 0 |  |  |  |  |
| 1140P | A/C ELECTRICAL POWER SYSTEMS | 2091 | 50-R3 | (10) | 8,240,545 | 173,871 | 2.11 | $(12,341)$ |
| 1140Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2091 | 23-L2 | (10) | 4,674,247 | 165,394 | 3.54 | $(17,828)$ |
| 1140R | AUXILIARY STATION PROCESSES | 2091 | 40-R2.5 | (10) | 5,600,506 | 153,945 | 2.75 | $(3,785)$ |
| 1140X | SUPPORT BUILDINGS | 2091 | $65-\mathrm{R} 3$ | (10) | 6,190,376 | 106,722 | 1.72 | $(2,100)$ |
| 1140W | SUPPORT BUILDING RENOVATIONS | 2091 | 20-SQ | (10) |  |  |  |  |
| 1140Z | COMMUNITY DEVELOPMENT COSTS | 2091 | $80-\mathrm{SQ}$ | 0 | 101,442,997 | 1,268,037 | 1.25 | $(90,628)$ |
|  | TOTAL GRAND RAPIDS |  |  |  | 341,105,346 | 4,888,327 | 1.43 | $(362,682)$ |
| 11450 | KEtTLE |  |  |  |  |  |  |  |
| 1145A | DAMS, DYKES AND WEIRS | 2111 | 125-R4 | (10) | 45,280,663 | 390,107 | 0.86 | $(34,169)$ |
| 1145B | POWERHOUSE | 2111 | 125-R4 | (10) | 146,207,420 | 1,262,257 | 0.86 | $(108,788)$ |
| 1145 C | POWERHOUSE RENOVATIONS | 2111 | 25-SQ | (10) |  |  |  |  |
| 1145D | SPILLWAY | 2111 | 75-R2 | (10) | 25,406,960 | 337,913 | 1.33 | $(11,392)$ |
| 1145E | WATER CONTROL SYSTEMS | 2111 | 50-S4 | (10) | 17,834,945 | 355,361 | 1.99 | $(173,994)$ |
| 1145F | ROADS AND SITE IMPROVEMENTS | 2111 | 50-R3 | (10) | 10,591 | 235 | 2.22 | (5) |
| 1145 G | TURBINES AND GENERATORS | 2111 | 65-S3 | (10) | 70,740,028 | 1,123,607 | 1.59 | $(208,486)$ |
| 1145 H | GOVERNORS AND EXCITATION SYSTEM | 2111 | 50-R4 | (10) | 3,304,326 | 64,753 | 1.96 | $(26,160)$ |
| 1145L | LICENCE RENEWAL | 2111 | 50-SQ | 0 |  |  |  |  |
| 1145P | A/C ELECTRICAL POWER SYSTEMS | 2111 | 50-R3 | (10) | 6,771,761 | 141,808 | 2.09 | $(11,636)$ |
| 1145Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2111 | 23-L2 | (10) | 12,001,279 | 430,663 | 3.59 | $(34,185)$ |
| 1145R | AUXILIARY STATION PROCESSES | 2111 | 40-R2.5 | (10) | 15,361,985 | 379,871 | 2.47 | $(50,094)$ |
| 1145X | SUPPORT BUILDINGS | 2111 | $65-\mathrm{R3}$ | (10) | 3,908,404 | 60,260 | 1.54 | $(10,284)$ |
| 1145W | SUPPORT BUILDING RENOVATIONS | 2111 | $20-\mathrm{SQ}$ | (10) |  |  |  |  |
|  | total kettle |  |  |  | 346,828,362 | 4,546,835 | 1.31 | $(669,194)$ |


MANITOBA HYDRO
SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010







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5000 $\sqrt{6}$ 6





total brandon unit 5 (COAL)
BRANDON UNITTS 6 AND 7
POWERHOUSE
POWERHOUE ENAVTINS
POWERHOUE RENOVATION
TOERMLTURBIIES AD GENERATORS
GOVERNORS AND EXCITATION SYSTEM
COMBUSTION TURBINE
AIC ELECTRICALPBWE OVERHAULS SYTEMS
INTRUENTTION, CONTROL AND D/C SYSTEMS
NSTRUMENTATION, CONTROL AND DIC SYSTEMS
AUXILIARY STATION PROCESSES total brandon units 6 And 7




III-10

| ACCOUNT | DESCRIPTION | SURVIVING <br> ORIGINAL COST <br> AT 03/31/2010 <br> (2) |  | $\begin{aligned} & \begin{array}{l} \text { CALCULATED } \\ \text { ACCRUED } \\ \text { DEPRECIATION } \end{array} \\ & \hline(3) \end{aligned}$ | воок accumulated DEPRECIATION (4) | ACCUMULATED DEPRECIATION <br> VARIANCE |  | PROBABLE REMAINING LIFE | ANNUALPROVISIONFOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | AMOUNT |  | PERCENT |  |  |
|  | (1) |  |  | (5) $=(3)-(4)$ |  | (6) $=(5) /(3)$ |  |  |  |
| $\underline{10000}$ | GENERATION |  |  |  |  |  |  |  |  |  |
| 11000 | HYDRAULIC GENERATION |  |  |  |  |  |  |  |  |  |
| 11050 | GREAT FALLS |  |  |  |  |  |  |  |  |
| 1105A | DAMS, DYKES AND WEIRS |  | 17,302,772 | 6,214,538 | 7,613,124 | $(1,398,586)$ | (0.23) | 51.3 | $(27,263)$ |
| 1105B | POWERHOUSE |  | 7,990,993 | 3,038,329 | 3,698,385 | $(660,056)$ | (0.22) | 50.6 | $(13,045)$ |
| 1105 C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  |  |  |
| 1105D | SPILLWAY |  | 9,676,327 | 3,727,033 | 3,999,802 | $(272,769)$ | (0.07) | 39.2 | $(6,958)$ |
| 1105E | WATER CONTROL SYSTEMS |  | 24,245,253 | 8,269,309 | 9,971,579 | $(1,702,270)$ | (0.21) | 33.5 | $(50,814)$ |
| 1105F | ROADS AND SITE IMPROVEMENTS |  | 213,964 | 10,408 | 11,365 | (957) | (0.09) | 39.7 | (24) |
| 1105G | TURBINES AND GENERATORS |  | 25,128,789 | 7,085,426 | 8,424,895 | $(1,339,469)$ | (0.19) | 44.1 | $(30,373)$ |
| 1105H | GOVERNORS AND EXCITATION SYSTEM |  | 492,218 | 161,825 | 193,442 | $(31,617)$ | (0.20) | 39.0 | (811) |
| 1105L | LICENCE RENEWAL | * |  |  |  |  |  |  | ** |
| 1105P | A/C ELECTRICAL POWER SYSTEMS |  | 9,493,088 | 3,314,653 | 3,714,794 | $(400,141)$ | (0.12) | 31.1 | $(12,866)$ |
| 1105Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |  | 19,271,956 | 6,679,465 | 6,778,449 | $(98,984)$ | (0.01) | 13.2 | $(7,499)$ |
| 1105R | AUXILIARY STATION PROCESSES |  | 8,345,798 | 3,026,374 | 3,244,974 | $(218,600)$ | (0.07) | 24.0 | $(9,108)$ |
| 1105X | SUPPORT BUILDINGS |  | 1,495,253 | 638,944 | 750,898 | $(111,954)$ | (0.18) | 39.7 | $(2,820)$ |
| 1105W | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  |  | ** |
|  | TOTAL GREAT FALLS |  | 123,656,412 | 42,166,304 | 48,401,707 | $(6,235,403)$ | (0.15) |  | (161,581) |
| 11100 | POINTE DU BOIS |  |  |  |  |  |  |  |  |
| 1110A | DAMS, DYKES AND WEIRS |  | 11,263,332 | 1,889,913 | 3,807,139 | $(1,917,226)$ | (1.01) | 21.0 | $(91,296)$ |
| 1110B | POWERHOUSE |  | 6,242,749 | 552,108 | 1,114,041 | $(561,933)$ | (1.02) | 21.0 | $(26,759)$ |
| 1110 C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  |  | * |
| 1110D | SPILLWAY - ORIGINAL |  | 3,104,842 | 717,684 | 1,300,951 | $(583,267)$ | (0.81) | 6.9 | $(84,531)$ |
| 1110E | WATER CONTROL SYSTEMS |  |  |  |  |  |  |  |  |
| 1110F | ROADS AND SITE IMPROVEMENTS |  | 4,027,603 | 814,575 | 1,644,546 | $(829,971)$ | (1.02) | 21.0 | $(39,522)$ |
| 1110 G | TURBINES AND GENERATORS |  | 28,533 | 6,120 | 12,046 | $(5,926)$ | (0.97) | 20.1 | (295) |
| 1110H | GOVERNORS AND EXCITATION SYSTEMS | * | 24,610,324 | 3,159,817 | 6,374,825 | $(3,215,008)$ | (1.02) | 21.0 | $(153,096)$ |
| 1110L | LICENCE RENEWAL | * |  |  |  |  |  |  | ** |
| 1110P | A/C ELECTRICAL POWER SYSTEMS |  |  |  |  |  |  |  |  |
| 1110Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |  | 6,057,709 | 481,479 | 947,448 | $(465,969)$ | (0.97) | 20.3 | $(22,954)$ |
| 1110R | AUXILIARY STATION PROCESSES |  | 355,559 | 50,269 | 88,467 | $(38,198)$ | (0.76) | 14.8 | $(2,581)$ |
| 1110X | SUPPORT BUILDINGS |  | 1,377,014 | 239,152 | 448,852 | $(209,700)$ | (0.88) | 18.5 | $(11,335)$ |
| 1110W | SUPPORT BUILDING RENOVATIONS | * | 2,616,290 | 666,189 | 1,324,449 | $(658,260)$ | (0.99) | 20.5 | $(32,110)$ ** |
| 1111D | SPILLWAY - NEW | * |  |  |  |  |  |  |  |
|  | TOTAL POINTE DU BOIS |  | 59,683,956 | 8,577,306 | 17,062,765 | (8,485,459) | (0.99) |  | $(464,480)$ |
| 11150 | SEVEN SISters |  |  |  |  |  |  |  |  |
| 1115A | DAMS, DYKES AND WEIRS |  | 31,497,995 | 10,903,236 | 15,406,970 | $(4,503,734)$ | (0.41) | 59.1 | $(76,205)$ |
| 1115B | POWERHOUSE |  | 13,653,945 | 5,953,556 | 8,292,614 | $(2,339,058)$ | (0.39) | 57.5 | $(40,679)$ |
| 1115 C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  |  |  |
| 1115D | SPILLWAY |  | 2,841,355 | 1,392,766 | 1,607,456 | $(214,690)$ | (0.15) | 40.7 | $(5,275)$ |
| 1115E | WATER CONTROL SYSTEMS |  | 4,296,891 | 2,019,990 | 2,839,823 | $(819,833)$ | (0.41) | 34.6 | $(23,695)$ |
| 1115F | ROADS AND SITE IMPROVEMENTS |  | 201,701 | 102,573 | 142,642 | $(40,069)$ | (0.39) | 33.8 | $(1,185)$ |
| 1115 G | TURBINES AND GENERATORS |  | 41,208,963 | 9,885,456 | 13,488,286 | $(3,602,830)$ | (0.36) | 47.7 | $(75,531)$ |
| 1115H | GOVERNORS AND EXCITATION SYSTEM |  | 6,860 | 5,805 | 8,062 | $(2,257)$ | (0.39) | 5.0 | (451) |
| 1115L | LICENCE RENEWAL | * |  |  |  |  |  |  |  |
| 1115P | A/C ELECTRICAL POWER SYSTEMS |  | 10,648,619 | 3,796,763 | 4,966,536 | $(1,169,773)$ | (0.31) | 32.4 | $(36,104)$ |
| 1115Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |  | 3,821,416 | 2,049,090 | 2,386,760 | $(337,670)$ | (0.16) | 11.4 | $(29,620)$ |
| 1115R | AUXILIARY STATION PROCESSES |  | 5,224,958 | 2,217,975 | 2,809,589 | $(591,614)$ | (0.27) | 23.3 | $(25,391)$ |
| 1115X | SUPPORT BUILDINGS |  | 608,294 | 105,899 | 137,334 | $(31,435)$ | (0.30) | 46.5 | (676) |
| 1115W | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  |  | * |
|  | total seven sisters |  | 114,010,998 | 38,433,109 | 52,086,073 | (13,652,964) | (0.36) |  | $(314,814)$ |







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ACCOUNT




| ACCOUNT | SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP FOR THE TWELVE MONTHS AT ENDED MARCH 31, 2010 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | SURVIVING ORIGINAL COST | CALCULATED ACCRUED | BOOK <br> ACCUMULATED | ACCUMULATED VARI | PRECIATION E | PROBABLE REMAINING | ANNUAL PROVISION |
|  | DESCRIPTION | AT 03/31/2010 | DEPRECIATION | DEPRECIATION | AMOUNT | PERCENT | LIFE | FOR TRUE-UP |
|  | (1) | (2) | (3) | (4) | (5) $=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 12000 | THERMAL GENERATION |  |  |  |  |  |  |  |
| 12050 | BRANDON UNIT 5 (COAL) |  |  |  |  |  |  |  |
| 1205B | POWERHOUSE | 11,729,518 | 7,632,440 | 7,309,729 | 322,711 | 0.04 | 9.7 | 33,269 |
| 1205C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  | ** |
| 1205F | ROADS AND SITE IMPROVEMENTS | 4,012,331 | 2,328,563 | 2,223,066 | 105,497 | 0.05 | 9.7 | 10,876 |
| 1205G | THERMAL TURBINES AND GENERATORS | 19,611,168 | 10,357,790 | 9,929,941 | 427,849 | 0.04 | 9.8 | 43,658 |
| 1205 H | GOVERNORS AND EXCITATION SYSTEM | 2,343,861 | 1,203,338 | 1,159,256 | 44,082 | 0.04 | 9.9 | 4,453 |
| 1205J | STEAM GENERATOR AND AUXILIARIES | 14,827,183 | 9,606,334 | 9,136,797 | 469,537 | 0.05 | 9.7 | 48,406 |
| 1205L | LICENCE RENEWAL |  |  |  |  |  |  | ** |
| 1205P | A/C ELECTRICAL POWER SYSTEMS | 8,009,703 | 5,163,840 | 4,909,693 | 254,147 | 0.05 | 9.5 | 26,752 |
| 1205Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 26,389,775 | 18,364,654 | 16,247,252 | 2,117,402 | 0.12 | 6.5 | 325,754 |
| 1205R | AUXILIARY STATION PROCESSES | 47,306,417 | 28,484,735 | 26,692,451 | 1,792,284 | 0.06 | 9.2 | 194,813 |
| 1205X | SUPPORT BUILDINGS | 7,253,899 | 4,385,802 | 4,205,706 | 180,096 | 0.04 | 9.9 | 18,192 |
| 1205W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | ** |
|  | TOTAL BRANDON UNIT 5 (COAL) | 141,483,855 | 87,527,496 | 81,813,891 | 5,713,605 | 0.07 |  | 706,173 |
| 12100 | BRANDON UNITS 6 AND 7 |  |  |  |  |  |  |  |
| 1210B | POWERHOUSE | 14,925,029 | 1,823,651 | 2,280,114 | $(456,463)$ | (0.25) | 53.9 | $(8,469)$ |
| 1210 C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  | ** |
| 1210 G | THERMAL TURBINES AND GENERATORS | 9,823,758 | 1,575,357 | 1,952,163 | $(376,806)$ | (0.24) | 39.2 | $(9,612)$ |
| 1210H | GOVERNORS AND EXCITATION SYSTEM |  |  |  |  |  |  |  |
| 1210K | COMBUSTION TURBINE | 143,284,091 | 44,692,977 | 52,513,510 | $(7,820,533)$ | (0.17) | 15.9 | $(491,857)$ |
| 1210L | LICENCE RENEWAL |  |  |  |  |  |  | ** |
| 1210 M | COMBUSTION TURBINE OVERHAULS |  |  |  |  |  |  | ** |
| 1210P | A/C ELECTRICAL POWER SYSTEMS | 6,252,586 | 1,040,520 | 1,200,472 | $(159,952)$ | (0.15) | 37.2 | $(4,300)$ |
| 1210Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 1,114,338 | 244,755 | 258,878 | $(14,123)$ | (0.06) | 14.8 | (954) |
| 1210R | AUXILIARY STATION PROCESSES | 10,639,560 | 2,211,095 | 2,379,753 | $(168,658)$ | (0.08) | 27.7 | $(6,089)$ |
|  | TOTAL BRANDON UNITS 6 AND 7 | 186,039,362 | 51,588,355 | 60,584,890 | $(8,996,535)$ | (0.17) |  | $(521,281)$ |
| 12150 | SELKIRK |  |  |  |  |  |  |  |
| 1215B | POWERHOUSE | 6,808,812 | 4,128,965 | 6,606,843 | $(2,477,878)$ | (0.60) | 15.4 | $(103,363) * * * *$ |
| 1215 C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  | ** |
| 1215F | ROADS AND SITE IMPROVEMENTS | 1,630,443 | 707,589 | 1,096,260 | $(388,671)$ | (0.55) | 32.4 | $(11,996)$ |
| 1215 G | THERMAL TURBINES AND GENERATORS | 22,750,003 | 8,478,353 | 13,369,871 | $(4,891,518)$ | (0.58) | 37.1 | $(131,847)$ |
| 1215 H | GOVERNORS AND EXCITATION SYSTEM | 17,307 | 6,360 | 10,050 | $(3,690)$ | (0.58) | 30.1 | (00,18) *** |
| 1215 J | STEAM GENERATOR AND AUXILIARIES | 48,630,259 | 10,023,062 | 14,243,657 | $(4,220,595)$ | (0.42) | 46.8 | $(90,184)$ |
| 1215L | LICENCE RENEWAL |  |  |  |  |  |  | ** |
| 1215P | A/C ELECTRICAL POWER SYSTEMS | 3,171,700 | 1,919,424 | 3,013,273 | $(1,093,849)$ | (0.57) | 17.2 | $(60,074)$ **** |
| 1215Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 5,257,468 | 2,814,592 | 3,837,942 | $(1,023,350)$ | (0.36) | 11.8 | $(86,725)$ |
| 1215R | AUXILIARY STATION PROCESSES | 13,791,022 | 6,369,464 | 9,558,873 | $(3,189,409)$ | (0.50) | 24.2 | $(131,794)$ |
| 1215X | SUPPORT BUILDINGS | 1,033,229 | 450,923 | 691,355 | $(240,432)$ | (0.53) | 42.1 | $(5,711)$ ** |
| 1215W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | ** |
|  | TOTAL SELKIRK | 103,090,244 | 34,898,732 | 52,428,124 | (17,529,392) | (0.50) |  | $(621,438)$ |
|  | TOTAL THERMAL GENERATION | 430,613,460 | 174,014,583 | 194,826,905 | $(20,812,322)$ | (0.12) |  | $(436,546)$ |
|  | total generation | 5,147,080,643 | 1,561,552,912 | 1,731,783,964 | $(170,231,052)$ | (0.11) |  | (3,740,412) |
|  | diesel generation |  |  |  |  |  |  |  |
| 1300B | BUILDINGS | 9,191,362 | 3,251,508 | 4,906,932 | $(1,655,424)$ | (50.91) | 19.1 | $(86,671)$ |
| 1300 C | BUILDING RENOVATIONS | 17,685 | 4,497 | 7,587 | $(3,090)$ | (68.71) | 11.4 | 0 **/*** |
| 1300M | ENGINES AND GENERATORS - OVERHAULS |  |  |  |  |  |  | ** |
| 1300 N | ENGINES AND GENERATORS | 18,152,912 | 6,799,275 | 13,597,682 | $(6,798,407)$ | (99.99) | 16.3 | $(417,080)$ |
| 1300Q | ACCESSORY STATION EQUIPMENT | 13,457,225 | 6,246,425 | 10,143,698 | $(3,897,273)$ | (62.39) | 12.0 | $(324,773)$ |
| 1300T | FUEL STORAGE AND HANDLING | 3,803,695 | 1,628,376 | 2,410,356 | $(781,980)$ | (48.02) | 17.5 | $(44,685)$ |
|  | total diesel generation | 44,622,878 | 17,920,450 | 31,066,255 | (13,145,805) | (73.36) |  | $(873,894)$ |


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$6,657,297$
10,9377967
$(680,943)$
18,509,511



 MANITOBA HYDRC




 $9,406,803$
$\mathbf{9 , 4 0 6 , 8 0 3}$
 12,067,737,939 3,814,964,238
 *The account has no balance as of March 31,2010 and will be used on a go-forward basis for future additions.

* On amortized account any true-up of fess than $10 \%$ is not considered significant.
$* \times T$ True-up was deemed as
MANITOBA HYDRO
SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS

| Estimated SURVIVOR CURVE | $\begin{gathered} \text { ESTIMATED } \\ \text { NAET } \\ \text { SALVAGE } \\ \hline \end{gathered}$ | $\begin{gathered} \text { SURVIVING } \\ \text { ORIGINAL COST } \\ \text { AT } 03 / 31 / 2010 \\ \hline \end{gathered}$ | $\frac{\text { CALCULATED ANNUAL ACCRUAL }}{\text { AMOUNT }}$ |  | $\begin{gathered} \text { ANNUAL } \\ \text { PROVISION } \\ \text { FOR TRUE-UP } \\ \hline \end{gathered}$ | total depreciation |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | related to life | RELATED TO COST OF REMOVAL |  |
|  |  |  |  |  | EXPENSE | RATE (\%) | AMOUNT | RATE (\%) |
|  |  |  | ${ }^{(5)}$ | (6)=(5)/(4) |  | (7) | $(8)=(5)+(7)$ | (9)=(8)/(4) | $(10)=(3)^{*}(4) /(2)$ | (11)=(10))(4) |
| 65-R4 | 0 | 4,154,458 | 67,568 | 1.63 |  | 2,456 | 70,024 | 1.69 |  | 0.00 |
| 20-SQ | 0 | 2,741,652 | 135,856 | 4.96 | 9,033 | 144,889 | 5.28 |  | 0.00 ** |
| 65-R4 | 0 | 15,857,686 | 258,480 | 1.63 | 10,718 | 269,198 | 1.70 |  | 0.00 |
| 60-R2.5 | 0 | 8,733,929 | 169,211 | 1.94 | 12,444 | 181,655 | 2.08 |  | 0.00 |
| 35-R1.5 | 0 | 117,999,925 | 4,182,599 | 3.54 | 477,843 | 4,660,442 | 3.95 |  | 0.00 |
| 15-S0.5 | 0 | 119,230,804 | 8,327,782 | 6.98 | 2,228,785 | 10,556,567 | 8.85 |  | 0.00 |
| 5-SQ | 0 | 2,197,495 | 366,710 | 16.69 | 72,460 | 439,170 | 19.99 |  | 0.00 ** |
| 8-SQ | 0 | 22,085,412 | 1,412,806 | 6.40 | 395,972 | 1,808,778 | 8.19 |  | 0.00 ** |
| 10-R2 | 0 | 8,530,264 | 1,066,283 | 12.50 | 58,577 | 1,124,860 | 13.19 |  | 0.00 ** |
|  | 0 | 7,738,280 | 572,474 | 7.40 | 253,796 | 826,270 | 10.68 |  | 0.00 |
|  |  | 309,269,905 | 16,559,769 | 5.35 | 3,522,083 | 20,081,852 | 6.49 |  | 0.00 |
| 9-L2 | 20 | 1,304,413 | 116,873 | 8.96 | 61,394 | 178,267 | 13.67 |  | 0.00 |
| 10-L3 | 15 | 52,299,249 | 4,431,892 | 8.47 | 166,143 | 4,598,035 | 8.79 |  | 0.00 |
| 15-L2 | 10 | 61,004,014 | 3,855,518 | ${ }^{6.32}$ | 517,820 | 4,373,338 | 7.17 |  | 0.00 |
| 15-L2 | 20 | 17,016,205 | ${ }^{941,112}$ | 5.53 | 131,746 | 1,072,858 | ${ }^{6.30}$ |  | 0.00 |
| 22-L2.5 | 15 | 13,146,265 | 536,840 | 4.08 | 116,795 | 653,635 | 4.97 |  | 0.00 |
| 10-L1.5 | 25 | 15,996,331 | 370,448 | 2.32 | $(22,001)$ | 348,447 | 2.18 |  | 0.00 |
|  | 15 | 5,724,654 | 481,594 | 8.41 | (81,188) | 400,406 | 6.99 |  | 0.00 |
|  |  | 166,491,131 | 10,734,277 | 6.45 | 890,708 | 11,624,985 | 6.98 |  | 0.00 |
| 65-R4 | (5) | 88,797,107 | 1,428,579 | 1.61 | (23,061) | 1,405,518 | 1.58 | 68,305.47 |  |
| 20-SQ | (5) | 46,779,508 | 2,272,271 | 4.86 | 841,795 | 3,114,066 | 6.66 | 116,948.77 | 0.25 ** |
| 45-R2 | 0 | 207,292,785 | 2,198,841 | 1.06 | (1,752) | 2,197,089 | 1.06 |  | 0.00 |
|  | 0 | 65,888,581 | 2,016,603 | 3.06 | 24,589 | 2,041,192 | 3.10 |  | 0.00 |
|  |  | 408,757,981 | 7,916,294 | 1.94 | 841,572 | 8,757,866 | 2.14 | 185,254 | 0.05 |
| 15-SQ | 0 | 78,461,837 | 5,233,405 | 6.67 | 842,696 | 6,076,101 | 7.74 |  | 0.00 ** |
| 5-SQ | 0 | 48,379,758 | 9,401,982 | 19.43 | 4,375,187 | 13,777,169 | 28.48 |  | 0.00 ** |
| ${ }_{6 \text { S-SQ }}^{\text {20.SQ }}$ | 0 | 21,726,896 | 1,086,345 | 5.00 | (41,021) | 1,045,324 | 4.81 |  | 0.00 ** |
|  | 0 | 4,511,783 | 197,108 | 4.37 | 759,615 | 956,723 | 21.20 |  | 0.00 ** |
|  |  | 153,080,275 | 15,918,840 | 10.40 | 5,936,477 | 21,855,317 | 14.28 |  | 0.00 |
| 75-R3 | 0 | 50,612,345 | 752,850 | 1.49 | $(10,366)$ | 742,484 | 1.47 |  | 0.00 |
|  |  | 50,612,345 | 752,850 | 1.49 | $(10,366)$ | 742,484 | 1.47 |  | 0.00 |
| 10-R3 | 0 | 100,980,015 | 10,205,232 | 10.11 | 324,889 | 10,530,121 | 10.43 |  | 0.00 |
| 10-SQ | 0 | 42,827,602 | 4,282,760 | 10.00 |  | 4,282,760 | 10.00 |  | 0.00 ** |
| 5 -SQ | 0 | 5,076,404 | 1,002,927 | 19.76 |  | 1,002,927 | 19.76 |  | 0.00 ** |
| 6-R3 | 0 | 3,639,540 | 360,800 | 9.91 | 146,167 | 506,967 | 13.93 |  | 0.00 ** |
|  | 0 | 6,016,817 | 811,282 | 13.48 | 577,570 | 1,388,852 | 23.08 |  | 0.00 |
|  |  | 158,540,378 | 16,663,001 | 10.51 | 1,048,625 | 17,711,626 | 11.17 |  | 0.00 |
|  |  | 12,067,737,939 | 301,080,421 | 2.49 | (6,807,756) | 294,272,664 | 2.44 | 10,124,670 | 0.08 |

MANITOBA HYDRO<br>WINNIPEG, MANITOBA

## DEPRECIATION STUDY

# CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES APPLICABLE TO DEPRECIABLE ASSETS IN SERVICE AS OF MARCH 31, 2010 

## DRAFT



# Gannett Fleming 

Excellence Delivered As Promised

October 21, 2011

Manitoba Hydro
360 Portage Avenue
Winnipeg, Manitoba R3C 0G8

Attention: Mr. Vince Warden, Vice President<br>Finance \& Administration<br>And Chief Financial Officer

## Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to the electric generation, transmission, substation, distribution and general plant systems of Manitoba Hydro as of March 31, 2010. Our report presents a description of the methods used in the estimation of depreciation, the statistical analyses of service life and the summary and detailed tabulations of annual and accrued depreciation.

The calculated annual depreciation accrual rates presented in the report are applicable to plant in service as of March 31, 2010. The depreciation rates are based on the straight-line method, equal life group procedure applied on a whole life basis, using the equal life group procedure, with any accumulated depreciation variances amortized over the estimated remaining life of the assets.

Respectfully submitted, GANNETT FLEMING, INC.

## DRAFT

LARRY E. KENNEDY
Director, Canadian Services Valuation and Rate Division

LEK/hac
Project: 052988.100

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PART I. INTRODUCTION

## MANITOBA HYDRO

DEPRECIATION STUDY

## CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES APPLICABLE TO DEPRECIABLE ASSETS IN SERVICE AS OF MARCH 31, 2010

## PART I. INTRODUCTION

## SCOPE

This report sets forth the results of the depreciation study conducted for the depreciable assets of Manitoba Hydro ("Company") to determine the annual depreciation accrual rates and amounts for financial reporting purposes applicable to the original cost of plant as of March 31, 2010.

The depreciation accrual rates presented herein are based on generallyaccepted methods and procedures for calculating depreciation. The estimated survivor curves used in this report are based on studies incorporating data through 2010.

Part I, Introduction, contains statements with respect to the scope of the report and the basis of the study. Part II, Methods Used in the Estimation of Depreciation, presents the methods used in the estimation of average service lives and survivor curves used in the calculation of depreciation. Part III, Results of Study, presents a summary of annual depreciation. Included in the Supporting Materials is Part IV, Service Life Statistics which represent the statistical analyses of service lives and Part V , Detailed Depreciation Calculations, which provides the detailed tabulations of annual depreciation, for all accounts.

## BASIS OF THE STUDY

Depreciation. The depreciation accrual rates and accrued depreciation were calculated using the straight line method, the equal life group (ELG) procedure, applied on a whole life basis. The calculation was based on the attained ages and estimated service life for each depreciable group of assets.

Service Life Estimates. The method of estimating service life consisted of compiling the service life history of the plant accounts and subaccounts, reducing this history to trends through the use of analytical techniques that have been generally accepted in various regulatory jurisdictions, and forecasting the trend of survivors for each depreciable group on the basis of interpretations of past trends and consideration of Company plans for the future. The combination of the historical trend and the estimated future trend yielded a complete pattern of life characteristics from which the average service life was derived. The service life estimates used in the depreciation calculation incorporated historical data compiled through March 31, 2010. Such data included plant additions, retirements, transfers and other plant activity.

A general understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirement was confirmed through contact with Company personnel.

International Financial Reporting Standards The Canadian Accounting
Standards Board has announced that Canadian Generally Accepted Accounting Principles (GAAP) will be converged to comply, for reporting purposes, with the International Financial Reporting Standards (IFRS) by 2011¹. Gannett Fleming views

[^2]the depreciation methods and procedures as recommended in this report will, in addition to better matching the depreciation expense to the consumption of the service value of the Manitoba Hydro assets, better comply with the IFRS.

As such, and in preparation for this change, Gannett Fleming has developed depreciation rates and parameters that are in compliance with the new standard. In the view of Gannett Fleming, group accounting methods using the ELG procedure are compliant with the new standard.

Additionally, Gannett Fleming has reviewed the depreciable groupings established by Manitoba Hydro and believes that the groups, as provided to Gannett Fleming, are in conformance with the componentization requirements of IFRS and continue to provide a reasonable grouping of homogeneous assets for regulatory purposes.

## RECOMMENDATIONS

The calculated annual depreciation accrual rates set forth herein apply specifically to plant in service as of March 31, 2010. Continued surveillance and periodic revisions are normally required to maintain continued use of appropriate depreciation rates, and to comply with the standards as set out in International Accounting Standard ("IAS") 16 of the IFRS.

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

PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

## PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

## DEPRECIATION

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

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

The calculation of annual and accrued depreciation based on the straight line method requires the estimation of survivor curves and the selection of group depreciation procedures. These subjects are discussed in the sections that follow.

## ESTIMATION OF SURVIVOR CURVES

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

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

Figure 1. A Typical Survivor Curve and Derived Curves
lowa Type Curves. The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the lowa type curves. There are four families in the lowa system, labeled in accordance with the location of the modes of the retirements in relationship to the average life and the relative height of the modes. The left moded curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded curves, presented in Figure 3, are those in which the greatest frequency of retirement occurs at average service life. The right moded curves, presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves ( $\mathrm{L}, \mathrm{S}, \mathrm{R}$ or O ) represents the location of the mode of the associated frequency curve with respect to the average service life. The numbers represent the relative heights of the modes of the frequency curves within each family.

The lowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the

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

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

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

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

Experiment Station's Bulletin $125 .{ }^{2}$ These curve types have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation." ${ }^{3}$ In 1957, Frank V. B. Couch, Jr., an lowa State College graduate student, submitted a thesis ${ }^{4}$ presenting his development of the fourth family consisting of the four O type survivor curves.

Retirement Rate Method of Analysis. The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to property groups for which aged accounting experience is available and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text, and is also explained in several publications, including "Statistical Analyses of Industrial Property Retirements," ${ }^{5}$ "Engineering Valuation and Depreciation," ${ }^{6}$ and "Depreciation Systems." ${ }^{77}$

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginnings of the age intervals during the same period. The period of observation is referred to as the experience band, and the band of years which represent the installation dates of the property exposed to retirement the

[^3]band of years which represent the installation dates of the property exposed to retirement during the experience band is referred to as the placement band. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

Schedules of Annual Transactions in Plant Records. The property group used to illustrate the retirement rate method is observed for the experience band 2001-2010 during which there were placements during the years 1996-2010. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Tables 1 and 2 on pages II-12 and II-14. In Table 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, $\$ 10,000$ of the dollars invested in 1996 were retired in 2001. The $\$ 10,000$ retirement occurred during the age interval between $41 / 2$ and $51 / 2$ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of $\$ 143,000$ retired for age interval $41 / 2-51 / 2$ is the

| Experience Band 2001-2010 |  |  |  |  |  |  |  |  |  |  | Placement Band 1996-2010 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Retirements, Thousands of Dollars |  |  |  |  |  |  |  |  |  |  |  |
| Year $\longrightarrow$ During Year |  |  |  |  |  |  |  |  |  |  | Total During Age Interval | $\begin{gathered} \text { Age } \\ \text { Interval } \end{gathered}$ |
| (1) | $\frac{2001}{(2)}$ | $\frac{2002}{(3)}$ | $\frac{2003}{(4)}$ | $\frac{2004}{(5)}$ | $\frac{2005}{(6)}$ | $\frac{2006}{(7)}$ | $\frac{2007}{(8)}$ | $\frac{2008}{(9)}$ | $\frac{2009}{(10)}$ | $\frac{2010}{(11)}$ | (12) | (13) |
| 1996 | 10 | 11 | 12 | 13 | 14 | 16 | 23 | 24 | 25 | 26 | 26 | 131/2-141/2 |
| 1997 | 11 | 12 | 13 | 15 | 16 | 18 | 20 | 21 | 22 | 19 | 44 | 121/2-131/2 |
| 1998 | 11 | 12 | 13 | 14 | 16 | 17 | 19 | 21 | 22 | 18 | 64 | 111/2-121/2 |
| 1999 | 8 | 9 | 10 | 11 | 11 | 13 | 14 | 15 | 16 | 17 | 83 | 101/2-111/2 |
| 2000 | 9 | 10 | 11 | 12 | 13 | 14 | 16 | 17 | 19 | 20 | 93 | $91 / 2-10^{1 / 2}$ |
| 2001 | 4 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 20 | 105 | $8{ }^{1 / 2}-9 \frac{1 / 2}{}$ |
| 2002 |  | 5 | 11 | 12 | 13 | 14 | 15 | 16 | 18 | 20 | 113 | 71/2-81/2 |
| 2003 |  |  | 6 | 12 | 13 | 15 | 16 | 17 | 19 | 19 | 124 | $6{ }^{1 / 2}-7 \frac{1}{2}$ |
| 2004 |  |  |  | 6 | 13 | 15 | 16 | 17 | 19 | 19 | 131 | $5112-61 / 2$ |
| 2005 |  |  |  |  | 7 | 14 | 16 | 17 | 19 | 20 | 143 | 41/2-51/2 |
| 2006 |  |  |  |  |  | 8 | 18 | 20 | 22 | 23 | 146 | $3{ }^{1 / 2}-4 \frac{1}{2}$ |
| 2007 |  |  |  |  |  |  | 9 | 20 | 22 | 25 | 150 | $2^{1 / 2}-3^{1 / 2}$ |
| 2008 |  |  |  |  |  |  |  | 11 | 23 | 25 | 151 | 11/2-21/2 |
| 2009 |  |  |  |  |  |  |  |  | 11 | 24 | 153 | 1/2-11/2 |
| 2010 |  |  | - |  |  |  | - | - |  | 13 | 80 | 0-1/2 |
| Total | $\underline{\underline{53}}$ | $\underline{\underline{68}}$ | 86 | $\underline{\underline{106}}$ | 128 | $\underline{\underline{157}}$ | $\underline{\underline{196}}$ | $\underline{231}$ | $\underline{\underline{273}}$ | $\underline{308}$ | 1.606 |  |

sum of the retirements entered on Table 1 immediately above the stair step line drawn on the table beginning with the 2001 retirements of 1996 installations and ending with the 2010 retirements of the 2005 installations. Thus, the total amount of 143 for age interval $41 / 2-51 / 2$ equals the sum of:

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

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

Schedule of Plant Exposed to Retirement. The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Table 3 on page II-15. The surviving plant at the beginning of each year from 2001 through 2010 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Table 3 for each successive year following the beginning balance or addition are obtained by adding or subtracting the net entries shown on Tables 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown
TABLE 2. OTHER TRANSACTIONS FOR EACH YEAR 2001-2010
Acquisitions, Transfers and Sales, Thousands of Dollars

| Placed | Acquisitions, Transfers and Sales, Thousands of Dollars |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | During Year |  |  |  |  |  |  |  |  |  |
|  | 2001 | 2002 | 2003 | $\underline{2004}$ | $\underline{2005}$ | 2006 | 2007 | 2008 | 2009 | 2010 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| 1996 | - | - | - | - | - | - | $60^{\text {a }}$ | - | - | - |
| 1997 | - | - | - | - | - | - | - | - | - | - |
| 1998 | - | - | - | - | - | - | - | - | - | - |
| 1999 | - | - | - | - | - | - | - | $(5)^{\text {b }}$ | - | - |
| 2000 | - | - | - | - | - | - | - | $6^{\text {a }}$ | - | - |
| 2001 |  | - | - | - | - | - | - | - | - | - |
| 2002 |  |  | - | - | - | - | - | - | - | - |
| 2003 |  |  | - | - | - | - | - | - | - | - |
| 2004 |  |  |  | - | - | - | - | $(12)^{\text {b }}$ | - | - |
| 2005 |  |  |  |  | - | - | - | - | $22^{\text {a }}$ | - |
| 2006 |  |  |  |  |  | - | - | $(19){ }^{\text {b }}$ | - | - |
| 2007 |  |  |  |  |  |  | - | - | - | - |
| 2008 |  |  |  |  |  |  |  | - | - | (102) ${ }^{\text {c }}$ |
| 2009 |  |  |  |  |  |  |  |  | - | - |
| 2010 | - |  | - | - | - | - | - |  |  | - |
| Total | - | - | $\underline{-}$ | - | - | - | $\underline{\underline{60}}$ | (30) | $\underline{\underline{22}}$ | (102) |


©
Total $\doteq \doteq \doteq \doteq \doteq$
${ }^{a}$ Transfer Affecting Exposures at Beginning of Year
${ }^{\mathrm{b}}$ Transfer Affecting Exposures at End of Year
Sale with Continued Use
Parentheses denote Credit amount.
TABLE 3. PLANT EXPOSED TO RETIREMENT JANUARY 1
SUMMARIZED BY AGE INTERVAL
Placement Band 1996-2010
at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2006 are calculated in the following manner:

| Exposures at age $0=$ amount of addition | $=\$ 750,000$ |
| :--- | :--- |
| Exposures at age $1 / 2=\$ 750,000-\$ 8,000$ | $=\$ 742,000$ |
| Exposures at age $11 / 2=\$ 742,000-\$ 18,000$ | $=\$ 724,000$ |
| Exposures at age $21 / 2=\$ 724,000-\$ 20,000-\$ 19,000$ | $=\$ 685,000$ |
| Exposures at age $31 / 2=\$ 685,000-\$ 22,000$ | $=\$ 663,000$ |

For the entire experience band 2001-2010, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Table 1). For example, the figure of 3,789 , shown as the total exposures at the beginning of age interval $41 / 2-51 / 2$, is obtained by summing:

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

Original Life Table. The original life table, illustrated in Table 4 on page II-17, is developed from the totals shown on the schedules of retirements and exposures, Tables 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios,

TABLE 4. ORIGINAL LIFE TABLE CALCULATED BY THE RETIREMENT RATE METHOD
(Exposure and Retirement Amounts are in Thousands of Dollars)

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

Column 2 from Table 3, Column 12, Plant Exposed to Retirement.
Column 3 from Table 1, Column 12, Retirements for Each Year.
Column 4 = Column 3 divided by Column 2.
Column $5=1.0000$ minus Column 4.
Column $6=$ Column 5 multiplied by Column 6 as of the Preceding Age Interval.
each of which equals one minus the retirement ratio. The percent surviving is developed by starting with $100 \%$ at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age $51 / 2$ are as follows:

| Percent surviving at age $41 / 2$ | $=88.15$ |  |
| :--- | :--- | ---: |
| Exposures at age $41 / 2$ | $=3,789,000$ |  |
| Retirements from age $41 / 2$ to $51 / 2$ | $=143,000$ |  |
| Retirement Ratio | $=143,000 \div 3,789,000=0.0377$ |  |
| Survivor Ratio | $=$ | $1.000-0.0377=0.9623$ |
| Percent surviving at age $51 / 2$ | $=$ | $(88.15) \times(0.9623)=84.83$ |

The totals of the exposures and retirements (columns 2 and 3 ) are shown for the purpose of checking with the respective totals in Tables 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless.

The original survivor curve is plotted from the original life table (column 6, Table 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

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

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the lowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Table 4 is compared with the $L, S$, and $R$ lowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0.

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

## Compliance of the Retirement Rate Method of Analysis to IFRS

The Canadian Accounting Standards Board has announced that Canadian Generally Accepted Accounting Principles (GAAP) will cease to exist as of a target date in 2011 (or 2012 for regulated entities that elect to defer implementation for 1 year). As of that date many organizations will be required to report under the International Financial Accounting Standards (IFRS). The International Accounting Standard (IAS) 16 deals with reporting of property, plant and equipment.

This standard requires that the depreciation expense associated with an asset be aligned with the average service expectations of the asset. Gannett Fleming notes that




the requirements and implementation of the IFRS are generally aligned with the appropriate and reasonable depreciation practices and procedures commonly used for regulatory purposes.

In the view of Gannett Fleming, the use of an lowa curve in the estimation of average service life and retirement expectations of a group of homogenous assets meets the requirements of IAS 16. However, the account structure of the utility must be analyzed to ensure that the assets included in each group are like in nature and service of the asset to the utility is similar. In this manner, it can be expected that any one of the assets in the group are equally likely to be subjected to any of the forces of retirement to which the group of assets are subjected.

In order to better meet the componentization requirements as discussed above, and to continue to use group accounting and depreciation practices, the company reviewed the type of physical assets included in all plant accounts. As a result of this review, Manitoba Hydro has developed a significant number of new accounts, particularly with regard to electric generation plant. Also as part of this development of new accounts, the company has recreated a database of aged plant accounting retirements and balances. Gannett Fleming used this database to perform a detailed retirement rate analysis as described previously in the report. In a limited number of accounts, Manitoba Hydro was not able to develop aged retirement balances. In these circumstances, Gannett Fleming statistically aged the unaged transactions in order that the retirement rate analysis could be completed for all accounts.

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

## GENERATION ACCOUNTS

Gannett Fleming developed unique depreciation rate calculations for each of the hydraulic generation plants in order to specially recognize the life span of each of the plants. However, the retirement rate analysis was prepared on the basis of a grouping at an account level of the plant accounting data related to the combined databases from all hydraulic generation sites. Therefore, the analyses presented in Section IV of the Supporting Documents and as discussed below, are based on the combined data from all locations for each account.

Account Grouping A - Dams, Dykes and Weirs, represents $10 \%$ of the generation and $4.3 \%$ of depreciable assets studied. The investment in this account related mainly to the geo-technical components, including the earthen structures. Company management and operational staff have indicated that these structures were engineered to a higher standard in order to provide an increased level of safety and longevity. As such, it is expected that the investment in this account would have a longer average life expectation than many of the peer group of Canadian electric generation utilities. Additionally, on a yearly basis the company invests between $\$ 4$ and $\$ 5$ million on dam safety programs throughout its system.

The retirement rate analysis as presented on pages IV-3 to IV-5 has reviewed the retirement history from 1952 through 2010. The currently approved lowa curve related to these assets is the Iowa 100-R3. Based on the retirement rate analysis, and
on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate and an increase to the mode of the retirement dispersion curve to the Iowa 125-R4.

Account Grouping B - Powerhouse, represents $20 \%$ of the generation assets and $8.4 \%$ of the depreciable assets studied. The investment in this account relates to the powerhouses and civil buildings, including the structural and concrete components.

The hydraulic generation powerhouses are normally part of the physical concrete dam structure. However, in the circumstance of the Grand Rapids generation site, the powerhouse is physically located behind the dam in a separate structure. Based on the retirement rate analysis as presented on page IV-7 to IV-9 and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the Iowa 125-R4 from the lowa 100-R3 curve for the civil assets related to the hydraulic assets. In this recommendation, the average service life characteristics of the powerhouses will be matched to the estimated retirement dispersion related to the Dams, Dykes and Weirs account.

With regard to the powerhouses related to thermal generation plants, the powerhouse is more typical of industrial concrete or steel buildings. As such it is estimated that the average service life associated with powerhouse buildings related to thermal plant locations would have a shorter average service life than the estimates for the hydraulic generation sites. Therefore, based on the expectations of operational staff, Gannett Fleming recommends continuation of the currently approved Iowa 65-R4 curve for thermal assets.

Account Grouping D - Spillway, represents 7\% of the generation assets and $3.1 \%$ of the depreciable assets studied. The typical average service lives for spillways within the Canadian electric generation industry range from 60 to 100 years. The investment in this account was, in previous deprecation studies, included in the large group of civil assets and depreciated with an lowa 100-R3 curve. Given the ability to separately analyze this investment, based on the retirement rate analysis as presented on pages IV-11 to IV-13 of the supporting documents and on the expectations of operational staff, Gannett Fleming recommends the reduction of the average service life estimate for this account to the lowa 75-R2 curve.

Account Grouping E - Water Control Systems, represents $6 \%$ of the generation assets and $2.5 \%$ of the depreciated assets studied. The investment in this account includes the investment related to gates, guides and hoists. These types of assets are subjected to wear and tear and will require replacement over the life of the generation plant. The average service life estimates among Canadian peer utilities ranges from 45 to 75 years.

Interviews with company operational staff have indicated an expectation of a 50 year life. The investment in this account was, in previous deprecation studies, included in the large group of civil assets and depreciated with an Iowa 100-R3 curve. Based on the retirement rate analysis as presented on page IV-15 to IV-17 of the supporting documents, and on the expectations of operational staff, Gannett Fleming recommends the use of a 50 -year average service life estimate and an increase in the mode of the lowa curve from R3 to S4, resulting in a recommended lowa 50-S4 curve.

Account Grouping P - A/C Electrical Power Systems, represents $22 \%$ of the generation assets and $9.2 \%$ of the depreciable assets studied. The investment in this account relates to the station electric transformer and station service. The assets in this account were previously depreciated with the Accessory Station Equipment using the lowa 50-R3 curve. With the separation of this account, a retirement rate analysis was undertaken. Based on the retirement rate analysis as presented on page IV-34 to IV-36 and on the expectations of operational staff, Gannett Fleming recommends the continued use of the lowa $50-\mathrm{R} 3$, as shown on page IV-33 of the Supporting Documents.

## DIESEL ACCOUNTS

Account 1300B - Buildings, represents $21 \%$ of the diesel assets and less than $1 \%$ of the depreciable assets studied. The statistical analysis indicates a 30-year average service life expectation. In addition, the Diesel Buildings are subjected to increased amounts of wear and tear than other generation buildings within the Manitoba Hydro system, and therefore will have a shorter life expectation. Based on the retirement rate analysis as presented on page IV-56, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the $30-\mathrm{R} 3$ from the $18-\mathrm{R} 2$ lowa curve which was previously used.

Account 1300N - Engines and Generators, represents 41\% of the diesel assets and less than $1 \%$ of the depreciable assets studied. The statistical analysis indicates a life of approximately 25 years. The operational staff at Manitoba Hydro also confirms the life expectation of 25 years. In addition, the industry peer average service life
estimates range from 20 to 30 years. Based on the retirement rate analysis as presented on page IV-58, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the Iowa 25-R2.

Account 1300Q - Accessory Station Equipment, represents 30\% of the diesel assets and less than 1\% of the depreciable assets studied. The investment in this account includes the investment related to step-up transformers, and control panels which were all replaced approximately 15 to 20 years ago. Based on the retirement rate analysis presented on page IV-60, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the lowa 20-R3.

## TRANSMISSION ACCOUNTS

Account 2000G - Metal Towers and Concrete Poles, represents $45 \%$ of the transmission assets and $2.8 \%$ of the depreciable assets studied. The company had a previously approved life estimate of 85 years for this account. The original survivor curve as shown on page IV-67 indicated a modest level of retirement activity through age 42, with an indication of increased retirement activity thereafter. The transmission towers have historically withstood environmental influences such as ice storms, severe winter conditions, and corrosion. There are some replacements that will be required with the need to replace the 105-year old towers from Point du Bois, but there are no other significant replacement plans over the next 25 to 30 years. The industry average service life ranges from 50 to 65 years.

Interviews with company operational staff have indicated an expectation of a longer life than the industry peers. Based on the retirement rate analysis as presented on page IV-68 to IV-70 of the supporting documents, and on the expectations of operational staff, Gannett Fleming recommends the continued use of an 85-year average service life estimate and an increase in the mode of the lowa curve from R3 to R4, resulting in a recommended lowa 85-R4 curve.

Account 2000L - Overhead Conductor and Devices, represents $40 \%$ of the transmission assets and $3 \%$ of the depreciable assets studied. The retirement pattern shows only modest retirements up until age 22 and retirements increasing at a low rate thereafter. Based on the retirement rate analysis as presented on page IV-75 to V-77, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account from a 60-L4 lowa curve to the lowa 65-R4.

## SUBSTATION ACCOUNTS

Account 3100R - Power Transformers, represents 12\% of the substations assets and $2 \%$ of the depreciable assets studied. The retirement pattern shows modest retirements starting about year five and increasing thereafter. The operational staff has not identified any problems with Manitoba Hydro's transformers. Manitoba Hydro also has a standard practice to repair through operating budgets for as long of a period as possible in order to extend the lives as long as possible for transformers. Additionally, newer transformers are expected to have shorter lives than the older units, as the new units are being manufactured to tighter capacity tolerances. The typical industry lives
range from 40 to 60 years. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 50-R2 curve.

Account 3100T - Interrupting Equipment, represents 6\% of the substations assets and 1\% of the depreciable assets studied. The retirement pattern shows modest retirements starting about year five and increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 45-R2 curve.

Account 3100U - Other Station Equipment, represents $21 \%$ of the substations assets and $4 \%$ of the depreciable assets studied. Comparable utilities with the electric industry have lives ranging from 45 to 53 years. The retirement pattern shown at page IV-99 shows modest retirements starting about year five and increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 43-R2 curve.

Account 3100V - Electronic Equipment and Batteries, represents $6 \%$ of the substations assets and $1 \%$ of the depreciable assets studied. Comparable utilities within the electric industry have lives ranging from 15 and 25 years. The retirement pattern as shown at page IV-103 shows modest retirements starting about year five and increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa curve of 20-R2.

Account 3200P - Convertor Equipment HVDC, represents 9\% of the substations assets and $2 \%$ of the depreciable assets studied. The retirement pattern as shown on page IV-108 shows modest retirements starting about year nine and slowly increasing until about age 25 and increasing at a faster rate thereafter. Based on the retirement
rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 25-R3 curve.

Account 3200S - Serialized Equipment-HVDC, represents $26 \%$ of the substations assets and 5\% of the depreciable assets studied. The retirement pattern as shown on page IV-110 shows retirements starting at year two and then increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 25-R2 curve.

## DISTRIBUTION ACCOUNTS

Account 4000 J - Poles and Fixtures, represents $24 \%$ of the distribution assets and $5 \%$ of the depreciable assets studied. The poles are a mix of pine and cedar with wood poles making up about $99.5 \%$ of the poles in service. Typical industry lives for wood poles range from 38 to 55 years. Based on the retirement rate analysis as shown on pages IV-122 and IV-123, and as confirmed through interviews with operational staff along with industry comparables, Gannett Fleming recommends an lowa 55-R3 curve.

Account 4000L - Overhead Conductor and Devices, represents $26 \%$ of the distribution assets and $5.1 \%$ of the depreciable assets studied. Operational staff indicated they are seeing no major issues with conductors and they would expect lives to be longer than the poles. Typical industry averages show lives ranging from 45 and 60 years. Based on the retirement rate analysis as displayed on page IV-125 and IV126 the expectations of operational staff, and industry comparables, Gannett Fleming recommends an lowa 60-R2 curve.

Account 4000N - Underground Cable and Devices - Primary, represents $11 \%$ of the distribution assets and 2\% of the depreciable assets studied. Operations indicated
there are no major issues with newer underground cable installed within the last 25 years. However, the older cable previously installed was of inferior quality and is starting to be retired at about 45 years. Typical industry averages show lives ranging from 40 to 80 years. Based on the retirement rate analysis as shown on pages IV-130 and 131 on the expectations of operational staff and industry comparables, Gannett Fleming recommends an lowa 60-R4 curve.

Account 4000P - Underground Cable and Devices - Secondary, represents 8\% of the distribution assets and $2 \%$ of the depreciable assets studied. The newer underground cable is about 25 years old and is showing no major issues according to Manitoba Hydro's operational staff. In addition, the older underground cable is starting to retire at about 45 years. Typical industry averages are indicating lives between 40 and 80 years. Based on the retirement rate analysis as shown on pages IV-133 and IV134 the expectations of operational staff along with industry comparables, Gannett Fleming recommends an lowa 45-R4 curve.

Account 40000 - Serialized Equipment - Overhead, represents $8 \%$ of the distribution assets and $2 \%$ of the depreciable assets studied. The investment in this account primarily relates to pole top transformers. Interviews with operational staff indicated the company intends to continue to refurbish and reuse transformers. Comparable Industry averages range from 27 to 45 years. Expectations of operational staff along with industry comparables, Gannett Fleming recommends an Iowa 35-R3 curve.

Account 4000S - Serialized Equipment - Underground, represents 7\% of the distribution assets and $1 \%$ of the depreciable assets studied. The investment in this
account primarily relates to pad mounted transformers for underground service. Interviews with operational staff indicated the company intends to continue to refurbish and reuse these transformers. Comparable industry averages range from 27 to 45 years. Expectations of operational staff along with industry comparables, Gannett Fleming recommends an lowa 40-R3 curve.

The survivor curve estimates for the remaining accounts were based on similar considerations of historical analyses, management outlook and estimates for this company and other electric utilities.

## Life Span Estimates

Life expectancy of electric generation plant assets are impacted by not only physical wear and tear of the assets but also on economic factors including the feasibility of the economic replacement of major operating components or the economic viability of the plant as a whole. In circumstances where the replacement of major operating components is not economically feasible, the life of the major component can be the determining factor of the generation plant and all of the assets within the plant. As such, the depreciable remaining life of electric generation plant assets is the lesser of the physical life expectation of the asset or the period at the end of the life span of the generation plant.

The use of life span dates for determining depreciable lives for regulated electric generation plant is common through many North American Regulatory jurisdictions. The basis for the determination of the life span date is usually based on one or all of the following:

- The physical life estimation of the major and vital components of the generating plant;
- The duration of operating licenses;
- Precedent and policy of the regulatory jurisdiction;
- Expiration of the supply source for which the generation plant is dependent; and
- Expiration of market demand upon which the generation plant is dependent.

In prior depreciation reviews, Manitoba Hydro has determined a life span date for each of the regulated hydraulic plants based on an overall life estimate of 100 years. The management and operational staff of Manitoba Hydro have reviewed this policy and determined that the economic life of the generation plants should be extended to 140 years beyond the date of initial construction. The application of this policy was reviewed for its reasonableness at each of the generation plants and was modified in three circumstances as follows:

- Pointe du Bois - March 31, 2031 (125 years)
- Grand Rapids - March 31, 2091 (125 years)
- Laurie River - March 31, 2032 (80 years)


## CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

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

In the average service life procedure, the rate of annual depreciation is based on the average life or average service life of the group, and this rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life. In this procedure, the accrued depreciation is based on the average service life of the group and the average remaining life of each vintage within the group derived from the area under the survivor curve between the attained age of the vintage and the maximum age.

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

The table on the following page presents an illustration of the calculation of equal life group depreciation using the lowa $15-\mathrm{R} 3$ survivor curve, 0 percent net salvage and a December 31, 2010 calculation date. In the table, each equal life group is defined by the age interval shown in columns 1 and 2. These are the ages at which the first and last retirement of each group occurs, and the group's equal life, shown in column 3, is the midpoint of the interval. For purposes of the calculation, each vintage is divided into equal life groups arranged so that the midpoint of each one-year age interval coincides
with the calculation date, e.g., December 31 in this case. This enables the calculation of annual accruals for a twelve-month period centered on the date of calculation.

The retirement during the age interval, shown in column 4, is the size of each equal life group and is derived from the Iowa 15-R3 survivor curve and 0 percent net salvage. It is the difference between the percents surviving at the beginning and end of the age interval. Each equal life group's annual accrual, shown in column 5, equals the group's size (column 4) divided by its life (column 3).

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

|  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CALCULATION DATE.. 12-31-2010 |  |  |  |  |  |  |  |  |  |
| SURVIVOR CURVE.... 15-R3 |  |  |  |  |  |  |  |  |  |
|  |  |  | RETIREMENTS | GROUP |  | SUMMATION | AVERAGE |  |  |
| AGE IN | ERVAL |  | DURING | ANNUAL | YEAR | OF ANNUAL | PERCENT | ANNUAL | ACCRUED |
| BEG | END | LIFE | INTERVAL | ACCRUAL | INST | ACCRUALS | SURVIVING | FACTOR | FACTOR |
| (1) | (2) | (3) | (4) | (5) $=(4) /(3)$ | (6) | (7) | (8) | (9) | (10) |
| 0.000 | 1.000 | 0.500 | 0.13204 | 0.13204000000 | 2010 | 7.73951870976 | 99.939619 | 0.0774 | 0.0387 |
| 1.000 | 2.000 | 1.500 | 0.22004 | 0.14669333333 | 2009 | 7.53413204309 | 99.757940 | 0.0755 | 0.1133 |
| 2.000 | 3.000 | 2.500 | 0.34901 | 0.13960400000 | 2008 | 7.39098337643 | 99.473416 | 0.0743 | 0.1858 |
| 3.000 | 4.000 | 3.500 | 0.53168 | 0.15190857143 | 2007 | 7.24522709071 | 99.033069 | 0.0732 | 0.2562 |
| 4.000 | 5.000 | 4.500 | 0.77648 | 0.17255111111 | 2006 | 7.08299724944 | 98.378988 | 0.0720 | 0.3240 |
| 5.000 | 6.000 | 5.500 | 1.09520 | 0.19912727273 | 2005 | 6.89715805752 | 97.443149 | 0.0708 | 0.3894 |
| 6.000 | 7.000 | 6.500 | 1.50085 | 0.23090000000 | 2004 | 6.68214442116 | 96.145127 | 0.0695 | 0.4518 |
| 7.000 | 8.000 | 7.500 | 1.99686 | 0.26624800000 | 2003 | 6.43357042116 | 94.396275 | 0.0682 | 0.5115 |
| 8.000 | 9.000 | 8.500 | 2.59836 | 0.30568941176 | 2002 | 6.14760171528 | 92.098663 | 0.0668 | 0.5678 |
| 9.000 | 10.000 | 9.500 | 3.32846 | 0.35036421053 | 2001 | 5.81957490413 | 89.135249 | 0.0653 | 0.6204 |
| 10.000 | 11.000 | 10.500 | 4.20015 | 0.40001428571 | 2000 | 5.44438565601 | 85.370944 | 0.0638 | 0.6699 |
| 11.000 | 12.000 | 11.500 | 5.24273 | 0.45588956522 | 1999 | 5.01643373055 | 80.649505 | 0.0622 | 0.7153 |
| 12.000 | 13.000 | 12.500 | 6.46397 | 0.51711760000 | 1998 | 4.52993014794 | 74.796157 | 0.0606 | 0.7575 |
| 13.000 | 14.000 | 13.500 | 7.78086 | 0.57636000000 | 1997 | 3.98319134794 | 67.673742 | 0.0589 | 0.7952 |
| 14.000 | 15.000 | 14.500 | 9.04123 | 0.62353310345 | 1996 | 3.38324479621 | 59.262695 | 0.0571 | 0.8280 |
| 15.000 | 16.000 | 15.500 | 9.97724 | 0.64369290323 | 1995 | 2.74963179287 | 49.753461 | 0.0553 | 0.8572 |
| 16.000 | 17.000 | 16.500 | 10.26569 | 0.62216303030 | 1994 | 2.11670382611 | 39.631994 | 0.0534 | 0.8811 |
| 17.000 | 18.000 | 17.500 | 9.71888 | 0.55536457143 | 1993 | 1.52794002524 | 29.639708 | 0.0516 | 0.9030 |
| 18.000 | 19.000 | 18.500 | 8.35418 | 0.45157729730 | 1992 | 1.02446909088 | 20.603179 | 0.0497 | 0.9195 |
| 19.000 | 20.000 | 19.500 | 6.50335 | 0.33350512821 | 1991 | 0.63192787812 | 13.174414 | 0.0480 | 0.9360 |
| 20.000 | 21.000 | 20.500 | 4.58978 | 0.22389170732 | 1990 | 0.35322946036 | 7.627850 | 0.0463 | 0.9492 |
| 21.000 | 22.000 | 21.500 | 2.91547 | 0.13560325581 | 1989 | 0.17348197879 | 3.875224 | 0.0448 | 0.9632 |
| 22.000 | 23.000 | 22.500 | 1.61144 | 0.07161955556 | 1988 | 0.06987057311 | 1.611769 | 0.0434 | 0.9765 |
| 23.000 | 24.000 | 23.500 | 0.66967 | 0.02849659574 | 1987 | 0.01981249746 | 0.471215 | 0.0420 | 0.9870 |
| 24.000 | 25.000 | 24.500 | 0.13425 | 0.00547959184 | 1986 | 0.00282440367 | 0.069256 | 0.0408 | 0.9996 |
| 25.000 | 25.350 | 25.175 | 0.00213 | 0.00008460775 | 1985 | 0.00001480636 | 0.000373 | 0.0397 | 1.0000 | TOTAL 100.00000

Columns 6 through 10 show the derivation of the annual and accrued factors for each vintage based on the information developed in the first five columns. The year installed is shown in column 6. For all vintages other than 2010, the summation of annual accruals for each year installed, shown in column 7, is calculated by adding one-
half of the group annual accrual (column 5) for that vintage's current age interval plus the group annual accruals for all succeeding age intervals. For example, the figure 7.53413204309 for 2009 equals one-half of 0.14669333333 plus all of the succeeding figures in column 5 . Only one-half of the annual accrual for the vintage's current age interval group is included in the summation because the equal life group for that interval has reached the year during which it is expected to be retired.

The summation of annual accruals (column 7) for installations during 2010 is calculated on the basis of an in-service date at the midpoint of the year, i.e., June 30 . Inasmuch as the overall calculation is centered on December 31, 2010, the first figure in column 7, for vintage 2010, equals all of the group annual accrual for the first equal life group plus the accruals for all of the subsequent equal life groups.

The average percent surviving derived from the lowa 15-R3 survivor curve and 0 percent net salvage, is shown in column 8 for each age interval. The annual factor, shown in column 9 , is the result of dividing the summation of annual accruals (column 7 ) by the average percent surviving (column 8). The accrued factor, shown in column 10, equals the annual factor multiplied by the age of the group at December 31, 2010.

## CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION

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

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

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

AMORTIZATION PERIOD,

| ACCOUNT | TITLE | YEARS |
| :---: | :---: | :---: |
| 000C | POWERHOUSE RENOVATIONS | 25 |
| 000L | LICENCE RENEWAL | 50 |
| 000W | SUPPORT BUILDING RENOVATIONS | 20 |
| 000M | COMBUSTION TURBINE OVERHAULS | 10 |
| $1125 Z$ | COMMUNITY DEVELOPMENT COSTS | 81 |
| 1140Z | COMMUNITY DEVELOPMENT COSTS | 80 |
| $1160 Z$ | COMMUNITY DEVELOPMENT COSTS | 100 |
| $1165 Z$ | COMMUNITY DEVELOPMENT COSTS | 100 |
| 1300C | BUILDING RENOVATIONS | 15 |
| 1300M | ENGINES AND GENERATORS - OVERHAULS | 5 |
| 3000C | BUILDING RENOVATIONS | 20 |
| 4000K | GROUND LINE TREATMENT | 10 |
| 4000V | ELECTRONIC EQUIPMENT | 10 |
| 5000C | BUILDING RENOVATIONS | 20 |
| 5000K | OPERATIONAL IT EQUIPMENT | 5 |
| 5000M | MOBILE RADIO, TELEPHONE AND VIDEO CONFERENCING | 8 |
| 5000N | OPERATIONAL DATA NETWORK | 8 |
| 8000C | BUILDING RENOVATIONS | 20 |
| 9000H | TOOLS, SHOP AND GARAGE EQUIPMENT | 15 |
| 9000K | COMPUTER EQUIPMENT | 5 |
| 9000L | OFFICE FURNITURE AND EQUIPMENT | 20 |
| 9000M | HOT WATER TANKS | 6 |
| A200H | COMPUTER DEVELOPMENT - SMALL SYSTEMS | 10 |
| A200J | COMPUTER SOFTWARE - GENERAL | 5 |
| A200K | COMPUTER SOFTWARE - COMMUNICATION/OPERATIONAL | 5 |

For the purpose of calculating annual amortization amounts as of March 31, 2010, the book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The book reserve assigned to vintages with an age greater than the amortization period is equal to the vintage's original cost. The remaining book reserve is allocated among vintages with an age less than the amortization period in proportion to the calculated accrued amortization. The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization period. The annual amortization amount is determined by dividing the future amortizations (original cost less allocated book reserve) by the remaining period of amortization for the vintage.

## MONITORING OF BOOK ACCUMULATED DEPRECIATION

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

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

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

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

The book costs and lives of the several equal life groups, which are summed in the foregoing equation, are defined by the estimated future survivor curve.

Inasmuch as book cost divided by life equals the whole life annual accrual, the foregoing equation reduces to the following form:

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

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

PART III. RESULTS OF STUDY

## PART III. RESULTS OF STUDY

## QUALIFICATION OF RESULTS

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

## DESCRIPTION OF DETAILED TABULATIONS

The service life estimates were based on judgment that incorporated statistical analysis of retirement data, discussions with management and consideration of estimates made for other electric utilities. The results of the statistical analysis of service life are presented in the section beginning on pages IV-2, within the supporting documents of this report.

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

The tables of the calculated annual depreciation applicable to depreciable assets as of March 31, 2010 are presented in account sequence starting on page V -2 of the supporting documents. The tables indicate the estimated average survivor curves used in the calculations. The tables set forth, for each installation year, the original cost, calculated accrued depreciation, and the calculated annual accrual.

## MANITOBA HYDRO

SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \end{aligned}$DATE | ESTIMATED SURVIVOR CURVE (2) | $\begin{gathered} \text { ESTIMATED } \\ \text { NET } \\ \text { SALVAGE } \\ \hline(3) \end{gathered}$ | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP (7) | TOTAL DEPRECIATION RELATED TO LIFE |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  |  |  |  | (5) | (6)=(5)/(4) |  | (8)=(5)+(7) | (9)=(8)/(4) |
| 10000 | GENERATION |  |  |  |  |  |  |  |  |  |
| 11000 | HYDRAULIC GENERATION |  |  |  |  |  |  |  |  |  |
| 11050 | GREAT FALLS |  |  |  |  |  |  |  |  |  |
| 1105A | DAMS, DYKES AND WEIRS | 2063 | 125-R4 | 0 | 17,302,772 | 218,229 | 1.26 | $(27,263)$ | 190,966 | 1.10 |
| 1105B | POWERHOUSE | 2063 | 125-R4 | 0 | 7,990,993 | 99,815 | 1.25 | $(13,045)$ | 86,770 | 1.09 |
| 1105C | POWERHOUSE RENOVATIONS | 2063 | 25-SQ | 0 |  |  |  |  |  | 4.00 **** |
| 1105D | SPILLWAY | 2063 | 75-R2 | 0 | 9,676,327 | 151,875 | 1.57 | $(6,958)$ | 144,917 | 1.50 |
| 1105E | WATER CONTROL SYSTEMS | 2063 | 50-S4 | 0 | 24,245,253 | 497,229 | 2.05 | $(50,814)$ | 446,415 | 1.84 |
| 1105F | ROADS AND SITE IMPROVEMENTS | 2063 | 50-R3 | 0 | 213,964 | 5,129 | 2.40 | (24) | 5,105 | 2.39 |
| 1105G | TURBINES AND GENERATORS | 2063 | 65-S3 | 0 | 25,128,789 | 433,087 | 1.72 | $(30,373)$ | 402,714 | 1.60 |
| 1105H | GOVERNORS AND EXCITATION SYSTEM | 2063 | 50-R4 | 0 | 492,218 | 10,048 | 2.04 | (811) | 9,237 | 1.88 |
| 1105L | LICENCE RENEWAL | 2063 | 50-SQ | 0 |  |  |  |  |  | 2.00 **** |
| 1105P | A/C ELECTRICAL POWER SYSTEMS | 2063 | 50-R3 | 0 | 9,493,088 | 201,933 | 2.13 | $(12,866)$ | 189,067 | 1.99 |
| 1105Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2063 | 23-L2 | 0 | 19,271,956 | 955,210 | 4.96 | $(7,499)$ | 947,711 | 4.92 |
| 1105R | AUXILIARY STATION PROCESSES | 2063 | 40-R2.5 | 0 | 8,345,798 | 224,470 | 2.69 | $(9,108)$ | 215,362 | 2.58 |
| 1105X | SUPPORT BUILDINGS | 2063 | 65-R3 | 0 | 1,495,253 | 24,424 | 1.63 | $(2,820)$ | 21,604 | 1.44 |
| 1105W | SUPPORT BUILDING RENOVATIONS | 2063 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL GREAT FALLS |  |  |  | 123,656,412 | 2,821,449 | 2.28 | (161,581) | 2,659,868 | 2.15 |
| 11100 | POINTE DU BOIS |  |  |  |  |  |  |  |  |  |
| 1110A | DAMS, DYKES AND WEIRS | 2031 | 125-R4 | 0 | 11,263,332 | 446,825 | 3.97 | $(91,296)$ | 355,529 | 3.16 |
| 1110B | POWERHOUSE | 2031 | 125-R4 | 0 | 6,242,749 | 271,010 | 4.34 | $(26,759)$ | 244,251 | 3.91 |
| 1110 C | POWERHOUSE RENOVATIONS | 2031 | 25-SQ | 0 |  |  |  |  |  | 4.84 */** |
| 1110 D | SPILLWAY - ORIGINAL | 2017 | 75-R2 | 0 | 3,104,842 | 345,659 | 11.13 | $(84,531)$ | 261,128 | 8.41 |
| 1110E | WATER CONTROL SYSTEMS | 2031 | 50-S4 | 0 | 4,027,603 | 152,884 | 3.80 | $(39,522)$ | 113,362 | 2.81 |
| 1110F | ROADS AND SITE IMPROVEMENTS | 2031 | 50-R3 | 0 | 28,533 | 1,113 | 3.90 | (295) | 818 | 2.87 |
| 1110G | TURBINES AND GENERATORS | 2031 | 65-S3 | 0 | 24,610,324 | 1,022,300 | 4.15 | $(153,096)$ | 869,204 | 3.53 |
| 1110 H | GOVERNORS AND EXCITATION SYSTEM | 2031 | 50-R4 | 0 |  |  |  |  |  | 5.04 * |
| 1110L | LICENCE RENEWAL | 2031 | 50-SQ | 0 |  |  |  |  |  | 4.76 */** |
| 1110P | A/C ELECTRICAL POWER SYSTEMS | 2031 | 50-R3 | 0 | 6,057,709 | 274,987 | 4.54 | $(22,954)$ | 252,033 | 4.16 |
| 1110Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2031 | 23-L2 | 0 | 355,559 | 20,840 | 5.86 | $(2,581)$ | 18,259 | 5.14 |
| 1110R | AUXILIARY STATION PROCESSES | 2031 | 40-R2.5 | 0 | 1,377,014 | 62,068 | 4.51 | $(11,335)$ | 50,733 | 3.68 |
| 1110X | SUPPORT BUILDINGS | 2031 | 65-R3 | 0 | 2,616,290 | 95,041 | 3.63 | $(32,110)$ | 62,931 | 2.41 |
| 1110W | SUPPORT BUILDING RENOVATIONS | 2031 | 20-SQ | 0 |  |  |  |  |  | 5.00 **** |
| 1111D | SPILLWAY - NEW |  | 75-R2 | 0 |  |  |  |  |  | 1.33 * |
|  | TOTAL POINTE DU BOIS |  |  |  | 59,683,956 | 2,692,727 | 4.51 | $(464,480)$ | 2,228,247 | 3.73 |
| 11150 | SEVEN SISTERS |  |  |  |  |  |  |  |  |  |
| 1115A | DAMS, DYKES AND WEIRS | 2072 | 125-R4 | 0 | 31,497,995 | 353,966 | 1.12 | $(76,205)$ | 277,761 | 0.88 |
| 1115B | POWERHOUSE | 2072 | 125-R4 | 0 | 13,653,945 | 143,721 | 1.05 | $(40,679)$ | 103,042 | 0.75 |
| 1115 C | POWERHOUSE RENOVATIONS | 2072 | 25-SQ | 0 |  |  |  |  |  | 4.00 *** |
| 1115D | SPILLWAY | 2072 | 75-R2 | 0 | 2,841,355 | 39,847 | 1.40 | $(5,275)$ | 34,572 | 1.22 |
| 1115E | WATER CONTROL SYSTEMS | 2072 | 50-S4 | 0 | 4,296,891 | 81,034 | 1.89 | $(23,695)$ | 57,339 | 1.33 |
| 1115F | ROADS AND SITE IMPROVEMENTS | 2072 | 50-R3 | 0 | 201,701 | 3,718 | 1.84 | $(1,185)$ | 2,533 | 1.26 |
| 1115G | TURBINES AND GENERATORS | 2072 | 65-S3 | 0 | 41,208,963 | 689,938 | 1.67 | $(75,531)$ | 614,407 | 1.49 |
| 1115 H | GOVERNORS AND EXCITATION SYSTEM | 2072 | 50-R4 | 0 | 6,860 | 125 | 1.82 | (451) | (326) | 2.00 |
| 1115L | LICENCE RENEWAL | 2072 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1115P | A/C ELECTRICAL POWER SYSTEMS | 2072 | 50-R3 | 0 | 10,648,619 | 223,532 | 2.10 | $(36,104)$ | 187,428 | 1.76 |
| 1115Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2072 | 23-L2 | 0 | 3,821,416 | 163,482 | 4.28 | $(29,620)$ | 133,862 | 3.50 |
| 1115R | AUXILIARY STATION PROCESSES | 2072 | 40-R2.5 | 0 | 5,224,958 | 131,285 | 2.51 | $(25,391)$ | 105,894 | 2.03 |
| 1115X | SUPPORT BUILDINGS | 2072 | 65-R3 | 0 | 608,294 | 11,021 | 1.81 | (676) | 10,345 | 1.70 |
| 1115W | SUPPORT BUILDING RENOVATIONS | 2072 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL SEVEN SIStERS |  |  |  | 114,010,998 | 1,841,669 | 1.62 | $(314,814)$ | 1,526,855 | 1.34 |


| ACCOUNT | DEPRECIABLE WORK | LIFE <br> SPAN <br> DATE | ESTIMATED SURVIVOR CURVE | EStIMATED NET SALVAGE | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | (3) | (4) | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 11200 | SLAVE FALLS |  |  |  |  |  |  |  |  |  |
| 1120A | DAMS, DYKES AND WEIRS | 2072 | 125-R4 | 0 | 954,684 | 14,817 | 1.55 | (153) | 14,664 | 1.54 |
| 1120B | POWERHOUSE | 2072 | 125-R4 | 0 | 45,692,194 | 663,677 | 1.45 | $(17,065)$ | 646,612 | 1.42 |
| 1120 C | POWERHOUSE RENOVATIONS | 2072 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1120D | SPILLWAY | 2072 | 75-R2 | 0 | 760,201 | 15,394 | 2.03 | 58 | 15,452 | 2.03 |
| 1120E | WATER CONTROL SYSTEMS | 2072 | 50-S4 | 0 | 318,933 | 6,602 | 2.07 | (96) | 6,506 | 2.04 |
| 1120F | ROADS AND SITE IMPROVEMENTS | 2072 | 50-R3 | 0 | 769,506 | 17,545 | 2.28 | (107) | 17,438 | 2.27 |
| 1120G | TURBINES AND GENERATORS | 2072 | 65-S3 | 0 | 11,630,909 | 200,112 | 1.72 | $(4,924)$ | 195,188 | 1.68 |
| 1120 H | GOVERNORS AND EXCITATION SYSTEM | 2072 | 50-R4 | 0 |  |  |  |  |  | 2.00 * |
| 1120 L | LICENCE RENEWAL | 2072 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1120P | A/C ELECTRICAL POWER SYSTEMS | 2072 | 50-R3 | 0 | 21,815,741 | 505,179 | 2.32 | $(2,972)$ | 502,207 | 2.30 |
| 1120Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2072 | 23-L2 | 0 | 786,382 | 42,365 | 5.39 | 217 | 42,582 | 5.41 |
| 1120R | AUXILIARY STATION PROCESSES | 2072 | 40-R2.5 | 0 | 2,201,466 | 68,661 | 3.12 | 262 | 68,923 | 3.13 |
| 1120 X | SUPPORT BUILDINGS | 2072 | 65-R3 | 0 | 3,724,095 | 67,791 | 1.82 | (955) | 66,836 | 1.79 |
| 1120W | SUPPORT BUILDING RENOVATIONS | 2072 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL SLAVE FALLS |  |  |  | 88,654,109 | 1,602,143 | 1.81 | $(25,735)$ | 1,576,408 | 1.78 |
| 11250 | PINE FALLS |  |  |  |  |  |  |  |  |  |
| 1125A | DAMS, DYKES AND WEIRS | 2092 | 125-R4 | 0 | 14,110,589 | 156,702 | 1.11 | $(6,323)$ | 150,379 | 1.07 |
| 1125B | POWERHOUSE | 2092 | 125-R4 | 0 | 10,060,843 | 87,828 | 0.87 | $(15,968)$ | 71,860 | 0.71 |
| 1125C | POWERHOUSE RENOVATIONS | 2092 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1125D | SPILLWAY | 2092 | 75-R2 | 0 | 93,376 | 1,804 | 1.93 | 8 | 1,812 | 1.94 |
| 1125E | WATER CONTROL SYSTEMS | 2092 | 50-S4 | 0 | 3,564,106 | 67,205 | 1.89 | $(15,006)$ | 52,199 | 1.46 |
| 1125F | ROADS AND SITE IMPROVEMENTS | 2092 | 50-R3 | 0 | 1,178,575 | 19,598 | 1.66 | $(18,921)$ | 677 | 0.06 |
| 1125G | TURBINES AND GENERATORS | 2092 | 65-S3 | 0 | 9,464,220 | 145,587 | 1.54 | $(25,177)$ | 120,410 | 1.27 |
| 1125 H | GOVERNORS AND EXCITATION SYSTEM | 2092 | 50-R4 | 0 |  |  |  |  |  | 2.00 * |
| 1125L | LICENCE RENEWAL | 2092 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1125P | A/C ELECTRICAL POWER SYSTEMS | 2092 | 50-R3 | 0 | 5,071,108 | 104,504 | 2.06 | $(9,469)$ | 95,035 | 1.87 |
| 1125Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2092 | 23-L2 | 0 | 2,156,586 | 99,187 | 4.60 | $(3,305)$ | 95,882 | 4.45 |
| 1125R | AUXILIARY STATION PROCESSES | 2092 | 40-R2.5 | 0 | 3,790,230 | 99,575 | 2.63 | $(7,530)$ | 92,045 | 2.43 |
| 1125X | SUPPORT BUILDINGS | 2092 | 65-R3 | 0 | 336,412 | 5,683 | 1.69 | (241) | 5,442 | 1.62 |
| 1125W | SUPPORT BUILDING RENOVATIONS | 2092 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
| 11252 | COMMUNITY DEVELOPMENT COSTS | 2092 | 81-SQ | 0 | 4,425,543 | 54,434 | 1.23 | $(2,471)$ | 51,963 | 1.17 ** |
|  | TOTAL PINE FALLS |  |  |  | 54,251,587 | 842,107 | 1.55 | $(104,404)$ | 737,703 | 1.36 |
| 11300 | MCARTHUR FALLS |  |  |  |  |  |  |  |  |  |
| 1130A | DAMS, DYKES AND WEIRS | 2095 | 125-R4 | 0 | 3,578,068 | 32,928 | 0.92 | $(3,695)$ | 29,233 | 0.82 |
| 1130B | POWERHOUSE | 2095 | 125-R4 | 0 | 9,523,798 | 83,002 | 0.87 | $(12,467)$ | 70,535 | 0.74 |
| 1130 C | POWERHOUSE RENOVATIONS | 2095 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1130D | SPILLWAY | 2095 | 75-R2 | 0 | 2,351,438 | 28,217 | 1.20 | $(4,929)$ | 23,288 | 0.99 |
| 1130E | WATER CONTROL SYSTEMS | 2095 | 50-S4 | 0 | 11,703,203 | 238,168 | 2.04 | $(26,096)$ | 212,072 | 1.81 |
| 1130F | ROADS AND SITE IMPROVEMENTS | 2095 | 50-R3 | 0 | 234,820 | 4,758 | 2.03 | (551) | 4,207 | 1.79 |
| 1130G | TURBINES AND GENERATORS | 2095 | 65-S3 | 0 | 5,096,367 | 72,094 | 1.41 | $(44,855)$ | 27,239 | 0.53 |
| 1130 H | GOVERNORS AND EXCITATION SYSTEM | 2095 | 50-R4 | 0 | 119,315 | 2,513 | 2.11 | (166) | 2,347 | 1.97 |
| 1130L | LICENCE RENEWAL | 2095 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1130P | A/C ELECTRICAL POWER SYSTEMS | 2095 | 50-R3 | 0 | 2,480,539 | 45,912 | 1.85 | $(9,219)$ | 36,693 | 1.48 |
| 1130Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2095 | 23-L2 | 0 | 1,245,885 | 49,056 | 3.94 | $(4,082)$ | 44,974 | 3.61 |
| 1130R | AUXILIARY STATION PROCESSES | 2095 | 40-R2.5 | 0 | 3,440,197 | 90,405 | 2.63 | $(5,443)$ | 84,962 | 2.47 |
| 1130X | SUPPORT BUILDINGS | 2095 | 65-R3 | 0 | 227,212 | 3,840 | 1.69 | (133) | 3,707 | 1.63 |
| 1130W | SUPPORT BUILDING RENOVATIONS | 2095 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL MCARTHUR FALLS |  |  |  | 40,000,842 | 650,893 | 1.63 | $(111,636)$ | 539,257 | 1.35 |


| ACCOUNT | DEPRECIABLE WORK | LIFE <br> SPAN <br> DATE | ESTIMATED SURVIVOR CURVE | EStIMATED NET SALVAGE | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | (3) | (4) | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 11350 | KELSEY |  |  |  |  |  |  |  |  |  |
| 1135A | DAMS, DYKES AND WEIRS | 2101 | 125-R4 | 0 | 11,066,409 | 110,124 | 1.00 | $(3,623)$ | 106,501 | 0.96 |
| 1135B | POWERHOUSE | 2101 | 125-R4 | 0 | 27,569,817 | 239,892 | 0.87 | $(19,889)$ | 220,003 | 0.80 |
| 1135 C | POWERHOUSE RENOVATIONS | 2101 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1135D | SPILLWAY | 2101 | 75-R2 | 0 | 5,331,929 | 66,116 | 1.24 | $(2,091)$ | 64,025 | 1.20 |
| 1135E | WATER CONTROL SYSTEMS | 2101 | 50-S4 | 0 | 11,792,566 | 233,252 | 1.98 | $(20,286)$ | 212,966 | 1.81 |
| 1135F | ROADS AND SITE IMPROVEMENTS | 2101 | 50-R3 | 0 | 6,442,928 | 126,660 | 1.97 | $(12,225)$ | 114,435 | 1.78 |
| 1135G | TURBINES AND GENERATORS | 2101 | 65-S3 | 0 | 130,323,693 | 2,139,901 | 1.64 | $(18,996)$ | 2,120,905 | 1.63 |
| 1135 H | GOVERNORS AND EXCITATION SYSTEM | 2101 | 50-R4 | 0 | 88,651 | 1,871 | 2.11 | (87) | 1,784 | 2.01 |
| 1135L | LICENCE RENEWAL | 2101 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1135P | A/C ELECTRICAL POWER SYSTEMS | 2101 | 50-R3 | 0 | 5,751,610 | 113,771 | 1.98 | $(12,141)$ | 101,630 | 1.77 |
| 1135Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2101 | 23-L2 | 0 | 3,595,490 | 162,610 | 4.52 | 3,100 | 165,710 | 4.61 |
| 1135R | AUXILIARY STATION PROCESSES | 2101 | 40-R2.5 | 0 | 7,788,815 | 203,179 | 2.61 | $(4,650)$ | 198,529 | 2.55 |
| 1135X | SUPPORT BUILDINGS | 2101 | 65-R3 | 0 | 9,953,977 | 170,743 | 1.72 | $(2,021)$ | 168,722 | 1.70 |
| 1135W | SUPPORT BUILDING RENOVATIONS | 2101 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL KELSEY |  |  |  | 219,705,886 | 3,568,119 | 1.62 | $(92,910)$ | 3,475,209 | 1.58 |
| 11400 | GRAND RAPIDS |  |  |  |  |  |  |  |  |  |
| 1140A | DAMS, DYKES AND WEIRS | 2091 | 125-R4 | 0 | 53,468,974 | 514,944 | 0.96 | $(46,792)$ | 468,152 | 0.88 |
| 1140B | POWERHOUSE | 2091 | 125-R4 | 0 | 24,506,522 | 223,336 | 0.91 | $(25,953)$ | 197,383 | 0.81 |
| 1140 C | POWERHOUSE RENOVATIONS | 2091 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1140D | SPILLWAY | 2091 | 75-R2 | 0 | 5,308,334 | 68,207 | 1.28 | $(4,198)$ | 64,009 | 1.21 |
| 1140E | WATER CONTROL SYSTEMS | 2091 | 50-S4 | 0 | 15,982,492 | 309,243 | 1.93 | $(61,544)$ | 247,699 | 1.55 |
| 1140F | ROADS AND SITE IMPROVEMENTS | 2091 | 50-R3 | 0 | 2,581,475 | 47,126 | 1.83 | $(15,904)$ | 31,222 | 1.21 |
| 1140G | TURBINES AND GENERATORS | 2091 | 65-S3 | 0 | 113,066,160 | 1,856,605 | 1.64 | $(81,564)$ | 1,775,041 | 1.57 |
| 1140 H | GOVERNORS AND EXCITATION SYSTEM | 2091 | 50-R4 | 0 | 42,718 | 897 | 2.10 | (44) | 853 | 2.00 |
| 1140L | LICENCE RENEWAL | 2091 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1140P | A/C ELECTRICAL POWER SYSTEMS | 2091 | 50-R3 | 0 | 8,240,545 | 173,871 | 2.11 | $(12,341)$ | 161,530 | 1.96 |
| 1140Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2091 | 23-L2 | 0 | 4,674,247 | 165,394 | 3.54 | $(17,828)$ | 147,566 | 3.16 |
| 1140R | AUXILIARY STATION PROCESSES | 2091 | 40-R2.5 | 0 | 5,600,506 | 153,945 | 2.75 | $(3,785)$ | 150,160 | 2.68 |
| 1140X | SUPPORT BUILDINGS | 2091 | 65-R3 | 0 | 6,190,376 | 106,722 | 1.72 | $(2,100)$ | 104,622 | 1.69 |
| 1140W | SUPPORT BUILDING RENOVATIONS | 2091 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
| 11402 | COMMUNITY DEVELOPMENT COSTS | 2091 | 80-SQ | 0 | 101,442,997 | 1,268,037 | 1.25 | $(90,628)$ | 1,177,409 | 1.16 ** |
|  | TOTAL GRAND RAPIDS |  |  |  | 341,105,346 | 4,888,327 | 1.43 | $(362,682)$ | 4,525,645 | 1.33 |
| 11450 | KETtLE |  |  |  |  |  |  |  |  |  |
| 1145A | DAMS, DYKES AND WEIRS | 2111 | 125-R4 | 0 | 45,280,663 | 390,107 | 0.86 | $(34,169)$ | 355,938 | 0.79 |
| 1145B | POWERHOUSE | 2111 | 125-R4 | 0 | 146,207,420 | 1,262,257 | 0.86 | $(108,788)$ | 1,153,469 | 0.79 |
| 1145C | POWERHOUSE RENOVATIONS | 2111 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1145D | SPILLWAY | 2111 | 75-R2 | 0 | 25,406,960 | 337,913 | 1.33 | $(11,392)$ | 326,521 | 1.29 |
| 1145E | WATER CONTROL SYSTEMS | 2111 | 50-S4 | 0 | 17,834,945 | 355,361 | 1.99 | $(173,994)$ | 181,367 | 1.02 |
| 1145F | ROADS AND SITE IMPROVEMENTS | 2111 | 50-R3 | 0 | 10,591 | 235 | 2.22 | (5) | 230 | 2.17 |
| 1145 G | TURBINES AND GENERATORS | 2111 | 65-S3 | 0 | 70,740,028 | 1,123,607 | 1.59 | $(208,486)$ | 915,121 | 1.29 |
| 1145 H | GOVERNORS AND EXCITATION SYSTEM | 2111 | 50-R4 | 0 | 3,304,326 | 64,753 | 1.96 | $(26,160)$ | 38,593 | 1.17 |
| 1145L | LICENCE RENEWAL | 2111 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1145P | A/C ELECTRICAL POWER SYSTEMS | 2111 | 50-R3 | 0 | 6,771,761 | 141,808 | 2.09 | $(11,636)$ | 130,172 | 1.92 |
| 1145Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2111 | 23-L2 | 0 | 12,001,279 | 430,663 | 3.59 | $(34,185)$ | 396,478 | 3.30 |
| 1145R | AUXILIARY STATION PROCESSES | 2111 | 40-R2.5 | 0 | 15,361,985 | 379,871 | 2.47 | $(50,094)$ | 329,777 | 2.15 |
| 1145X | SUPPORT BUILDINGS | 2111 | 65-R3 | 0 | 3,908,404 | 60,260 | 1.54 | $(10,284)$ | 49,976 | 1.28 |
| 1145W | SUPPORT BUILDING RENOVATIONS | 2111 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL KETTLE |  |  |  | 346,828,362 | 4,546,835 | 1.31 | $(669,194)$ | 3,877,641 | 1.12 |


| ACCOUNT | DEPRECIABLE WORK | LIFE SPAN DATE | ESTIMATED SURVIVOR CURVE | ESTIMATED NET SALVAGE | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | TOTAL DEPRECIATION RELATED TO LIFE |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | (3) | (4) | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 11500 | LAURIE RIVER |  |  |  |  |  |  |  |  |  |
| 1150A | DAMS, DYKES AND WEIRS | 2032 | 125-R4 | 0 | 355,538 | 8,089 | 2.28 | 2,634 | 10,723 | 3.02 |
| 1150B | POWERHOUSE | 2032 | 125-R4 | 0 | 7,664,146 | 263,014 | 3.43 | 27,948 | 290,962 | 3.80 |
| 1150 C | POWERHOUSE RENOVATIONS | 2032 | 25-SQ | 0 |  |  |  |  |  | 4.55 */** |
| 1150D | SPILLWAY | 2032 | 75-R2 | 0 | 870,000 | 24,012 | 2.76 | 6,380 | 30,392 | 3.49 |
| 1150E | WATER CONTROL SYSTEMS | 2032 | 50-S4 | 0 | 458,033 | 12,783 | 2.79 | 2,722 | 15,505 | 3.39 |
| 1150F | ROADS AND SITE IMPROVEMENTS | 2032 | 50-R3 | 0 | 1,441,914 | 41,644 | 2.89 | 10,679 | 52,323 | 3.63 |
| 1150G | TURBINES AND GENERATORS | 2032 | 65-S3 | 0 | 4,603,136 | 174,447 | 3.79 | 11,639 | 186,086 | 4.04 |
| 1150 H | GOVERNORS AND EXCITATION SYSTEM | 2032 | 50-R4 | 0 | 882,653 | 36,143 | 4.09 | 1,427 | 37,570 | 4.26 |
| 1150L | LICENCE RENEWAL | 2032 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 4.55 */** |
| 1150P | A/C ELECTRICAL POWER SYSTEMS | 2032 | 50-R3 | 0 | 1,441,945 | 44,385 | 3.08 | 9,003 | 53,388 | 3.70 |
| 1150Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2032 | 23-L2 | 0 | 1,220,047 | 49,483 | 4.06 | 39,641 | 89,124 | 7.30 |
| 1150R | AUXILIARY STATION PROCESSES | 2032 | 40-R2.5 | 0 | 308,504 | 9,748 | 3.16 | 2,697 | 12,445 | 4.03 |
| 1150X | SUPPORT BUILDINGS | 2032 | 65-R3 | 0 | 355,919 | 9,254 | 2.60 | 2,622 | 11,876 | 3.34 |
| 1150W | SUPPORT BUILDING RENOVATIONS | 2032 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL LAURIE RIVER |  |  |  | 19,601,835 | 673,002 | 3.43 | 117,391 | 790,393 | 4.03 |
| 11550 | JENPEG |  |  |  |  |  |  |  |  |  |
| 1155A | DAMS, DYKES AND WEIRS | 2118 | 125-R4 | 0 | 15,295,318 | 135,504 | 0.89 | $(3,801)$ | 131,703 | 0.86 |
| 1155B | POWERHOUSE | 2118 | 125-R4 | 0 | 76,905,294 | 663,443 | 0.86 | $(24,816)$ | 638,627 | 0.83 |
| 1155C | POWERHOUSE RENOVATIONS | 2118 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1155D | SPILLWAY | 2118 | 75-R2 | 0 | 14,942,733 | 206,583 | 1.38 | 10,126 | 216,709 | 1.45 |
| 1155E | WATER CONTROL SYSTEMS | 2118 | 50-S4 | 0 | 16,762,099 | 342,073 | 2.04 | $(72,470)$ | 269,603 | 1.61 |
| 1155F | ROADS AND SITE IMPROVEMENTS | 2118 | 50-R3 | 0 | 1,563,205 | 32,252 | 2.06 | $(1,292)$ | 30,960 | 1.98 |
| 1155G | TURBINES AND GENERATORS | 2118 | 65-S3 | 0 | 79,641,550 | 1,287,144 | 1.62 | $(88,046)$ | 1,199,098 | 1.51 |
| 1155 H | GOVERNORS AND EXCITATION SYSTEM | 2118 | 50-R4 | 0 |  |  |  |  |  | 2.00 |
| 1155L | LICENCE RENEWAL | 2118 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1155P | A/C ELECTRICAL POWER SYSTEMS | 2118 | 50-R3 | 0 | 19,308,049 | 377,217 | 1.95 | $(35,925)$ | 341,292 | 1.77 |
| 1155Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2118 | 23-L2 | 0 | 3,343,800 | 130,993 | 3.92 | 15,464 | 146,457 | 4.38 |
| 1155R | AUXILIARY STATION PROCESSES | 2118 | 40-R2.5 | 0 | 9,796,258 | 253,561 | 2.59 | $(4,392)$ | 249,169 | 2.54 |
| 1155X | SUPPORT BUILDINGS | 2118 | 65-R3 | 0 | 7,885,397 | 131,668 | 1.67 | $(1,490)$ | 130,178 | 1.65 |
| 1155W | SUPPORT BUILDING RENOVATIONS | 2118 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL JENPEG |  |  |  | 245,443,703 | 3,560,438 | 1.45 | $(206,644)$ | 3,353,794 | 1.37 |
| 11600 | LAKE WINNIPEG REGULATION |  |  |  |  |  |  |  |  |  |
| 1160A | DAMS, DYKES AND WEIRS |  | 125-R4 | 0 | 96,807,065 | 813,275 | 0.84 | $(79,651)$ | 733,624 | 0.76 |
| 1160L | LICENCE RENEWAL |  | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 11602 | COMMUNITY DEVELOPMENT COSTS |  | 100-SQ | 0 | 387,802,871 | 3,878,029 | 1.00 | $(223,323)$ | 3,654,706 | 0.94 ** |
|  | TOTAL LAKE WINNIPEG REGULATION |  |  |  | 484,609,937 | 4,691,304 | 0.97 | $(302,973)$ | 4,388,331 | 0.91 |
| 11650 | CHURCHILL RIVER DIVERSION |  |  |  |  |  |  |  |  |  |
| 1165A | DAMS, DYKES AND WEIRS |  | 125-R4 | 0 | 114,718,213 | 964,090 | 0.84 | $(13,751)$ | 950,339 | 0.83 |
| 1165D | SPILLWAY |  | 75-R2 | 0 | 56,442,246 | 778,903 | 1.38 | 67,622 | 846,525 | 1.50 |
| 1165E | WATER CONTROL SYSTEMS |  | 50-S4 | 0 | 17,583,551 | 358,391 | 2.04 | $(42,591)$ | 315,800 | 1.80 |
| 1165F | ROADS AND SITE IMPROVEMENTS |  | 50-R3 | 0 | 6,799,023 | 132,832 | 1.95 | $(1,007)$ | 131,825 | 1.94 |
| 1165L | LICENCE RENEWAL |  | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1165P | A/C ELECTRICAL POWER SYSTEMS |  | 50-R3 | 0 | 1,596,593 | 31,177 | 1.95 | (247) | 30,930 | 1.94 |
| 1165Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |  | 23-L2 | 0 | 1,417,862 | 36,897 | 2.60 | 14,977 | 51,874 | 3.66 |
| 1165R | AUXILIARY STATION PROCESSES |  | 40-R2.5 | 0 | 1,799,312 | 50,377 | 2.80 | 1,435 | 51,812 | 2.88 |
| 1165X | SUPPORT BUILDINGS |  | 65-R3 | 0 | 28,361 | 491 | 1.73 |  | 495 | 1.75 |
| 1165W | SUPPORT BUILDING RENOVATIONS |  | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
| $1165 Z$ | COMMUNITY DEVELOPMENT COSTS |  | 100-SQ | 0 | 305,036,524 | 3,050,365 | 1.00 | $(228,014)$ | 2,822,351 | 0.93 ** |
|  | TOTAL CHURCHILL RIVER DIVERSION |  |  |  | 505,421,684 | 5,403,523 | 1.07 | $(201,571)$ | 5,201,952 | 1.03 |

## MANITOBA HYDRO

SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DEPRECIABLE WORK | LIFE SPAN DATE | ESTIMATED SURVIVOR CURVE | ESTIMATED NET SALVAGE | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | TOTAL DEPRECIATION RELATED TO LIFE |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | (3) | (4) | (5) | (6)=(5)/(4) | (7) | $(8)=(5)+(7)$ | (9)=(8)/(4) |
| 11700 | LONG SPRUCE |  |  |  |  |  |  |  |  |  |
| 1170A | DAMS, DYKES AND WEIRS | 2118 | 125-R4 | 0 | 64,744,494 | 558,569 | 0.86 | $(19,500)$ | 539,069 | 0.83 |
| 1170B | POWERHOUSE | 2118 | 125-R4 | 0 | 143,780,355 | 1,240,493 | 0.86 | $(43,364)$ | 1,197,129 | 0.83 |
| 1170 C | POWERHOUSE RENOVATIONS | 2118 | 25-SQ | 0 |  |  |  |  |  | 4.00 **** |
| 1170D | SPILLWAY | 2118 | 75-R2 | 0 | 42,273,617 | 584,041 | 1.38 | 28,146 | 612,187 | 1.45 |
| 1170 E | WATER CONTROL SYSTEMS | 2118 | 50-S4 | 0 | 57,946,281 | 1,182,124 | 2.04 | $(242,437)$ | 939,687 | 1.62 |
| 1170F | ROADS AND SITE IMPROVEMENTS | 2118 | 50-R3 | 0 | 1,172,867 | 23,483 | 2.00 | $(1,383)$ | 22,100 | 1.88 |
| 1170G | TURBINES AND GENERATORS | 2118 | 65-S3 | 0 | 143,328,643 | 2,323,085 | 1.62 | $(165,333)$ | 2,157,752 | 1.51 |
| 1170 H | GOVERNORS AND EXCITATION SYSTEM | 2118 | 50-R4 | 0 | 145,844 | 3,092 | 2.12 | (40) | 3,052 | 2.09 |
| 1170L | LICENCE RENEWAL | 2118 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1170P | A/C ELECTRICAL POWER SYSTEMS | 2118 | 50-R3 | 0 | 30,503,528 | 605,258 | 1.98 | $(41,664)$ | 563,594 | 1.85 |
| 1170Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2118 | 23-L2 | 0 | 4,409,200 | 127,168 | 2.88 | 20,949 | 148,117 | 3.36 |
| 1170 R | AUXILIARY STATION PROCESSES | 2118 | 40-R2.5 | 0 | 12,199,119 | 300,072 | 2.46 | $(12,642)$ | 287,430 | 2.36 |
| 1170X | SUPPORT BUILDINGS | 2118 | 65-R3 | 0 | 160,484 | 2,815 | 1.75 | 1 | 2,816 | 1.75 |
| 1170W | SUPPORT BUILDING RENOVATIONS | 2118 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | total long spruce |  |  |  | 500,664,431 | 6,950,200 | 1.39 | $(477,268)$ | 6,472,932 | 1.29 |
| 11750 | LIMESTONE |  |  |  |  |  |  |  |  |  |
| 1175A | DAMS, DYKES AND WEIRS | 2131 | 125-R4 | 0 | 33,258,073 | 288,035 | 0.87 | $(3,907)$ | 284,128 | 0.85 |
| 1175B | POWERHOUSE | 2131 | 125-R4 | 0 | 461,430,334 | 3,997,313 | 0.87 | $(53,896)$ | 3,943,417 | 0.85 |
| 1175C | POWERHOUSE RENOVATIONS | 2131 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1175D | SPILLWAY | 2131 | 75-R2 | 0 | 201,240,773 | 3,035,196 | 1.51 | 156,773 | 3,191,969 | 1.59 |
| 1175E | WATER CONTROL SYSTEMS | 2131 | 50-S4 | 0 | 116,224,392 | 2,405,845 | 2.07 | $(132,827)$ | 2,273,018 | 1.96 |
| 1175F | ROADS AND SITE IMPROVEMENTS | 2131 | 50-R3 | 0 | 17,164,432 | 363,550 | 2.12 | $(1,281)$ | 362,269 | 2.11 |
| 1175G | TURBINES AND GENERATORS | 2131 | 65-S3 | 0 | 403,825,745 | 6,663,125 | 1.65 | $(141,734)$ | 6,521,391 | 1.61 |
| 1175 H | GOVERNORS AND EXCITATION SYSTEM | 2131 | 50-R4 | 0 | 16,584,271 | 346,998 | 2.09 | $(13,989)$ | 333,009 | 2.01 |
| 1175L | LICENCE RENEWAL | 2131 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1175P | A/C ELECTRICAL POWER SYSTEMS | 2131 | 50-R3 | 0 | 144,317,307 | 3,056,641 | 2.12 | $(10,784)$ | 3,045,857 | 2.11 |
| 1175Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2131 | 23-L2 | 0 | 8,333,373 | 339,021 | 4.07 | 50,445 | 389,466 | 4.67 |
| 1175R | AUXILIARY STATION PROCESSES | 2131 | 40-R2.5 | 0 | 36,054,205 | 940,241 | 2.61 | 22,659 | 962,900 | 2.67 |
| 1175X | SUPPORT BUILDINGS | 2131 | 65-R3 | 0 | 5,703,494 | 95,625 | 1.68 | 222 | 95,847 | 1.68 |
| 1175W | SUPPORT BUILDING RENOVATIONS | 2131 | 20-SQ | 0 |  |  |  |  |  | 5.00 ** |
|  | TOTAL LIMESTONE |  |  |  | 1,444,136,399 | 21,531,590 | 1.49 | $(128,319)$ | 21,403,271 | 1.48 |
| 11800 | WUSKWATIM |  |  |  |  |  |  |  |  |  |
| 1180A | DAMS, DYKES AND WEIRS | 2152 | 125-R4 | 0 |  |  |  |  |  | 0.80 * |
| 1180B | POWERHOUSE | 2152 | 125-R4 | 0 |  |  |  |  |  | 0.80 * |
| 1180 C | POWERHOUSE RENOVATIONS | 2152 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1180D | SPILLWAY | 2152 | 75-R2 | 0 |  |  |  |  |  | 1.33 * |
| 1180E | WATER CONTROL SYSTEMS | 2152 | 50-S4 | 0 |  |  |  |  |  | 2.00 * |
| 1180F | ROADS AND SITE IMPROVEMENTS | 2152 | 50-R3 | 0 |  |  |  |  |  | 2.00 * |
| 1180G | TURBINES AND GENERATORS | 2152 | 65-S3 | 0 |  |  |  |  |  | 1.54 * |
| 1180 H | GOVERNORS AND EXCITATION SYSTEM | 2152 | 50-R4 | 0 |  |  |  |  |  | 2.00 * |
| 1180P | A/C ELECTRICAL POWER SYSTEMS | 2152 | 50-R3 | 0 |  |  |  |  |  | 2.00 * |
| 1180Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2152 | 23-L2 | 0 |  |  |  |  |  | 4.35 * |
| 1180R | AUXILIARY STATION PROCESSES | 2152 | 40-R2.5 | 0 |  |  |  |  |  | 2.50 * |
| 1180X | SUPPORT BUILDINGS | 2152 | 65-R3 | 0 |  |  |  |  |  | 1.54 * |
| 1180w | SUPPORT BUILDING RENOVATIONS | 2152 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL WUSKWATIM |  |  |  | 0 | 0 |  | 0 | 0 |  |
| 11990 | INFRASTRUCTURE SUPPORTING GENERATION |  |  |  |  |  |  |  |  |  |
| 1199F | PROVINCIAL ROADS |  | 50-R3 | 0 | 25,380,938 | 507,851 | 2.00 | 25,909 | 533,760 | 2.10 |
| 1199V | TOWN SITE BUILDING |  | 65-L3 | 0 | 63,280,714 | 1,067,664 | 1.69 | 77,766 | 1,145,430 | 1.81 |
| 1199W | TOWN SITE BUILDINGS RENOVATIONS |  | 20-SQ | 0 | 13,502,581 | 674,829 | 5.00 | 79,558 | 754,387 | 5.59 ** |
| 1199 Y | TOWN SITE OTHER INFRASTRUCTURE |  | 45-R3 | 0 | 26,527,464 | 643,245 | 2.42 | 19,722 | 662,967 | 2.50 |
|  | TOTAL INFRASTRUCTURE SUPPORTING GENERATION |  |  |  | 128,691,696 | 2,893,589 | 2.25 | 202,955 | 3,096,544 | 2.41 |
|  | TOTAL HYDRAULIC GENERATION |  |  |  | 4,716,467,183 | 69,157,915 | 1.47 | $(3,303,866)$ | 65,854,049 | 1.40 |



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| 12000 | THERMAL GENERATION |
| :---: | :---: |
| 12050 | BRANDON UNIT 5 (COAL) |
| 1205B | POWERHOUSE |
| 1205C | POWERHOUSE RENOVATIONS |
| 1205F | ROADS AND SITE IMPROVEMENTS |
| 1205G | THERMAL TURBINES AND GENERATORS |
| 1205H | GOVERNORS AND EXCITATION SYSTEM |
| 1205 J | STEAM GENERATOR AND AUXILIARIES |
| 1205L | LICENCE RENEWAL |
| 1205P | A/C ELECTRICAL POWER SYSTEMS |
| 1205Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |
| 1205R | AUXILIARY STATION PROCESSES |
| 1205X | SUPPORT BUILDINGS |
| 1205W | SUPPORT BUILDING RENOVATIONS |
|  | TOTAL BRANDON UNIT 5 (COAL) |
| 12100 | BRANDON UNITS 6 AND 7 |
| 1210B | POWERHOUSE |
| 1210 C | POWERHOUSE RENOVATIONS |
| 1210G | THERMAL TURBINES AND GENERATORS |
| 1210 H | GOVERNORS AND EXCITATION SYSTEM |
| 1210K | COMBUSTION TURBINE |
| 1210L | LICENCE RENEWAL |
| 1210M | COMBUSTION TURBINE OVERHAULS |
| 1210P | A/C ELECTRICAL POWER SYSTEMS |
| 1210Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |
| 1210R | AUXILIARY STATION PROCESSES |
|  | TOTAL BRANDON UNITS 6 AND 7 |
| 12150 | SELKIRK |
| 1215B | POWERHOUSE |
| 1215C | POWERHOUSE RENOVATIONS |
| 1215F | ROADS AND SITE IMPROVEMENTS |
| 1215G | THERMAL TURBINES AND GENERATORS |
| 1215H | GOVERNORS AND EXCITATION SYSTEM |
| 1215J | STEAM GENERATOR AND AUXILIARIES |
| 1215L | LICENCE RENEWAL |
| 1215P | A/C ELECTRICAL POWER SYSTEMS |
| 1215Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |
| 1215R | AUXILIARY STATION PROCESSES |
| 1215X | SUPPORT BUILDINGS |
| 1215W | SUPPORT BUILDING RENOVATIONS |
|  | TOTAL SELKIRK |
|  | TOTAL THERMAL GENERATION |
|  | total generation |
|  | DIESEL GENERATION |
| 1300B | BUILDINGS |
| 1300 C | BUILDING RENOVATIONS |
| 1300M | ENGINES AND GENERATORS - OVERHAULS |
| 1300 N | ENGINES AND GENERATORS |
| 1300Q | ACCESSORY STATION EQUIPMENT |
| 1300 T | FUEL STORAGE AND HANDLING |
|  | TOTAL DIESEL GENERATION |


| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \\ & \text { DATE } \end{aligned}$ | ESTIMATEDSURVIVORCURVE | ESTIMATED <br> NET <br> SALVAGE <br> $(3)$ | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL <br> PROVISIONFOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  |  |  |  | (5) | (6)=(5)/(4) |  | (8)=(5)+(7) | (9)=(8)/(4) |
|  | COMMUNICATION |  |  |  |  |  |  |  |  |  |
| 5000B | BUILDINGS |  | 65-R4 | 0 | 4,154,458 | 67,568 | 1.63 | 2,456 | 70,024 | 1.69 |
| 5000 C | BUILDING RENOVATIONS |  | 20-SQ | 0 | 2,741,652 | 135,856 | 4.96 | 9,033 | 144,889 | 5.28 ** |
| 5000D | BUILDING - SYSTEM CONTROL CENTRE |  | 65-R4 | 0 | 15,857,686 | 258,480 | 1.63 | 10,718 | 269,198 | 1.70 |
| 5000G | COMMUNICATION TOWERS |  | 60-R2.5 | 0 | 8,733,929 | 169,211 | 1.94 | 12,444 | 181,655 | 2.08 |
| 5000 H | FIBRE OPTIC AND METALLIC CABLE |  | 35-R1.5 | 0 | 117,999,925 | 4,182,599 | 3.54 | 477,843 | 4,660,442 | 3.95 |
| 5000 J | CARRIER EQUIPMENT |  | 15-S0.5 | 0 | 119,230,804 | 8,327,782 | 6.98 | 2,228,785 | 10,556,567 | 8.85 |
| 5000K | OPERATIONAL IT EQUIPMENT |  | 5-SQ | 0 | 2,197,495 | 366,710 | 16.69 | 72,460 | 439,170 | 19.99 ** |
| 5000M | MOBILE RADIO, TELEPHONE AND VIDEO CONFERENCING |  | 8-SQ | 0 | 22,085,412 | 1,412,806 | 6.40 | 395,972 | 1,808,778 | 8.19 ** |
| 5000 N | OPERATIONAL DATA NETWORK |  | 8-SQ | 0 | 8,530,264 | 1,066,283 | 12.50 | 58,577 | 1,124,860 | 13.19 ** |
| 5000R | POWER SYSTEM CONTROL |  | 10-R2 | 0 | 7,738,280 | 572,474 | 7.40 | 253,796 | 826,270 | 10.68 |
|  | TOTAL COMMUNICATION |  |  |  | 309,269,905 | 16,559,769 | 5.35 | 3,522,083 | 20,081,852 | 6.49 |
|  | MOTOR VEHICLES |  |  |  |  |  |  |  |  |  |
| 6000E | PASSENGER VEHICLES |  | 9-L2 | 20 | 1,304,413 | 116,873 | 8.96 | 61,394 | 178,267 | 13.67 |
| 6000F | LIGHT TRUCKS |  | 10-L3 | 15 | 52,299,249 | 4,431,892 | 8.47 | 166,143 | 4,598,035 | 8.79 |
| 6000G | HEAVY TRUCKS |  | 15-L2 | 10 | 61,004,014 | 3,855,518 | 6.32 | 517,820 | 4,373,338 | 7.17 |
| 6000 H | CONSTRUCTION EQUIPMENT |  | 15-L2 | 20 | 17,016,205 | 941,112 | 5.53 | 131,746 | 1,072,858 | 6.30 |
| 60001 | LARGE SOFT-TRACK EQUIPMENT |  | 22-L2.5 | 15 | 13,146,265 | 536,840 | 4.08 | 116,795 | 653,635 | 4.97 |
| 6000 J | TRAILERS |  | 35-R3 | 25 | 15,996,331 | 370,448 | 2.32 | $(22,001)$ | 348,447 | 2.18 |
| 6000K | MISCELLANEOUS VEHICLES |  | 10-L1.5 | 15 | 5,724,654 | 481,594 | 8.41 | $(81,188)$ | 400,406 | 6.99 |
|  | TOTAL MOTOR VEHICLES |  |  |  | 166,491,131 | 10,734,277 | 6.45 | 890,708 | 11,624,985 | 6.98 |
|  | BUILDINGS |  |  |  |  |  |  |  |  |  |
| 8000B | BUILDINGS - GENERAL |  | 65-R4 | 0 | 88,797,107 | 1,428,579 | 1.61 | $(23,061)$ | 1,405,518 | 1.58 |
| 8000 C | BUILDING RENOVATIONS |  | 20-SQ | 0 | 46,779,508 | 2,272,271 | 4.86 | 841,795 | 3,114,066 | 6.66 ** |
| 8000D | BUILDING - 360 PORTAGE - CIVIL |  | 100-R4 | 0 | 207,292,785 | 2,198,841 | 1.06 | $(1,752)$ | 2,197,089 | 1.06 |
| 8000E | BUILDING - 360 PORTAGE - ELECTRO/MECHANICAL |  | 45-R2 | 0 | 65,888,581 | 2,016,603 | 3.06 | 24,589 | 2,041,192 | 3.10 |
|  | TOTAL BUILDINGS |  |  |  | 408,757,981 | 7,916,294 | 1.94 | 841,572 | 8,757,866 | 2.14 |
|  | GENERAL EQUIPMENT |  |  |  |  |  |  |  |  |  |
| 9000 H | TOOLS, SHOP AND GARAGE EQUIPMENT |  | 15-SQ | 0 | 78,461,837 | 5,233,405 | 6.67 | 842,696 | 6,076,101 | 7.74 ** |
| 9000K | COMPUTER EQUIPMENT |  | 5-SQ | 0 | 48,379,758 | 9,401,982 | 19.43 | 4,375,187 | 13,777,169 | 28.48 ** |
| 9000L | OFFICE FURNITURE AND EQUIPMENT |  | 20-SQ | 0 | 21,726,896 | 1,086,345 | 5.00 | $(41,021)$ | 1,045,324 | 4.81 ** |
| 9000M | HOT WATER TANKS |  | 6-SQ | 0 | 4,511,783 | 197,108 | 4.37 | 759,615 | 956,723 | 21.20 ** |
|  | TOTAL GENERAL EQUIPMENT |  |  |  | 153,080,275 | 15,918,840 | 10.40 | 5,936,477 | 21,855,317 | 14.28 |
|  | EASEMENTS |  |  |  |  |  |  |  |  |  |
| A100A | EASEMENTS |  | 75-R3 | 0 | 50,612,345 | 749,695 | 1.48 | 5,463 | 755,158 | 1.49 |
|  | TOTAL EASEMENTS |  |  |  | 50,612,345 | 749,695 | 1.48 | 5,463 | 755,158 | 1.49 |
|  | COMPUTER SOFTWARE AND DEVELOPMENT |  |  |  |  |  |  |  |  |  |
| A200G | COMPUTER DEVELOPMENT - MAJOR SYSTEMS |  | 10-R3 | 0 | 100,980,015 | 10,205,232 | 10.11 | 324,889 | 10,530,121 | 10.43 |
| A200H | COMPUTER DEVELOPMENT - SMALL SYSTEMS |  | 10-SQ | 0 | 42,827,602 | 4,282,760 | 10.00 | 0 | 4,282,760 | 10.00 ** |
| A200J | COMPUTER SOFTWARE - GENERAL |  | 5-SQ | 0 | 5,076,404 | 1,002,927 | 19.76 | 0 | 1,002,927 | 19.76 ** |
| A200K | COMPUTER SOFTWARE - COMMUNICATION/OPERATIONAL |  | 5-SQ | 0 | 3,639,540 | 360,800 | 9.91 | 146,167 | 506,967 | 13.93 ** |
| A200L | OPERATIONAL SYSTEM MAJOR SOFTWARE - EMS/SCADA |  | 6-R3 | 0 | 6,016,817 | 811,282 | 13.48 | 577,570 | 1,388,852 | 23.08 |
|  | TOTAL COMPUTER SOFTWARE AND DEVELOPMENT |  |  |  | 158,540,378 | 16,663,001 | 10.51 | 1,048,625 | 17,711,626 | 11.17 |
|  | TOTAL DEPRECIABLE ASSETS |  |  |  | 12,067,737,939 | 301,077,032 | 2.49 | (6,791,243) | 294,285,788 | 2.44 |







|  |  |  |  | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{J} \\ & \underset{\sim}{W} \end{aligned}$ |  |  |  | $\begin{aligned} & \text { N } \\ & \\ & \text { లn } \end{aligned}$ |  |  |  |  |
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|  |  |  |  | $\begin{aligned} & \underset{\sim}{0} \\ & \underset{\sim}{4} \\ & \underset{\sim}{0} \\ & \underset{\infty}{\circ} \end{aligned}$ |  |  |  | $\begin{aligned} & \underset{\sim}{\sim} \\ & \stackrel{N}{N} \\ & \underset{\sim}{\sim} \end{aligned}$ |  |  |  |  |


| DESCRIPTION |
| :--- |
|  |
| SLAVE FALLS |
| DAMS, DYKES AND WEIRS |
| POWERHOUSE |
| POWERHOUSE RENOVATIONS |
| SPILLWAY |
| WATER CONTROL SYSTEMS |
| ROADS AND SITE IMPROVEMENTS |
| TURBINES AND GENERATORS |
| GOVERNORS AND EXCITATION SYSTEM |
| LICENCE RENEWAL |
| A/C ELECTRICAL POWER SYSTEMS |
| INSTRUMENTAION, CONTROL AND D/C SYSTEMS |
| AUXILIARY STATION PROCESSES |
| SUPPORT BUILDINGS |
| SUPPORT BUILDING RENOVATIONS |
| TOTAL SLAVE FALLS |
| PINE FALLS |
| DAMS, DYKES AND WEIRS |
| POWERHOUSE |
| POWERHOUSE RENOVATIONS |
| SPILLWAY |
| WATER CONTROL SYSTEMS |
| ROADS AND SITE IMPROVEMENTS |
| TURBINES AND GENERATORS |
| GOVERNORS AND EXCITATION SYSTEM |
| LICENCE RENEWAL |
| A/C ELECTRICAL POWER SYSTEMS |
| INSTRUMENTATION, CONTROL AND D/C SYSTEMS |
| AUXILIARY STATION PROCESSES |
| SUPPORT BUILDINGS |
| SUPPORT BUILDING RENOVATIONS |
| COMMUNITY DEVELOPMENT COSTS |
| TOTAL PINE FALLS |
| MCARTHUR FALLS |
| DAMS, DYKES AND WEIRS |
| POWERHOUSE |
| POWERHOUSE RENOVATIONS |
| SPILLWAY |
| WATER CONTROL SYSTEMS |
| ROADS AND SITE IMPROVEMENTS |
| TURBINES AND GENERATORS |
| GOVERNORS AND EXCITATION SYSTEM |
| LICENCE RENEWAL |
| A/C ELECTRICAL POWER SYSTEMS |
| INSTRUMENTATION, CONTROL AND D/C SYSTEMS |
| AUXILIARY STATION PROCESSES |
| SUPPORT BUILDINGS |
| SUPPORT BUILDING RENOVATIONS |
| TOTAL MCARTHUR FALLS |
| TOTAL |
| MEARTHU |










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|  |  |  |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  |  |  | 8 <br> 0 <br> 0 <br> 0 <br> 8 <br> 8 | $\begin{aligned} & \text { H } \\ & \text { م } \\ & \text { N } \\ & \text { O} \\ & \stackrel{\infty}{\infty} \end{aligned}$ |  |  |  |  | （ |


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LICENCE RENEWAL
LICENCE RENEWAL
COMMUNITY DEVELOPMENT COSTS TOTAL LAKE WINNIPEG REGULATION
CHURCHILL RIVER DIVERSION
DAMS，DYKES AND WEIRS
SPILLWAY
WATER CONTROL SYSTEMS
ROADS AND SITE IMPROVEMENTS
LICENCE RENEWAL

| A／C ELECTRICAL POWER SYSTEMS |
| :--- |
| INSTRUMENTATION，CONTROL AND D／C SYSTEMS |

AUXILIARY STATION PROCESSES
SUPPORT BUILDINGS
SUPPORT BUILDINGS
SUPPORT BUILDING RENOVATIONS
COMMUNITY DEVELOPMENT COSTS
TOTAL CHURCHILL RIVER DIVERSION





SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP
FOR THE TWELVE MONTHS ENDED MARCH 31,



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| ACCOUNT | DESCRIPTION | SURVIVINGORIGINAL COSTAT 03/31/2010 | $\begin{aligned} & \text { CALCULATED } \\ & \text { ACCRUED } \\ & \text { DEPRECIATION } \end{aligned}$ | BOOK ACCUMULATED DEPRECIATION | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) |  | (3) |  | (5) $=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |
|  | TRANSMISSION |  |  |  |  |  |  |  |
| 2000F | ROADS, TRAILS AND BRIDGES | 4,045,718 | 1,118,735 | 937,453 | 181,282 | 16.20 | 28.5 | 6,361 |
| 2000G | METAL TOWERS AND CONCRETE POLES | 340,022,220 | 90,153,172 | 99,791,962 | (9,638,790) | (10.69) | 59.8 | $(161,184)$ |
| 2000 J | POLES AND FIXTURES | 104,983,312 | 31,662,039 | 37,079,466 | $(5,417,427)$ | (17.11) | 36.6 | $(148,017)$ |
| 2000K | GROUND LINE TREATMENT | 1,410,002 | 406,685 | 384,224 | 22,461 | 5.52 | 7.1 | ** |
| 2000L | OVERHEAD CONDUCTOR AND DEVICES | 304,577,152 | 101,223,234 | 131,135,862 | $(29,912,628)$ | (29.55) | 44.1 | $(678,291)$ |
| 2000M | UNDERGROUND CABLE AND DEVICES | 1,167,763 | 668,351 | 669,421 | $(1,070)$ | (0.16) | 19.5 | (55) |
|  | TOTAL TRANSMISSION | 756,206,167 | 225,232,216 | 269,998,388 | $(44,766,172)$ | (19.88) |  | $(981,186)$ |
|  | SUBSTATIONS |  |  |  |  |  |  |  |
| 3000B | BUILDINGS | 109,491,690 | 43,169,830 | 48,643,362 | $(5,473,532)$ | (12.68) | 39.1 | $(139,988)$ |
| 3000 C | BUILDING RENOVATIONS | 32,047 | 13,582 | 15,351 | $(1,769)$ | (13.03) | 11.5 | (154) ** |
| 3000F | ROADS, STEEL STRUCTURES AND CIVIL SITE WORK | 109,211,425 | 30,704,401 | 36,248,752 | $(5,544,351)$ | (18.06) | 36.0 | $(154,010)$ |
| 3000 J | POLES AND FIXTURES | 7,810,315 | 2,159,493 | 2,630,995 | $(471,502)$ | (21.83) | 25.4 | $(18,563)$ |
| 3100 R | POWER TRANSFORMERS | 287,449,387 | 81,301,746 | 84,754,364 | $(3,452,618)$ | (4.25) | 31.1 | $(111,017)$ |
| 3100 S | OTHER TRANSFORMERS | 72,153,356 | 28,485,678 | 31,244,518 | $(2,758,840)$ | (9.69) | 20.2 | $(136,576)$ |
| 31007 | INTERRUPTING EQUIPMENT | 156,214,257 | 57,460,857 | 62,510,255 | $(5,049,398)$ | (8.79) | 26.8 | $(188,410)$ |
| 3100 U | OTHER STATION EQUIPMENT | 503,404,372 | 177,009,144 | 190,927,472 | $(13,918,328)$ | (7.86) | 26.0 | $(535,320)$ |
| 3100 V | ELECTRONIC EQUIPMENT AND BATTERIES | 151,238,104 | 72,646,527 | 79,225,503 | $(6,578,976)$ | (9.06) | 11.2 | $(587,409)$ |
| 3200M | SYNCHRONOUS CONDENSERS AND TRANSFORMERS - HVDC | 111,737,981 | 39,137,448 | 40,432,632 | $(1,295,184)$ | (3.31) | 38.9 | $(33,295)$ |
| 3200 N | SYNCHRONOUS CONDENSER OVERHAULS - HVDC | 11,320,594 | 2,820,878 | 2,861,617 | $(40,739)$ | (1.44) | 9.8 | $(4,157)$ |
| 3200P | CONVERTOR EQUIPMENT - HVDC | 214,981,687 | 114,636,506 | 138,795,432 | $(24,158,926)$ | (21.07) | 14.4 | $(1,677,703)$ |
| 3200S | SERIALIZED EQUIPMENT - HVDC | 646,219,985 | 325,860,262 | 367,310,621 | $(41,450,359)$ | (12.72) | 14.1 | $(2,939,742)$ |
| $3200 \cup$ | ACCESSORY STATION EQUIPMENT - HVDC | 55,177,090 | 23,419,465 | 29,083,976 | $(5,664,511)$ | (24.19) | 25.2 | $(224,782)$ |
| 3200 V | ELECTRONIC EQUIPMENT AND BATTERIES - HVDC | 10,401,883 | 6,589,238 | 7,206,990 | $(617,752)$ | (9.38) | 8.6 | $(71,832)$ |
|  | TOTAL SUBSTATIONS | 2,446,844,172 | 1,005,415,055 | 1,121,891,841 | $(116,476,786)$ | (11.58) |  | $(6,822,958)$ |
|  | DISTRIBUTION |  |  |  |  |  |  |  |
| 4000A | UNDERGROUND DUCT AND CONDUIT - CONCRETE | 63,964,331 | 11,217,533 | 12,951,513 | $(1,733,980)$ | (15.46) | 67.9 | $(25,537)$ |
| 4000 C | UNDERGROUND DUCT-ROOF | 2,908,307 | 145,836 | 153,212 | $(7,376)$ | (5.06) | 41.0 | (180) |
| 4000G | METAL TOWERS | 4,571,448 | 1,173,035 | 2,355,833 | $(1,182,798)$ | (100.83) | 37.0 | $(31,968)$ |
| 4000 J | POLES AND FIXTURES | 566,174,558 | 127,369,656 | 264,136,310 | $(136,766,654)$ | (107.38) | 40.3 | $(3,393,713)$ |
| 4000K | GROUND LINE TREATMENT | 33,145,019 | 15,894,039 | 16,746,756 | $(852,717)$ | (5.37) | 5.7 | ** |
| 4000L | OVERHEAD CONDUCTOR AND DEVICES | 613,820,471 | 134,801,042 | 245,433,977 | $(110,632,935)$ | (82.07) | 40.1 | $(2,758,926)$ |
| 4000M | UNDERGROUND CABLE AND DEVICES - 66 KV | 19,523,432 | 2,161,937 | 2,297,161 | $(135,224)$ | (6.25) | 55.0 | $(2,459)$ |
| 4000N | UNDERGROUND CABLE AND DEVICES - PRIMARY | 255,063,759 | 51,410,314 | 59,472,977 | $(8,062,663)$ | (15.68) | 46.0 | $(175,275)$ |
| 4000P | UNDERGROUND CABLE AND DEVICES - SECONDARY | 193,755,072 | 48,230,397 | 55,909,148 | $(7,678,751)$ | (15.92) | 33.1 | $(231,986)$ |
| 4000 Q | SERIALIZED EQUIPMENT - OVERHEAD | 175,924,348 | 60,006,665 | 82,981,927 | $(22,975,262)$ | (38.29) | 23.9 | $(961,308)$ |
| 4000R | DSC - HIGH VOLTAGE TRANSFORMERS | 5,415,940 | 509,552 | 706,487 | $(196,935)$ | (38.65) | 34.8 | $(5,659)$ |
| 4000S | SERIALIZED EQUIPMENT - UNDERGROUND | 174,049,772 | 43,083,841 | 58,998,471 | $(15,914,630)$ | (36.94) | 29.3 | $(543,161)$ |
| 4000 V | ELECTRONIC EQUIPMENT |  |  |  |  |  |  | ** |
| 4000w | SERVICES | 123,228,795 | 44,884,752 | 59,460,620 | $(14,575,868)$ | (32.47) | 18.6 | $(783,649)$ |
| 4000x | STREET LIGHTING | 147,121,573 | 61,545,017 | 72,708,967 | $(11,163,950)$ | (18.14) | 21.1 | $(529,097)$ |
|  | TOTAL DISTRIBUTION | 2,378,666,825 | 602,433,616 | 934,313,358 | (331,879,742) | (55.09) |  | (9,442,919) |
|  | METERS |  |  |  |  |  |  |  |
| 4900 V | METERS - ELECTRONIC | 16,111,185 | 5,320,309 | 1,490,413 | 3,829,896 | 71.99 | 11.1 | 345,036 |
| 4900Y | METERS - ANALOG | 22,469,156 | 16,861,536 | 5,931,142 | 10,930,394 | 64.82 | 4.4 | 2,484,180 |
| 49002 | METERING TRANSFORMERS | 8,984,899 | 3,313,305 | 3,413,836 | $(100,531)$ | (3.03) | 22.6 | $(4,448)$ |
|  | TOTAL METERS | 47,565,240 | 25,495,150 | 10,835,391 | 14,659,759 | 57.50 |  | 2,824,768 |

SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP
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 SURVIVING
ORIGINAL COST
AT 03/31/2010

309,269,905





on

*The account has no balance as of March 31,2010 and will be used on a go-forward basis for future additions.

* On amortized account any true--p of fess than 10\% in in to consideres significant.
** True-up was deemed as not significant or has been limited to the annual depreciation expenses.

MANITOBA HYDRO<br>WINNIPEG, MANITOBA

## DEPRECIATION STUDY

# CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES APPLICABLE TO DEPRECIABLE ASSETS IN SERVICE AS OF MARCH 31, 2010 

## DRAFT



# Gannett Fleming 

Excellence Delivered As Promised

October 25, 2011

Manitoba Hydro
360 Portage Avenue
Winnipeg, Manitoba R3C 0G8

Attention: Mr. Vince Warden, Vice President<br>Finance \& Administration<br>And Chief Financial Officer

## Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to the electric generation, transmission, substation, distribution and general plant systems of Manitoba Hydro as of March 31, 2010. Our report presents a description of the methods used in the estimation of depreciation, the statistical analyses of service life and the summary and detailed tabulations of annual and accrued depreciation.

The calculated annual depreciation accrual rates presented in the report are applicable to plant in service as of March 31, 2010. The depreciation rates are based on the straight-line method, equal life group procedure applied on a whole life basis, using the equal life group procedure, with any accumulated depreciation variances amortized over the estimated remaining life of the assets.

Respectfully submitted, GANNETT FLEMING, INC.

## DRAFT

LARRY E. KENNEDY
Director, Canadian Services Valuation and Rate Division

LEK/hac
Project: 052988.100

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PART I. INTRODUCTION

MANITOBA HYDRO DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES APPLICABLE TO DEPRECIABLE ASSETS IN SERVICE AS OF MARCH 31, 2010

## PART I. INTRODUCTION

## SCOPE

This report sets forth the results of the depreciation study conducted for the depreciable assets of Manitoba Hydro ("Company") to determine the annual depreciation accrual rates and amounts for financial reporting purposes applicable to the original cost of plant as of March 31, 2010.

The depreciation accrual rates presented herein are based on generallyaccepted methods and procedures for calculating depreciation. The estimated survivor curves used in this report are based on studies incorporating data through 2010.

Part I, Introduction, contains statements with respect to the scope of the report and the basis of the study. Part II, Methods Used in the Estimation of Depreciation, presents the methods used in the estimation of average service lives and survivor curves used in the calculation of depreciation. Part III, Results of Study, presents a summary of annual depreciation. A separate document presenting statistical analysis of service life estimates and the detailed tabulations of annual depreciation is also provided.

## BASIS OF THE STUDY

Depreciation. The depreciation accrual rates and accrued depreciation were calculated using the straight line method, the equal life group (ELG) procedure, applied
on a whole life basis. The calculation was based on the attained ages and estimated service life for each depreciable group of assets, as of March 31, 2010.

Service Life Estimates. The method of estimating service life consisted of compiling the service life history of the plant accounts and subaccounts, reducing this history to trends through the use of analytical techniques that have been generally accepted in various regulatory jurisdictions, and forecasting the trend of survivors for each depreciable group on the basis of interpretations of past trends and consideration of Company plans for the future. The combination of the historical trend and the estimated future trend yielded a complete pattern of life characteristics from which the average service life was derived. The service life estimates used in the depreciation calculation incorporated historical data compiled through March 31, 2010. Such data included plant additions, retirements, transfers and other plant activity.

A general understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirement was obtained through interviews with Company representatives. The information gained through these discussions with company representatives was also used in the development of the average service life estimates.

International Financial Reporting Standards The Canadian Accounting Standards Board has announced that Canadian Generally Accepted Accounting Principles (GAAP) will be converged to comply, for reporting purposes, with the International Financial Reporting Standards (IFRS) by $2011^{1}$. Gannett Fleming views

[^4]the depreciation methods and procedures as recommended in this report will comply with the IFRS.

In preparation for this change, Gannett Fleming has developed depreciation rates and parameters that are in compliance with the new standard. As such, this study has included the following changes from previous Manitoba Hydro depreciation studies:

- Inclusion of a significant number of new accounts in order to comply with the componentization requirements of the International Accounting Standard ("IAS")

16;

- Elimination of the pre-collection of costs of removal; and
- Incorporation of the Equal Life Group Procedure (ELG).

Gannett Fleming has reviewed the depreciable groupings established by Manitoba Hydro and believes that the groups, as provided to Gannett Fleming, are in conformance with the componentization requirements of IFRS and continue to provide a reasonable grouping of homogeneous assets for regulatory purposes.

The IFRS does not allow for any recognition of costs of removal within the depreciation expense. Removal of these costs for financial disclosure purposes is required in order to comply with the current IFRS and as such all cost of removal provisions have been removed from this study.

In the view of Gannett Fleming, group accounting methods using the ELG procedure are compliant with the new standard. The ELG procedure provides a precise matching of service life estimates to depreciation expense.

## RECOMMENDATIONS

The calculated annual depreciation accrual rates set forth herein apply specifically to plant in service as of March 31, 2010. Continued surveillance and periodic revisions are normally required to maintain continued use of appropriate depreciation rates, and to comply with the standards as set out in International Accounting Standard ("IAS") 16 of the IFRS.

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

PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

## PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

## DEPRECIATION

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

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

The calculation of annual and accrued depreciation based on the straight line method requires the estimation of survivor curves and the selection of group depreciation procedures. These subjects are discussed in the sections that follow.

## ESTIMATION OF SURVIVOR CURVES

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

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

Figure 1. A Typical Survivor Curve and Derived Curves
lowa Type Curves. The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the lowa type curves. There are four families in the lowa system, labeled in accordance with the location of the modes of the retirements in relationship to the average life and the relative height of the modes. The left moded curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded curves, presented in Figure 3, are those in which the greatest frequency of retirement occurs at average service life. The right moded curves, presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves ( $\mathrm{L}, \mathrm{S}, \mathrm{R}$ or O ) represents the location of the mode of the associated frequency curve with respect to the average service life. The numbers represent the relative heights of the modes of the frequency curves within each family.

The lowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the

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

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

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

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

Experiment Station's Bulletin $125 .{ }^{2}$ These curve types have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation." ${ }^{3}$ In 1957, Frank V. B. Couch, Jr., an lowa State College graduate student, submitted a thesis ${ }^{4}$ presenting his development of the fourth family consisting of the four O type survivor curves.

Retirement Rate Method of Analysis. The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to property groups for which aged accounting experience is available and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text, and is also explained in several publications, including "Statistical Analyses of Industrial Property Retirements," ${ }^{5}$ "Engineering Valuation and Depreciation," ${ }^{6}$ and "Depreciation Systems." ${ }^{7}$

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginning of the age intervals during the same period. The period of observation is referred to as the experience band, and the band of years which represent the installation dates of the property exposed to retirement

[^5]during the experience band is referred to as the placement band. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

Schedules of Annual Transactions in Plant Records. The property group used to illustrate the retirement rate method is observed for the experience band 2001-2010 during which there were placements during the years 1996-2010. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Tables 1 and 2 on pages II-12 and II-14. In Table 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, $\$ 10,000$ of the dollars invested in 1996 were retired in 2001. The $\$ 10,000$ retirement occurred during the age interval between $41 / 2$ and $51 / 2$ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of $\$ 143,000$ retired for age interval $41 / 2-51 / 2$ is the

|  | $\overline{\overline{909}{ }^{\prime \prime}}$ | $\overline{\overline{80 \varepsilon}}$ | $\overline{\overline{\varepsilon L Z}}$ | $\overline{\overline{\tau \varepsilon Z}}$ | $\overline{\overline{96 T}}$ | $\overline{\overline{L G T}}$ | $\overline{\overline{8 Z T}}$ | $\overline{\overline{90 \tau}}$ | $\overline{\overline{98}}$ | $\overline{\overline{89}}$ | $\overline{\overline{\varepsilon G}}$ | $\mid 2701$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
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| て／ヶG－て／ヶจ | とヤL | 0乙 | 6T | LT | 9T | $\nabla \tau$ | $L$ |  |  |  |  | 9002 |
| て／ヶ9－て／ヶG | TEL | $6 T$ | 6T | $\angle T$ | 9T | GT | $\varepsilon \tau$ | 9 |  |  |  | ヤ00乙 |
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sum of the retirements entered on Table 1 immediately above the stair step line drawn on the table beginning with the 2001 retirements of 1996 installations and ending with the 2010 retirements of the 2005 installations. Thus, the total amount of 143 for age interval $41 / 2-51 / 2$ equals the sum of:

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

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

Schedule of Plant Exposed to Retirement. The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Table 3 on page II-15. The surviving plant at the beginning of each year from 2001 through 2010 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Table 3 for each successive year following the beginning balance or addition are obtained by adding or subtracting the net entries shown on Tables 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown
TABLE 2. OTHER TRANSACTIONS FOR EACH YEAR 2001-2010
Acquisitions, Transfers and Sales, Thousands of Dollars

| Placed | Acquisitions, Transfers and Sales, Thousands of Dollars |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | During Year |  |  |  |  |  |  |  |  |  |
|  | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| 1996 | - | - | - | - | - | - | $60^{\text {a }}$ | - | - | - |
| 1997 | - | - | - | - | - | - | - | - | - | - |
| 1998 | - | - | - | - | - | - | - | - | - | - |
| 1999 | - | - | - | - | - | - | - | $(5)^{\text {b }}$ | - | - |
| 2000 | - | - | - | - | - | - | - | $6^{\text {a }}$ | - | - |
| 2001 |  | - | - | - | - | - | - | - | - | - |
| 2002 |  |  | - | - | - | - | - | - | - | - |
| 2003 |  |  | - | - | - | - | - | - | - | - |
| 2004 |  |  |  | - | - | - | - | $(12)^{\text {b }}$ | - | - |
| 2005 |  |  |  |  | - | - | - | - | $22^{\text {a }}$ | - |
| 2006 |  |  |  |  |  | - | - | $(19){ }^{\text {b }}$ | - | - |
| 2007 |  |  |  |  |  |  | - | - | - | - |
| 2008 |  |  |  |  |  |  |  | - | - | $(102)^{\text {c }}$ |
| 2009 |  |  |  |  |  |  |  |  | - | - |
| 2010 | - |  | - |  | - | - | - |  | - | - |
| Total | $\underline{-}$ | $\underline{-}$ | $\underline{-}$ | $\underline{-}$ | $\underline{-}$ | $\underline{-}$ | $\underline{\underline{60}}$ | (30) | $\underline{22}$ | (102) |


©
Total $\doteq \doteq \doteq \doteq \doteq$
${ }^{\mathrm{a}}$ Transfer Affecting Exposures at Beginning of Year
${ }^{\mathrm{b}}$ Transfer Affecting Exposures at End of Year
Sale with Continued Use
Parentheses denote Credit amount.
TABLE 3. PLANT EXPOSED TO RETIREMENT JANUARY 1
SUMMARIZED BY AGE INTERVAL
Placement Band 1996-2010

|  | Exposures, Thousands of Dollars |  |  |  |  |  |  |  |  |  | Total at Beginning of Age Interval | Age Interval |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Annual Survivors at the Beginning of the Year |  |  |  |  |  |  |  |  |  |  |  |
| Year Placed | 2001 | $\underline{2002}$ | 2003 | $\underline{2004}$ | 2005 | 2006 | $\underline{2007}$ | 2008 | 2009 | 2010 |  |  |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
| 1996 | 255 | 245 | 234 | 222 | 209 | 195 | 239 | 216 | 192 | 167 | 167 | 131/2-141/2 |
| 1997 | 279 | 268 | 256 | 243 | 228 | 212 | 194 | 174 | 153 | 131 | 323 | 121/2-131/2 |
| 1998 | 307 | 296 | 284 | 271 | 257 | 241 | 224 | 205 | 184 | 162 | 531 | 111/2-121/2 |
| 1999 | 338 | 330 | 321 | 311 | 300 | 289 | 276 | 262 | 242 | 226 | 823 | 101/2-111/2 |
| = 2000 | 376 | 367 | 357 | 346 | 334 | 321 | 307 | 297 | 280 | 261 | 1,097 | 9112-101/2 |
| 宁 2001 | $420^{\text {a }}$ | 416 | 407 | 397 | 386 | 374 | 361 | 347 | 332 | 316 | 1,503 | 81/2-91/2 |
| 2002 |  | $460^{\text {a }}$ | 455 | 444 | 432 | 419 | 405 | 390 | 374 | 356 | 1,952 | $71 / 2-81 / 2$ |
| 2003 |  |  | $510^{\text {a }}$ | 504 | 492 | 479 | 464 | 448 | 431 | 412 | 2,463 | 61/2-71/2 |
| 2004 |  |  |  | $580{ }^{\text {a }}$ | 574 | 561 | 546 | 530 | 501 | 482 | 3,057 | 5112-61/2 |
| 2005 |  |  |  |  | $660^{\text {a }}$ | 653 | 639 | 623 | 628 | 609 | 3,789 | 41/2-51/2 |
| 2006 |  |  |  |  |  | $750^{\text {a }}$ | 742 | 724 | 685 | 663 | 4,332 | $31 / 2-41 / 2$ |
| 2007 |  |  |  |  |  |  | $850^{\text {a }}$ | 841 | 821 | 799 | 4,955 | 21/2-31/2 |
| 2008 |  |  |  |  |  |  |  | $960^{\text {a }}$ | 949 | 926 | 5,719 | 11/2-21/2 |
| 2009 |  |  |  |  |  |  |  |  | 1,080 ${ }^{\text {a }}$ | 1,069 | 6,579 | $1 / 2-11 / 2$ |
| 2010 |  |  |  |  |  | - |  |  |  |  | 7,490 | 0-1/2 |
| Total | $\underline{1,975}$ | $\underline{\underline{2,382}}$ | $\underline{\underline{2,824}}$ | $\underline{\underline{3,318}}$ | 3,872 | $\underline{4,494}$ | 5,247 | $\underline{6,017}$ | $\underline{\underline{6,852}}$ | $\underline{\underline{7,799}}$ | 44,780 |  |

at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2006 are calculated in the following manner:

| Exposures at age $0=$ amount of addition | $=\$ 750,000$ |
| :--- | :--- |
| Exposures at age $1 / 2=\$ 750,000-\$ 8,000$ | $=\$ 742,000$ |
| Exposures at age $11 / 2=\$ 742,000-\$ 18,000$ | $=\$ 724,000$ |
| Exposures at age $21 / 2=\$ 724,000-\$ 20,000-\$ 19,000$ | $=\$ 685,000$ |
| Exposures at age $31 / 2=\$ 685,000-\$ 22,000$ |  |

For the entire experience band 2001-2010, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Table 1). For example, the figure of 3,789 , shown as the total exposures at the beginning of age interval $41 / 2-51 / 2$, is obtained by summing:

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

Original Life Table. The original life table, illustrated in Table 4 on page II-17, is developed from the totals shown on the schedules of retirements and exposures, Tables 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios,

TABLE 4. ORIGINAL LIFE TABLE CALCULATED BY THE RETIREMENT RATE METHOD
(Exposure and Retirement Amounts are in Thousands of Dollars)

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

Column 2 from Table 3, Column 12, Plant Exposed to Retirement.
Column 3 from Table 1, Column 12, Retirements for Each Year.
Column 4 = Column 3 divided by Column 2.
Column $5=1.0000$ minus Column 4.
Column $6=$ Column 5 multiplied by Column 6 as of the Preceding Age Interval.
each of which equals one minus the retirement ratio. The percent surviving is developed by starting with $100 \%$ at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age $51 / 2$ are as follows:

| Percent surviving at age $41 / 2$ | $=88.15$ |  |
| :--- | :--- | ---: |
| Exposures at age $41 / 2$ | $=3,789,000$ |  |
| Retirements from age $41 / 2$ to $51 / 2$ | $=143,000$ |  |
| Retirement Ratio | $=143,000 \div 3,789,000=0.0377$ |  |
| Survivor Ratio | $=$ | $1.000-0.0377=0.9623$ |
| Percent surviving at age $51 / 2$ | $=$ | $(88.15) \times(0.9623)=84.83$ |

The totals of the exposures and retirements (columns 2 and 3 ) are shown for the purpose of checking with the respective totals in Tables 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless.

The original survivor curve is plotted from the original life table (column 6, Table 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

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

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the lowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Table 4 is compared with the $L, S$, and $R$ lowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0.

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

## Compliance of the Retirement Rate Method of Analysis to IFRS

The Canadian Accounting Standards Board has announced that Canadian Generally Accepted Accounting Principles (GAAP) will cease to exist as of a target date in 2011 (or 2012 for regulated entities that elect to defer implementation for 1 year). As of that date many organizations will be required to report under the International Financial Accounting Standards (IFRS). The International Accounting Standard (IAS) 16 deals with the recognition and reporting of property, plant and equipment.

This standard requires that the depreciation expense associated with an asset be aligned with the expected service life of the asset. Gannett Fleming notes that the



requirements and implementation of the IFRS are generally aligned with the appropriate and reasonable depreciation practices and procedures commonly used for regulatory purposes.

In the view of Gannett Fleming, the use of an lowa curve in the estimation of average service life and retirement expectations of a group of homogenous assets meets the requirements of IAS 16 . However, the account structure of the utility must be analyzed to ensure that the assets included in each group are like in nature and service of the asset to the utility is similar. In this manner, it can be expected that any one of the assets in the group are equally likely to be subjected to any of the forces of retirement to which the group of assets are subjected.

In order to better meet the componentization requirements as discussed above, and to continue to use group accounting and depreciation practices, the company reviewed the type of physical assets included in all plant accounts. As a result of this review, Manitoba Hydro has developed a significant number of new accounts, particularly with regard to electric generation plant. Also as part of this development of new accounts, the company has recreated a database of aged plant accounting retirements and balances. Gannett Fleming used this database to perform a detailed retirement rate analysis as described previously in the report. In a limited number of accounts, Manitoba Hydro was not able to develop aged retirement balances. In these circumstances, Gannett Fleming statistically aged the unaged transactions in order that the retirement rate analysis could be completed for all accounts.

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

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

## GENERATION ACCOUNTS

Gannett Fleming developed unique depreciation rate calculations for each of the hydraulic generation plants in order to specially recognize the life span of each of the plants. However, the retirement rate analysis was prepared on the basis of a grouping at an account level of the plant accounting data related to the combined databases from all hydraulic generation sites. Therefore, the analyses presented in Section IV of the Supporting Documents and as discussed below, are based on the combined data from all locations for each account.

Account Grouping A - Dams, Dykes and Weirs, represents $10 \%$ of the generation and $4.3 \%$ of depreciable assets studied. The investment in this account related mainly to the geo-technical components, including the earthen structures. Company management and operational staff have indicated that these structures were engineered to a high standard in order to provide an increased level of safety and longevity. Additionally, the operational staff views that the environmental conditions to which the investment in this account is exposed will result in a slower erosion of the
physical structures. As such, it is expected that the investment in this account would have a longer average life expectation than many of the peer group of Canadian electric generation utilities. Additionally, on a yearly basis the company invests between $\$ 4$ and $\$ 5$ million on dam safety programs throughout its system.

The retirement rate analysis as presented on pages IV-3 to IV-5 has reviewed the retirement history from 1952 through 2010. The currently approved lowa curve related to these assets is the Iowa 100-R3. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate and an increase to the mode of the retirement dispersion curve to the Iowa 125-R4.

Account Grouping B - Powerhouse, represents $20 \%$ of the generation assets and $8.4 \%$ of the depreciable assets studied. The investment in this account relates to the powerhouses and civil buildings, including the structural and concrete components.

The hydraulic generation powerhouses are normally part of the physical concrete dam structure. However, in the circumstance of the Grand Rapids generation site, the powerhouse is physically located behind the dam in a separate structure. Based on the retirement rate analysis as presented on page IV-7 to IV-9 and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the Iowa 125-R4 from the Iowa 100-R3 curve for the civil assets related to the hydraulic assets. In this recommendation, the average service life characteristics of the powerhouses will be matched to the estimated retirement dispersion related to the Dams, Dykes and Weirs account.

With regard to the powerhouses related to thermal generation plants, the powerhouse is more typical of industrial concrete or steel buildings. As such it is estimated that the average service life associated with powerhouse buildings related to thermal plant locations would have a shorter average service life than the estimates for the hydraulic generation sites. Therefore, based on the expectations of operational staff, Gannett Fleming recommends continuation of the currently approved lowa 65-R4 curve for thermal assets.

Account Grouping D - Spillway, represents 7\% of the generation assets and $3.1 \%$ of the depreciable assets studied. The typical average service lives for spillways within the Canadian electric generation industry range from 60 to 100 years. The investment in this account was, in previous deprecation studies, included in the large group of civil assets and depreciated with an lowa 100-R3 curve. Given the ability to separately analyze this investment, based on the retirement rate analysis as presented on pages IV-11 to IV-13 of the supporting documents and on the expectations of operational staff, Gannett Fleming recommends the reduction of the average service life estimate for this account to the lowa 75-R2 curve.

Account Grouping E - Water Control Systems, represents 6\% of the generation assets and $2.5 \%$ of the depreciated assets studied. The investment in this account includes the investment related to gates, guides and hoists. These types of assets are subjected to wear and tear and will require replacement over the life of the generation plant. The average service life estimates among Canadian peer utilities ranges from 45 to 75 years.

Interviews with company operational staff have indicated an expectation of a 50 year life. The investment in this account was, in previous deprecation studies, included in the large group of civil assets and depreciated with an lowa 100-R3 curve. Based on the retirement rate analysis as presented on page IV-15 to IV-17 of the supporting documents, and on the expectations of operational staff, Gannett Fleming recommends the use of a 50-year average service life estimate and an increase in the mode of the lowa curve from R3 to S4, resulting in a recommended lowa 50-S4 curve.

Account Grouping P - A/C Electrical Power Systems, represents $22 \%$ of the generation assets and $9.2 \%$ of the depreciable assets studied. The investment in this account relates to the station electric transformer and station service. The assets in this account were previously depreciated with the Accessory Station Equipment using the Iowa 50-R3 curve. With the separation of this account, a retirement rate analysis was undertaken. Based on the retirement rate analysis as presented on page IV-34 to IV-36 and on the expectations of operational staff, Gannett Fleming recommends the continued use of the lowa 50-R3, as shown on page IV-33 of the Supporting Documents.

Life Span Estimates. Life expectancy of electric generation plant assets are impacted by not only physical wear and tear of the assets but also on economic factors including the feasibility of the economic replacement of major operating components or the economic viability of the plant as a whole. In circumstances where the replacement of major operating components is not economically feasible, the life of the major component can be the determining factor of the generation plant and all of the assets within the plant. As such, the depreciable remaining life of electric generation plant
assets is the lesser of the physical life expectation of the asset or the period at the end of the life span of the generation plant.

The use of life span dates for determining depreciable lives for regulated electric generation plant is common through many North American Regulatory jurisdictions. The basis for the determination of the life span date is usually based on one or all of the following:

- The physical life estimation of the major and vital components of the generating plant;
- The duration of operating licenses;
- Precedent and policy of the regulatory jurisdiction;
- Expiration of the supply source for which the generation plant is dependent; and
- Expiration of market demand upon which the generation plant is dependent.

In prior depreciation reviews, Manitoba Hydro has determined a life span date for most of the regulated hydraulic plants based on an overall life estimate of 100 years. The management and operational staff of Manitoba Hydro have reviewed this policy and determined that the economic life of the generation plants should be extended to 140 years beyond the date of initial construction. The application of this policy was reviewed for its reasonableness at each of the generation plants and was modified in three circumstances as follows:

- Pointe du Bois - March 31, 2031 (125 years)
- Grand Rapids - March 31, 2091 (125 years)
- Laurie River - March 31, 2032 (80 years)


## DIESEL ACCOUNTS

Account 1300B - Buildings, represents $21 \%$ of the diesel assets and less than $1 \%$ of the depreciable assets studied. The statistical analysis indicates a 30-year average service life expectation. In addition, the Diesel Buildings are subjected to increased amounts of wear and tear than other generation buildings within the Manitoba Hydro system, and therefore will have a shorter life expectation. Based on the retirement rate analysis as presented on page IV-56, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the $30-\mathrm{R} 3$ from the 18-R2 lowa curve which was previously used.

Account 1300 N - Engines and Generators, represents $41 \%$ of the diesel assets and less than 1\% of the depreciable assets studied. The statistical analysis indicates a life of approximately 25 years. The operational staff at Manitoba Hydro also confirms the life expectation of 25 years. In addition, the industry peer average service life estimates range from 20 to 30 years. Based on the retirement rate analysis as presented on page IV-58, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the Iowa 25-R2.

Account 1300Q - Accessory Station Equipment, represents 30\% of the diesel assets and less than 1\% of the depreciable assets studied. The investment in this account includes the investment related to step-up transformers, and control panels which were all replaced approximately 15 to 20 years ago. Based on the retirement rate analysis presented on page IV-60, and on the expectations of operational staff, Gannett

Fleming recommends the extension of the average service life estimate for this account to the lowa 20-R3.

## TRANSMISSION ACCOUNTS

Account 2000G - Metal Towers and Concrete Poles, represents 45\% of the transmission assets and $2.8 \%$ of the depreciable assets studied. The company had a previously approved life estimate of 85 years for this account. The original survivor curve as shown on page IV-67 indicated a modest level of retirement activity through age 42, with an indication of increased retirement activity thereafter. The transmission towers have historically withstood environmental influences such as ice storms, severe winter conditions, and corrosion. There are some replacements that will be required with the need to replace the 105-year old towers from Point du Bois, but there are no other significant replacement plans over the next 25 to 30 years. The industry average service life ranges from 50 to 65 years.

Interviews with company operational staff have indicated an expectation of a longer life than the industry peers. Based on the retirement rate analysis as presented on page IV-68 to IV-70 of the supporting documents, and on the expectations of operational staff, Gannett Fleming recommends the continued use of an 85-year average service life estimate and an increase in the mode of the lowa curve from R3 to R4, resulting in a recommended lowa 85-R4 curve.

Account 2000L - Overhead Conductor and Devices, represents 40\% of the transmission assets and 3\% of the depreciable assets studied. The retirement pattern shows only modest retirements up until age 22 and retirements increasing at a low rate thereafter. Based on the retirement rate analysis as presented on page IV-75 to V-77,
and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account from a 60-L4 Iowa curve to the Iowa 65-R4.

## SUBSTATION ACCOUNTS

Account 3100R - Power Transformers, represents 12\% of the substations assets and $2 \%$ of the depreciable assets studied. The retirement pattern shows modest retirements starting about year five and increasing thereafter. The operational staff has not identified any problems with Manitoba Hydro's transformers. Manitoba Hydro also has a standard practice to repair through operating budgets for as long of a period as possible in order to extend the lives as long as possible for transformers. Additionally, newer transformers are expected to have shorter lives than the older units, as the new units are being manufactured to tighter capacity tolerances. The typical industry lives range from 40 to 60 years. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 50-R2 curve.

Account 3100T - Interrupting Equipment, represents $6 \%$ of the substations assets and 1\% of the depreciable assets studied. The retirement pattern shows modest retirements starting about year five and increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 45-R2 curve.

Account 3100U - Other Station Equipment, represents $21 \%$ of the substations assets and 4\% of the depreciable assets studied. Comparable utilities with the electric industry have lives ranging from 45 to 53 years. The retirement pattern shown at page IV-99 shows modest retirements starting about year five and increasing thereafter.

Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 43-R2 curve.

Account 3100V - Electronic Equipment and Batteries, represents 6\% of the substations assets and $1 \%$ of the depreciable assets studied. Comparable utilities within the electric industry have lives ranging from 15 and 25 years. The retirement pattern as shown at page IV-103 shows modest retirements starting about year five and increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa curve of 20-R2.

Account 3200P - Convertor Equipment HVDC, represents 9\% of the substations assets and $2 \%$ of the depreciable assets studied. The retirement pattern as shown on page IV-108 shows modest retirements starting about year nine and slowly increasing until about age 25 and increasing at a faster rate thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 25-R3 curve.

Account 3200S - Serialized Equipment-HVDC, represents $26 \%$ of the substations assets and 5\% of the depreciable assets studied. The retirement pattern as shown on page IV-110 shows retirements starting at year two and then increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 25-R2 curve.

## DISTRIBUTION ACCOUNTS

Account 4000J - Poles and Fixtures, represents $24 \%$ of the distribution assets and $5 \%$ of the depreciable assets studied. The poles are a mix of pine and cedar with wood poles making up about $99.5 \%$ of the poles in service. Typical industry lives for
wood poles range from 38 to 55 years. The retirement rate analysis as shown on pages IV-122 and IV-123 has indicated a preliminary average service life estimate of the Iowa 34-R3, which was at the short end of the range of peer industry comparable companies.

Manitoba Hydro operational staff confirmed the Gannett Fleming view that the statistically developed 34-year average service life estimate was too short for this account, and should have an average service life of at least 55 to 60 years. Based on all factors, Gannett Fleming recommends an lowa 55-R3 curve, which maintains the retirement dispersion shape from the retirement rate analysis, conforms to the view of the Manitoba Hydro operational staff, and is within the range of industry peers.

Account 4000L - Overhead Conductor and Devices, represents $26 \%$ of the distribution assets and $5.1 \%$ of the depreciable assets studied. The retirement rate analysis as shown on pages IV-125 and IV-126 has indicated a preliminary average service life estimate of the Iowa 32-R2, which was at the short end of the range of peer industry comparable companies. Typical industry averages show lives ranging from 45 and 60 years, which is longer than the statistically developed life estimate of 32 years.

Operational staff indicated they are seeing no major issues with conductors and they would expect lives to be longer than the 55 year life estimate recommended for the poles account as conductor is not always replaced when poles are retired. Based on all factors, Gannett Fleming recommends an lowa 60-R2 curve, which maintains the retirement dispersion shape from the retirement rate analysis, conforms to the view of the Manitoba Hydro operational staff, and is within the range of industry peers.

Account 4000N - Underground Cable and Devices - Primary, represents 11\% of the distribution assets and $2 \%$ of the depreciable assets studied. Operational staff
indicated there are no major issues with newer underground cable installed within the last 25 years. However, the older cable previously installed was of inferior quality and is starting to be retired at about 45 years. Typical industry averages show lives ranging from 40 to 80 years. Based on the retirement rate analysis as shown on pages IV-130 and 131 on the expectations of operational staff and industry comparables, Gannett Fleming recommends an lowa 60-R4 curve.

Account 4000P - Underground Cable and Devices - Secondary, represents 8\% of the distribution assets and $2 \%$ of the depreciable assets studied. The newer underground cable is about 25 years old and is showing no major issues according to Manitoba Hydro's operational staff. In addition, the older underground cable is starting to retire at about 45 years. Typical industry averages are indicating lives between 40 and 80 years. Based on the retirement rate analysis as shown on pages IV-133 and IV134 the expectations of operational staff along with industry comparables, Gannett Fleming recommends an lowa 45-R4 curve.

Account 40000 - Serialized Equipment - Overhead, represents $8 \%$ of the distribution assets and $2 \%$ of the depreciable assets studied. The investment in this account primarily relates to pole top transformers. Interviews with operational staff indicated the company intends to continue to refurbish and reuse transformers. Comparable Industry averages range from 27 to 45 years. Based on the expectations of operational staff along with industry comparables, Gannett Fleming recommends an Iowa 35-R3 curve.

Account 4000S - Serialized Equipment - Underground, represents 7\% of the distribution assets and $1 \%$ of the depreciable assets studied. The investment in this
account primarily relates to pad mounted transformers for underground service. Interviews with operational staff indicated the company intends to continue to refurbish and reuse these transformers. Comparable industry averages range from 27 to 45 years. Based on the expectations of operational staff along with industry comparables, Gannett Fleming recommends an lowa 40-R3 curve.

The survivor curve estimates for the remaining accounts were based on similar considerations of historical analyses, management outlook and estimates for this company and other electric utilities.

## NET SALVAGE ESTIMATES

This report is developed to be in compliance with the requirements of IFRS for financial reporting purposes. The pre-collection of future costs of removal within depreciation expense is not compliant with the standards. Manitoba Hydro has requested that all net negative salvage provisions be removed from the depreciation rate calculations. The future costs of removal will be recorded as a capital cost of the replacement assets at the time of the retirement of the assets currently in service. As such, Gannett Fleming has not included any costs of removal in these depreciation calculations.

IAS 16 does provide for the recognition of residual value of assets at the time of retirement to be recognized in depreciation expense. Therefore, a residual salvage calculation has been incorporated into the depreciation rates for a number of general plant accounts.

## CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

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

The difference in calculation of depreciation expense derived from ELG and ASL can best be explained with the use of a simple example.

ASL Versus ELG Example. Assume one plant account with a total cost of \$2,000 is comprised of two subgroups of assets, each with an original cost of $\$ 1,000$. The first group has a life of 5 years, while the second group has a life of 15 years.

Under both procedures the average life of this plant account would equal 10 years $(15+5) / 2$. With the ASL procedure this average life would be used to determine the depreciation accruals for the first 5 years as follows:

$$
(\$ 2,000 / 10 \text { years })=\$ 200 \text { per year }
$$

The accrual for the years 6 to 15 would be as follows:
$(\$ 1,000 / 10$ years $)=\$ 100$ per year
Under the ELG procedure, the expense for each sub group is determined and then added together. Therefore for the first 5 years, the accrual would be as follows:
$(\$ 1,000 / 5$ years $)+(\$ 1,000 / 15$ years $)=\$ 267$ per year.
The accrual for the years 6 to 15 would be as follows:
$(\$ 1,000 / 15$ years $)=\$ 67$ per year.

The following table sets out the differences in the two methods:

| Average Service Life Procedure |  |  |  | Equal Life Group Procedure |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Accruals <br> (\$) | Retirements <br> (\$) | Acc. Deprn Balance (\$) | Year | Accruals (\$) | Retirements (\$) | Acc. Deprn Balance (\$) |
| 1 | 200 |  | 200 | 1 | 267 |  | 267 |
| 2 | 200 |  | 400 | 2 | 267 |  | 534 |
| 3 | 200 |  | 600 | 3 | 267 |  | 801 |
| 4 | 200 |  | 800 | 4 | 267 |  | 1,068 |
| 5 | 200 | 1,000 | 0 | 5 | 267 | 1,000 | 335 |
| 6 | 100 |  | 100 | 6 | 67 |  | 402 |
| 7 | 100 |  | 200 | 7 | 67 |  | 469 |
| 8 | 100 |  | 300 | 8 | 67 |  | 536 |
| 9 | 100 |  | 400 | 9 | 67 |  | 603 |
| 10 | 100 |  | 500 | 10 | 67 |  | 670 |
| 11 | 100 |  | 600 | 11 | 66 |  | 736 |
| 12 | 100 |  | 700 | 12 | 66 |  | 802 |
| 13 | 100 |  | 800 | 13 | 66 |  | 868 |
| 14 | 100 |  | 900 | 14 | 66 |  | 934 |
| 15 | 100 | 1,000 | 0 | 15 | 66 | 1,000 | 0 |

It should be noted from the table that overall, both methods will recover the same original cost, however, there are two key differences. First, using the ASL procedure, after the first 5 years, no depreciation has been collected for the asset remaining in service. Essentially, the concept of depreciation expense matching the assets providing service is not met. With the ELG procedure, this problem is remedied and after the retirement at year 5 of the shorter life asset, an appropriate provision for the first 5 years of service on the longer living asset is accumulated (\$67 X 5 years = \$335). Under ELG all current users are sharing the cost of all assets in service.

Secondly, under ASL the customers using the last remaining assets are required to pick up an adjustment for the under accrual of depreciation expense during the early years of the account. This inter-generational inequity would result in a situation at

Manitoba Hydro where users in the later years of the system bear the cost of under accruals with benefited earlier users of the system.

Effectively, later users of the system would be subsiding previous users. With potential changes in the utility industry, future users of the facilities may be different from the current system users. This lack of stability will magnify the inter-generational inequity of the ASL procedure.

Conformance of ELG to IFRS. IAS 16 requires depreciation expense to reflect the life expectation of assets in service. As indicated in the above example, the rate of annual depreciation is based on the average life or average service life of the group, and this rate is applied to the surviving balances of the group's cost. As further noted in the above example, a characteristic of the ASL procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life. In this procedure, the accrued depreciation is based on the average service life of the group and the average remaining life of each vintage within the group derived from the area under the survivor curve between the attained age of the vintage and the maximum age.

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

The table on the following page presents an illustration of the calculation of equal life group depreciation in a mass property account using the lowa 15-R3 survivor curve, 0 percent net salvage and a December 31, 2010 calculation date. In the table, each equal life group is defined by the age interval shown in columns 1 and 2. These are the ages at which the first and last retirement of each group occurs, and the group's equal life, shown in column 3, is the midpoint of the interval. For purposes of the calculation, each vintage is divided into equal life groups arranged so that the midpoint of each oneyear age interval coincides with the calculation date, e.g., December 31 in this case. This enables the calculation of annual accruals for a twelve-month period centered on the date of calculation.

The retirement during the age interval, shown in column 4, is the size of each equal life group and is derived from the lowa 15-R3 survivor curve and 0 percent net salvage. It is the difference between the percents surviving at the beginning and end of the age interval. Each equal life group's annual accrual, shown in column 5, equals the group's size (column 4) divided by its life (column 3).

Columns 6 through 10 show the derivation of the annual and accrued factors for each vintage based on the information developed in the first five columns. The year installed is shown in column 6. For all vintages other than 2010, the summation of annual accruals for each year installed, shown in column 7, is calculated by adding onehalf of the group annual accrual (column 5) for that vintage's current age interval plus the group annual accruals for all succeeding age intervals. For example, the figure
7.53413204309 for 2009 equals one-half of 0.14669333333 plus all of the succeeding
figures in column 5 . Only one-half of the annual accrual for the vintage's current age interval group is included in the summation because the equal life group for that interval has reached the year during which it is expected to be retired.

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

| INPUT PARAMETERS: <br> CALCULATION DATE.. 12-31-2010 <br> SURVIVOR CURVE.... 15-R3 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | RETIREMENTS | GROUP |  | SUMMATION | AVERAGE |  |  |
| AGE IN | TERVAL |  | DURING | ANNUAL | YEAR | OF ANNUAL | PERCENT | ANNUAL | ACCRUED |
| BEG | END | LIFE | INTERVAL | ACCRUAL | INST | ACCRUALS | SURVIVING | FACTOR | FACTOR |
| (1) | (2) | (3) | (4) | $(5)=(4) /(3)$ | (6) | ( 7 ) | (8) | (9) | (10) |
| 0.000 | 1.000 | 0.500 | 0.13204 | 0.13204000000 | 2010 | 7.73951870976 | 99.939619 | 0.0774 | 0.0387 |
| 1.000 | 2.000 | 1.500 | 0.22004 | 0.14669333333 | 2009 | 7.53413204309 | 99.757940 | 0.0755 | 0.1133 |
| 2.000 | 3.000 | 2.500 | 0.34901 | 0.13960400000 | 2008 | 7.39098337643 | 99.473416 | 0.0743 | 0.1858 |
| 3.000 | 4.000 | 3.500 | 0.53168 | 0.15190857143 | 2007 | 7.24522709071 | 99.033069 | 0.0732 | 0.2562 |
| 4.000 | 5.000 | 4.500 | 0.77648 | 0.17255111111 | 2006 | 7.08299724944 | 98.378988 | 0.0720 | 0.3240 |
| 5.000 | 6.000 | 5.500 | 1.09520 | 0.19912727273 | 2005 | 6.89715805752 | 97.443149 | 0.0708 | 0.3894 |
| 6.000 | 7.000 | 6.500 | 1.50085 | 0.23090000000 | 2004 | 6.68214442116 | 96.145127 | 0.0695 | 0.4518 |
| 7.000 | 8.000 | 7.500 | 1.99686 | 0.26624800000 | 2003 | 6.43357042116 | 94.396275 | 0.0682 | 0.5115 |
| 8.000 | 9.000 | 8.500 | 2.59836 | 0.30568941176 | 2002 | 6.14760171528 | 92.098663 | 0.0668 | 0.5678 |
| 9.000 | 10.000 | 9.500 | 3.32846 | 0.35036421053 | 2001 | 5.81957490413 | 89.135249 | 0.0653 | 0.6204 |
| 10.000 | 11.000 | 10.500 | 4.20015 | 0.40001428571 | 2000 | 5.44438565601 | 85.370944 | 0.0638 | 0.6699 |
| 11.000 | 12.000 | 11.500 | 5.24273 | 0.45588956522 | 1999 | 5.01643373055 | 80.649505 | 0.0622 | 0.7153 |
| 12.000 | 13.000 | 12.500 | 6.46397 | 0.51711760000 | 1998 | 4.52993014794 | 74.796157 | 0.0606 | 0.7575 |
| 13.000 | 14.000 | 13.500 | 7.78086 | 0.57636000000 | 1997 | 3.98319134794 | 67.673742 | 0.0589 | 0.7952 |
| 14.000 | 15.000 | 14.500 | 9.04123 | 0.62353310345 | 1996 | 3.38324479621 | 59.262695 | 0.0571 | 0.8280 |
| 15.000 | 16.000 | 15.500 | 9.97724 | 0.64369290323 | 1995 | 2.74963179287 | 49.753461 | 0.0553 | 0.8572 |
| 16.000 | 17.000 | 16.500 | 10.26569 | 0.62216303030 | 1994 | 2.11670382611 | 39.631994 | 0.0534 | 0.8811 |
| 17.000 | 18.000 | 17.500 | 9.71888 | 0.55536457143 | 1993 | 1.52794002524 | 29.639708 | 0.0516 | 0.9030 |
| 18.000 | 19.000 | 18.500 | 8.35418 | 0.45157729730 | 1992 | 1. 02446909088 | 20.603179 | 0.0497 | 0.9195 |
| 19.000 | 20.000 | 19.500 | 6.50335 | 0.33350512821 | 1991 | 0.63192787812 | 13.174414 | 0.0480 | 0.9360 |
| 20.000 | 21.000 | 20.500 | 4.58978 | 0.22389170732 | 1990 | 0.35322946036 | 7.627850 | 0.0463 | 0.9492 |
| 21.000 | 22.000 | 21.500 | 2.91547 | 0.13560325581 | 1989 | 0.17348197879 | 3.875224 | 0.0448 | 0.9632 |
| 22.000 | 23.000 | 22.500 | 1.61144 | 0.07161955556 | 1988 | 0.06987057311 | 1.611769 | 0.0434 | 0.9765 |
| 23.000 | 24.000 | 23.500 | 0.66967 | 0.02849659574 | 1987 | 0.01981249746 | 0.471215 | 0.0420 | 0.9870 |
| 24.000 | 25.000 | 24.500 | 0.13425 | 0.00547959184 | 1986 | 0.00282440367 | 0.069256 | 0.0408 | 0.9996 |
| 25.000 | 25.350 | 25.175 | 0.00213 | 0. 00008460775 | 1985 | 0.00001480636 | 0.000373 | 0.0397 | 1.0000 |
| TOTAL |  |  | 100.00000 |  |  |  |  |  |  |

The summation of annual accruals (column 7) for installations during 2010 is calculated on the basis of an in-service date at the midpoint of the year, i.e., June 30. Inasmuch as the overall calculation is centered on December 31, 2010, the first figure in column 7, for vintage 2010, equals all of the group annual accrual for the first equal life group plus the accruals for all of the subsequent equal life groups.

The average percent surviving derived from the lowa $15-\mathrm{R} 3$ survivor curve and 0 percent net salvage, is shown in column 8 for each age interval. The annual factor, shown in column 9 , is the result of dividing the summation of annual accruals (column 7 ) by the average percent surviving (column 8). The accrued factor, shown in column 10, equals the annual factor multiplied by the age of the group at December 31, 2010.

## CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION

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

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

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

| ACCOUNT | TITLE | AMORTIZATION PERIOD, YEARS |
| :---: | :---: | :---: |
| 000C | POWERHOUSE RENOVATIONS | 25 |
| 000L | LICENCE RENEWAL | 50 |
| 000W | SUPPORT BUILDING RENOVATIONS | 20 |
| 000M | COMBUSTION TURBINE OVERHAULS | 10 |
| 1125Z | COMMUNITY DEVELOPMENT COSTS [Pine Falls] | 81 |
| 1140Z | COMMUNITY DEVELOPMENT COSTS [Grand Rapids] | 80 |
| 1160Z | COMMUNITY DEVELOPMENT COSTS [Lake Winnipeg Regulation] | 100 |
| 1165Z | COMMUNITY DEVELOPMENT COSTS [Churchill River Diversion] | 100 |
| 1300C | BUILDING RENOVATIONS | 15 |
| 1300M | ENGINES AND GENERATORS - OVERHAULS | 5 |
| 3000C | BUILDING RENOVATIONS | 20 |
| 4000K | GROUND LINE TREATMENT | 10 |
| 4000V | ELECTRONIC EQUIPMENT | 10 |
| 5000C | BUILDING RENOVATIONS | 20 |
| 5000K | OPERATIONAL IT EQUIPMENT | 5 |
| 5000M | MOBILE RADIO, TELEPHONE AND VIDEO CONFERENCING | 8 |
| 5000N | OPERATIONAL DATA NETWORK | 8 |
| 8000C | BUILDING RENOVATIONS | 20 |
| 9000 H | TOOLS, SHOP AND GARAGE EQUIPMENT | 15 |
| 9000K | COMPUTER EQUIPMENT | 5 |
| 9000L | OFFICE FURNITURE AND EQUIPMENT | 20 |
| 9000M | HOT WATER TANKS | 6 |
| A200H | COMPUTER DEVELOPMENT - SMALL SYSTEMS | 10 |
| A200J | COMPUTER SOFTWARE - GENERAL | 5 |
| A200K | COMPUTER SOFTWARE - COMMUNICATION/OPERATIONAL | 5 |

For the purpose of calculating annual amortization amounts as of March 31, 2010, the book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The book reserve assigned to vintages with an age greater than the amortization period is equal to the vintage's original cost. The remaining book reserve is allocated among vintages with an age less than the amortization period in proportion to the calculated accrued amortization. The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization
period. The annual amortization amount is determined by dividing the future amortizations (original cost less allocated book reserve) by the remaining period of amortization for the vintage.

## MONITORING OF BOOK ACCUMULATED DEPRECIATION

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

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

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

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

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

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

PART III. RESULTS OF STUDY

## PART III. RESULTS OF STUDY

## QUALIFICATION OF RESULTS

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

## DESCRIPTION OF DETAILED TABULATIONS

The service life estimates were based on judgment that incorporated statistical analysis of retirement data, discussions with management and consideration of estimates made for other electric utilities. The results of the statistical analysis of service life are presented in the section beginning on pages IV-2, within the supporting documents of this report.

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

The tables of the calculated annual depreciation applicable to depreciable assets as of March 31, 2010 are presented in account sequence starting on page V -2 of the supporting documents. The tables indicate the estimated average survivor curves used in the calculations. The tables set forth, for each installation year, the original cost, calculated accrued depreciation, and the calculated annual accrual.

## MANITOBA HYDRO

SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \\ & \text { DATE } \end{aligned}$ | ESTIMATED <br> SURVIVOR <br> CURVE <br> $(2)$ | ESTIMATED <br> NET <br> SALVAGE <br> $(3)$ | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  |  |  | (4) | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 10000 | GENERATION |  |  |  |  |  |  |  |  |  |
| 11000 | HYDRAULIC GENERATION |  |  |  |  |  |  |  |  |  |
| 11050 | GREAT FALLS |  |  |  |  |  |  |  |  |  |
| 1105A | DAMS, DYKES AND WEIRS | 2063 | 125-R4 | 0 | 17,302,772 | 218,229 | 1.26 | $(27,263)$ | 190,966 | 1.10 |
| 1105B | POWERHOUSE | 2063 | 125-R4 | 0 | 7,990,993 | 99,815 | 1.25 | $(13,045)$ | 86,770 | 1.09 |
| 1105C | POWERHOUSE RENOVATIONS | 2063 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1105D | SPILLWAY | 2063 | 75-R2 | 0 | 9,676,327 | 151,875 | 1.57 | $(6,958)$ | 144,917 | 1.50 |
| 1105E | WATER CONTROL SYSTEMS | 2063 | 50-S4 | 0 | 24,245,253 | 497,229 | 2.05 | $(50,814)$ | 446,415 | 1.84 |
| 1105F | ROADS AND SITE IMPROVEMENTS | 2063 | 50-R3 | 0 | 213,964 | 5,129 | 2.40 | (24) | 5,105 | 2.39 |
| 1105G | TURBINES AND GENERATORS | 2063 | 65-S3 | 0 | 25,128,789 | 433,087 | 1.72 | $(30,373)$ | 402,714 | 1.60 |
| 1105 H | GOVERNORS AND EXCITATION SYSTEM | 2063 | 50-R4 | 0 | 492,218 | 10,048 | 2.04 | (811) | 9,237 | 1.88 |
| 1105L | LICENCE RENEWAL | 2063 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1105P | A/C ELECTRICAL POWER SYSTEMS | 2063 | 50-R3 | 0 | 9,493,088 | 201,933 | 2.13 | $(12,866)$ | 189,067 | 1.99 |
| 1105Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2063 | 23-L2 | 0 | 19,271,956 | 955,210 | 4.96 | $(7,499)$ | 947,711 | 4.92 |
| 1105R | AUXILIARY STATION PROCESSES | 2063 | 40-R2.5 | 0 | 8,345,798 | 224,470 | 2.69 | $(9,108)$ | 215,362 | 2.58 |
| 1105X | SUPPORT BUILDINGS | 2063 | 65-R3 | 0 | 1,495,253 | 24,424 | 1.63 | $(2,820)$ | 21,604 | 1.44 |
| 1105W | SUPPORT BUILDING RENOVATIONS | 2063 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL GREAT FALLS |  |  |  | 123,656,412 | 2,821,449 | 2.28 | (161,581) | 2,659,868 | 2.15 |
| 11100 | POINTE DU BOIS |  |  |  |  |  |  |  |  |  |
| 1110A | DAMS, DYKES AND WEIRS | 2031 | 125-R4 | 0 | 11,263,332 | 446,825 | 3.97 | $(91,296)$ | 355,529 | 3.16 |
| 1110B | POWERHOUSE | 2031 | 125-R4 | 0 | 6,242,749 | 271,010 | 4.34 | $(26,759)$ | 244,251 | 3.91 |
| 1110 C | POWERHOUSE RENOVATIONS | 2031 | 25-SQ | 0 |  |  |  |  |  | 4.84 */** |
| 1110 D | SPILLWAY - ORIGINAL | 2017 | 75-R2 | 0 | 3,104,842 | 345,659 | 11.13 | $(84,531)$ | 261,128 | 8.41 |
| 1110 E | WATER CONTROL SYSTEMS | 2031 | 50-S4 | 0 | 4,027,603 | 152,884 | 3.80 | $(39,522)$ | 113,362 | 2.81 |
| 1110 F | ROADS AND SITE IMPROVEMENTS | 2031 | 50-R3 | 0 | 28,533 | 1,113 | 3.90 | (295) | 818 | 2.87 |
| 1110 G | TURBINES AND GENERATORS | 2031 | 65-S3 | 0 | 24,610,324 | 1,022,300 | 4.15 | $(153,096)$ | 869,204 | 3.53 |
| 1110 H | GOVERNORS AND EXCITATION SYSTEM | 2031 | 50-R4 | 0 |  |  |  |  |  | 5.04 * |
| 1110 ${ }^{\text {L }}$ | LICENCE RENEWAL | 2031 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 4.76 */** |
| 1110P | A/C ELECTRICAL POWER SYSTEMS | 2031 | 50-R3 | 0 | 6,057,709 | 274,987 | 4.54 | $(22,954)$ | 252,033 | 4.16 |
| 1110Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2031 | 23-L2 | 0 | 355,559 | 20,840 | 5.86 | $(2,581)$ | 18,259 | 5.14 |
| 1110R | AUXILIARY STATION PROCESSES | 2031 | 40-R2.5 | 0 | 1,377,014 | 62,068 | 4.51 | $(11,335)$ | 50,733 | 3.68 |
| 1110X | SUPPORT BUILDINGS | 2031 | 65-R3 | 0 | 2,616,290 | 95,041 | 3.63 | $(32,110)$ | 62,931 | 2.41 |
| 1110W | SUPPORT BUILDING RENOVATIONS | 2031 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
| 1111D | SPILLWAY - NEW |  | 75-R2 | 0 |  |  |  |  |  | 1.33 * |
|  | TOTAL POINTE DU BOIS |  |  |  | 59,683,956 | 2,692,727 | 4.51 | $(464,480)$ | 2,228,247 | 3.73 |
| 11150 | SEVEN SISTERS |  |  |  |  |  |  |  |  |  |
| 1115A | DAMS, DYKES AND WEIRS | 2072 | 125-R4 | 0 | 31,497,995 | 353,966 | 1.12 | $(76,205)$ | 277,761 | 0.88 |
| 1115B | POWERHOUSE | 2072 | 125-R4 | 0 | 13,653,945 | 143,721 | 1.05 | $(40,679)$ | 103,042 | 0.75 |
| 1115C | POWERHOUSE RENOVATIONS | 2072 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1115D | SPILLWAY | 2072 | 75-R2 | 0 | 2,841,355 | 39,847 | 1.40 | $(5,275)$ | 34,572 | 1.22 |
| 1115 E | WATER CONTROL SYSTEMS | 2072 | 50-S4 | 0 | 4,296,891 | 81,034 | 1.89 | $(23,695)$ | 57,339 | 1.33 |
| 1115F | ROADS AND SITE IMPROVEMENTS | 2072 | 50-R3 | 0 | 201,701 | 3,718 | 1.84 | $(1,185)$ | 2,533 | 1.26 |
| 1115G | TURBINES AND GENERATORS | 2072 | 65-S3 | 0 | 41,208,963 | 689,938 | 1.67 | $(75,531)$ | 614,407 | 1.49 |
| 1115H | GOVERNORS AND EXCITATION SYSTEM | 2072 | 50-R4 | 0 | 6,860 | 125 | 1.82 | (451) | (326) | 2.00 |
| 1115L | LICENCE RENEWAL | 2072 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1115P | A/C ELECTRICAL POWER SYSTEMS | 2072 | 50-R3 | 0 | 10,648,619 | 223,532 | 2.10 | $(36,104)$ | 187,428 | 1.76 |
| 1115Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2072 | 23-L2 | 0 | 3,821,416 | 163,482 | 4.28 | $(29,620)$ | 133,862 | 3.50 |
| 1115R | AUXILIARY STATION PROCESSES | 2072 | 40-R2.5 | 0 | 5,224,958 | 131,285 | 2.51 | $(25,391)$ | 105,894 | 2.03 |
| 1115X | SUPPORT BUILDINGS | 2072 | 65-R3 | 0 | 608,294 | 11,021 | 1.81 | (676) | 10,345 | 1.70 |
| 1115 W | SUPPORT BUILDING RENOVATIONS | 2072 | 20-SQ | 0 |  |  |  |  |  | 5.00 *** |
|  | TOTAL SEVEN SISTERS |  |  |  | 114,010,998 | 1,841,669 | 1.62 | $(314,814)$ | 1,526,855 | 1.34 |


| ACCOUNT | DEPRECIABLE WORK | LIFE SPAN DATE | ESTIMATED <br> SURVIVOR <br> CURVE <br> $(2)$ | $\begin{gathered} \text { ESTIMATED } \\ \text { NET } \\ \text { SALVAGE } \\ \hline(3) \end{gathered}$ | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL <br> PROVISIONFOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  |  |  |  | (5) | (6)=(5)/(4) |  | $(8)=(5)+(7)$ | (9)=(8)/(4) |
| 11200 | SLAVE FALLS |  |  |  |  |  |  |  |  |  |
| 1120A | DAMS, DYKES AND WEIRS | 2072 | 125-R4 | 0 | 954,684 | 14,817 | 1.55 | (153) | 14,664 | 1.54 |
| 1120B | POWERHOUSE | 2072 | 125-R4 | 0 | 45,692,194 | 663,677 | 1.45 | $(17,065)$ | 646,612 | 1.42 |
| 1120 C | POWERHOUSE RENOVATIONS | 2072 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1120 D | SPILLWAY | 2072 | 75-R2 | 0 | 760,201 | 15,394 | 2.03 | 58 | 15,452 | 2.03 |
| 1120E | WATER CONTROL SYSTEMS | 2072 | 50-S4 | 0 | 318,933 | 6,602 | 2.07 | (96) | 6,506 | 2.04 |
| 1120 F | ROADS AND SITE IMPROVEMENTS | 2072 | 50-R3 | 0 | 769,506 | 17,545 | 2.28 | (107) | 17,438 | 2.27 |
| 1120 G | TURBINES AND GENERATORS | 2072 | 65-S3 | 0 | 11,630,909 | 200,112 | 1.72 | $(4,924)$ | 195,188 | 1.68 |
| 1120 H | GOVERNORS AND EXCITATION SYSTEM | 2072 | 50-R4 | 0 |  |  |  |  |  | 2.00 |
| 1120L | LICENCE RENEWAL | 2072 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1120P | A/C ELECTRICAL POWER SYSTEMS | 2072 | 50-R3 | 0 | 21,815,741 | 505,179 | 2.32 | $(2,972)$ | 502,207 | 2.30 |
| 1120Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2072 | 23-L2 | 0 | 786,382 | 42,365 | 5.39 | 217 | 42,582 | 5.41 |
| 1120R | AUXILIARY STATION PROCESSES | 2072 | 40-R2.5 | 0 | 2,201,466 | 68,661 | 3.12 | 262 | 68,923 | 3.13 |
| 1120X | SUPPORT BUILDINGS | 2072 | 65-R3 | 0 | 3,724,095 | 67,791 | 1.82 | (955) | 66,836 | 1.79 |
| 1120w | SUPPORT BUILDING RENOVATIONS | 2072 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL SLAVE FALLS |  |  |  | 88,654,109 | 1,602,143 | 1.81 | $(25,735)$ | 1,576,408 | 1.78 |
| 11250 | PINE FALLS |  |  |  |  |  |  |  |  |  |
| 1125A | DAMS, DYKES AND WEIRS | 2092 | 125-R4 | 0 | 14,110,589 | 156,702 | 1.11 | $(6,323)$ | 150,379 | 1.07 |
| 1125B | POWERHOUSE | 2092 | 125-R4 | 0 | 10,060,843 | 87,828 | 0.87 | $(15,968)$ | 71,860 | 0.71 |
| 1125 C | POWERHOUSE RENOVATIONS | 2092 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1125D | SPILLWAY | 2092 | 75-R2 | 0 | 93,376 | 1,804 | 1.93 | 8 | 1,812 | 1.94 |
| 1125E | WATER CONTROL SYSTEMS | 2092 | 50-S4 | 0 | 3,564,106 | 67,205 | 1.89 | $(15,006)$ | 52,199 | 1.46 |
| 1125 F | ROADS AND SITE IMPROVEMENTS | 2092 | 50-R3 | 0 | 1,178,575 | 19,598 | 1.66 | $(18,921)$ | 677 | 0.06 |
| 1125G | TURBINES AND GENERATORS | 2092 | 65-S3 | 0 | 9,464,220 | 145,587 | 1.54 | $(25,177)$ | 120,410 | 1.27 |
| 1125 H | GOVERNORS AND EXCITATION SYSTEM | 2092 | 50-R4 | 0 |  |  |  |  |  | 2.00 |
| 1125L | LICENCE RENEWAL | 2092 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1125P | A/C ELECTRICAL POWER SYSTEMS | 2092 | 50-R3 | 0 | 5,071,108 | 104,504 | 2.06 | $(9,469)$ | 95,035 | 1.87 |
| 1125Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2092 | 23-L2 | 0 | 2,156,586 | 99,187 | 4.60 | $(3,305)$ | 95,882 | 4.45 |
| 1125R | AUXILIARY STATION PROCESSES | 2092 | 40-R2.5 | 0 | 3,790,230 | 99,575 | 2.63 | $(7,530)$ | 92,045 | 2.43 |
| 1125X | SUPPORT BUILDINGS | 2092 | 65-R3 | 0 | 336,412 | 5,683 | 1.69 | (241) | 5,442 | 1.62 |
| 1125W | SUPPORT BUILDING RENOVATIONS | 2092 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
| 11252 | COMMUNITY DEVELOPMENT COSTS | 2092 | 81-SQ | 0 | 4,425,543 | 54,434 | 1.23 | $(2,471)$ | 51,963 | 1.17 ** |
|  | TOTAL PINE FALLS |  |  |  | 54,251,587 | 842,107 | 1.55 | $(104,404)$ | 737,703 | 1.36 |
| 11300 | MCARTHUR FALLS |  |  |  |  |  |  |  |  |  |
| 1130A | DAMS, DYKES AND WEIRS | 2095 | 125-R4 | 0 | 3,578,068 | 32,928 | 0.92 | $(3,695)$ | 29,233 | 0.82 |
| 1130B | POWERHOUSE | 2095 | 125-R4 | 0 | 9,523,798 | 83,002 | 0.87 | $(12,467)$ | 70,535 | 0.74 |
| 1130 C | POWERHOUSE RENOVATIONS | 2095 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1130 D | SPILLWAY | 2095 | 75-R2 | 0 | 2,351,438 | 28,217 | 1.20 | $(4,929)$ | 23,288 | 0.99 |
| 1130 E | WATER CONTROL SYSTEMS | 2095 | 50-S4 | 0 | 11,703,203 | 238,168 | 2.04 | $(26,096)$ | 212,072 | 1.81 |
| 1130 F | ROADS AND SITE IMPROVEMENTS | 2095 | 50-R3 | 0 | 234,820 | 4,758 | 2.03 | (551) | 4,207 | 1.79 |
| 1130 G | TURBINES AND GENERATORS | 2095 | 65-S3 | 0 | 5,096,367 | 72,094 | 1.41 | $(44,855)$ | 27,239 | 0.53 |
| 1130 H | GOVERNORS AND EXCITATION SYSTEM | 2095 | 50-R4 | 0 | 119,315 | 2,513 | 2.11 | (166) | 2,347 | 1.97 |
| 1130L | LICENCE RENEWAL | 2095 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1130P | A/C ELECTRICAL POWER SYSTEMS | 2095 | 50-R3 | 0 | 2,480,539 | 45,912 | 1.85 | $(9,219)$ | 36,693 | 1.48 |
| 1130Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2095 | 23-L2 | 0 | 1,245,885 | 49,056 | 3.94 | $(4,082)$ | 44,974 | 3.61 |
| 1130R | AUXILIARY STATION PROCESSES | 2095 | 40-R2.5 | 0 | 3,440,197 | 90,405 | 2.63 | $(5,443)$ | 84,962 | 2.47 |
| 1130X | SUPPORT BUILDINGS | 2095 | 65-R3 | 0 | 227,212 | 3,840 | 1.69 | (133) | 3,707 | 1.63 |
| 1130W | SUPPORT BUILDING RENOVATIONS | 2095 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL MCARTHUR FALLS |  |  |  | 40,000,842 | 650,893 | 1.63 | $(111,636)$ | 539,257 | 1.35 |


| ACCOUNT | DEPRECIABLE WORK | LIFE SPAN DATE | EStIMATED SURVIVOR CURVE | ESTIMATED NET SALVAGE | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | (3) | (4) | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 11350 | KELSEY |  |  |  |  |  |  |  |  |  |
| 1135A | DAMS, DYKES AND WEIRS | 2101 | 125-R4 | 0 | 11,066,409 | 110,124 | 1.00 | $(3,623)$ | 106,501 | 0.96 |
| 1135B | POWERHOUSE | 2101 | 125-R4 | 0 | 27,569,817 | 239,892 | 0.87 | $(19,889)$ | 220,003 | 0.80 |
| 1135 C | POWERHOUSE RENOVATIONS | 2101 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1135D | SPILLWAY | 2101 | 75-R2 | 0 | 5,331,929 | 66,116 | 1.24 | $(2,091)$ | 64,025 | 1.20 |
| 1135E | WATER CONTROL SYSTEMS | 2101 | 50-S4 | 0 | 11,792,566 | 233,252 | 1.98 | $(20,286)$ | 212,966 | 1.81 |
| 1135F | ROADS AND SITE IMPROVEMENTS | 2101 | 50-R3 | 0 | 6,442,928 | 126,660 | 1.97 | $(12,225)$ | 114,435 | 1.78 |
| 1135G | TURBINES AND GENERATORS | 2101 | 65-S3 | 0 | 130,323,693 | 2,139,901 | 1.64 | $(18,996)$ | 2,120,905 | 1.63 |
| 1135H | GOVERNORS AND EXCITATION SYSTEM | 2101 | 50-R4 | 0 | 88,651 | 1,871 | 2.11 | (87) | 1,784 | 2.01 |
| 1135L | LICENCE RENEWAL | 2101 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1135P | A/C ELECTRICAL POWER SYSTEMS | 2101 | 50-R3 | 0 | 5,751,610 | 113,771 | 1.98 | $(12,141)$ | 101,630 | 1.77 |
| 1135Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2101 | 23-L2 | 0 | 3,595,490 | 162,610 | 4.52 | 3,100 | 165,710 | 4.61 |
| 1135 R | AUXILIARY STATION PROCESSES | 2101 | 40-R2.5 | 0 | 7,788,815 | 203,179 | 2.61 | $(4,650)$ | 198,529 | 2.55 |
| 1135X | SUPPORT BUILDINGS | 2101 | 65-R3 | 0 | 9,953,977 | 170,743 | 1.72 | $(2,021)$ | 168,722 | 1.70 |
| 1135W | SUPPORT BUILDING RENOVATIONS | 2101 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | total kelsey |  |  |  | 219,705,886 | 3,568,119 | 1.62 | $(92,910)$ | 3,475,209 | 1.58 |
| 11400 | GRAND RAPIDS |  |  |  |  |  |  |  |  |  |
| 1140A | DAMS, DYKES AND WEIRS | 2091 | 125-R4 | 0 | 53,468,974 | 514,944 | 0.96 | $(46,792)$ | 468,152 | 0.88 |
| 1140B | POWERHOUSE | 2091 | 125-R4 | 0 | 24,506,522 | 223,336 | 0.91 | $(25,953)$ | 197,383 | 0.81 |
| 1140 C | POWERHOUSE RENOVATIONS | 2091 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1140D | SPILLWAY | 2091 | 75-R2 | 0 | 5,308,334 | 68,207 | 1.28 | $(4,198)$ | 64,009 | 1.21 |
| 1140 E | WATER CONTROL SYSTEMS | 2091 | 50-S4 | 0 | 15,982,492 | 309,243 | 1.93 | $(61,544)$ | 247,699 | 1.55 |
| 1140F | ROADS AND SITE IMPROVEMENTS | 2091 | 50-R3 | 0 | 2,581,475 | 47,126 | 1.83 | $(15,904)$ | 31,222 | 1.21 |
| 1140G | TURBINES AND GENERATORS | 2091 | 65-S3 | 0 | 113,066,160 | 1,856,605 | 1.64 | $(81,564)$ | 1,775,041 | 1.57 |
| 1140 H | GOVERNORS AND EXCITATION SYSTEM | 2091 | 50-R4 | 0 | 42,718 | 897 | 2.10 | (44) | 853 | 2.00 |
| 1140 L | LICENCE RENEWAL | 2091 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1140P | A/C ELECTRICAL POWER SYSTEMS | 2091 | 50-R3 | 0 | 8,240,545 | 173,871 | 2.11 | $(12,341)$ | 161,530 | 1.96 |
| 1140Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2091 | 23-L2 | 0 | 4,674,247 | 165,394 | 3.54 | $(17,828)$ | 147,566 | 3.16 |
| 1140R | AUXILIARY STATION PROCESSES | 2091 | 40-R2.5 | 0 | 5,600,506 | 153,945 | 2.75 | $(3,785)$ | 150,160 | 2.68 |
| 1140X | SUPPORT BUILDINGS | 2091 | 65-R3 | 0 | 6,190,376 | 106,722 | 1.72 | $(2,100)$ | 104,622 | 1.69 |
| 1140W | SUPPORT BUILDING RENOVATIONS | 2091 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
| 11402 | COMMUNITY DEVELOPMENT COSTS | 2091 | 80-SQ | 0 | 101,442,997 | 1,268,037 | 1.25 | $(90,628)$ | 1,177,409 | 1.16 ** |
|  | TOTAL GRAND RAPIDS |  |  |  | 341,105,346 | 4,888,327 | 1.43 | $(362,682)$ | 4,525,645 | 1.33 |
| 11450 | KETTLE |  |  |  |  |  |  |  |  |  |
| 1145A | DAMS, DYKES AND WEIRS | 2111 | 125-R4 | 0 | 45,280,663 | 390,107 | 0.86 | $(34,169)$ | 355,938 | 0.79 |
| 1145B | POWERHOUSE | 2111 | 125-R4 | 0 | 146,207,420 | 1,262,257 | 0.86 | $(108,788)$ | 1,153,469 | 0.79 |
| 1145 C | POWERHOUSE RENOVATIONS | 2111 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1145 D | SPILLWAY | 2111 | 75-R2 | 0 | 25,406,960 | 337,913 | 1.33 | $(11,392)$ | 326,521 | 1.29 |
| 1145 E | WATER CONTROL SYSTEMS | 2111 | 50-S4 | 0 | 17,834,945 | 355,361 | 1.99 | $(173,994)$ | 181,367 | 1.02 |
| 1145F | ROADS AND SITE IMPROVEMENTS | 2111 | 50-R3 | 0 | 10,591 | 235 | 2.22 | (5) | 230 | 2.17 |
| 1145G | TURBINES AND GENERATORS | 2111 | 65-S3 | 0 | 70,740,028 | 1,123,607 | 1.59 | $(208,486)$ | 915,121 | 1.29 |
| 1145H | GOVERNORS AND EXCITATION SYSTEM | 2111 | 50-R4 | 0 | 3,304,326 | 64,753 | 1.96 | $(26,160)$ | 38,593 | 1.17 |
| 1145L | LICENCE RENEWAL | 2111 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1145P | A/C ELECTRICAL POWER SYSTEMS | 2111 | 50-R3 | 0 | 6,771,761 | 141,808 | 2.09 | $(11,636)$ | 130,172 | 1.92 |
| 1145Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2111 | 23-L2 | 0 | 12,001,279 | 430,663 | 3.59 | $(34,185)$ | 396,478 | 3.30 |
| 1145R | AUXILIARY STATION PROCESSES | 2111 | 40-R2.5 | 0 | 15,361,985 | 379,871 | 2.47 | $(50,094)$ | 329,777 | 2.15 |
| 1145X | SUPPORT BUILDINGS | 2111 | 65-R3 | 0 | 3,908,404 | 60,260 | 1.54 | $(10,284)$ | 49,976 | 1.28 |
| 1145W | SUPPORT BUILDING RENOVATIONS | 2111 | 20-SQ | 0 |  |  |  |  |  | 5.00 *** |
|  | TOTAL KETTLE |  |  |  | 346,828,362 | 4,546,835 | 1.31 | $(669,194)$ | 3,877,641 | 1.12 |


| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \\ & \text { DATE } \end{aligned}$ | estimated SURVIVOR CURVE | ESTIMATED <br> NET SALVAGE | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | (3) | (4) | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 11500 | LAURIE RIVER |  |  |  |  |  |  |  |  |  |
| 1150A | DAMS, DYKES AND WEIRS | 2032 | 125-R4 | 0 | 355,538 | 8,089 | 2.28 | 2,634 | 10,723 | 3.02 |
| 1150B | POWERHOUSE | 2032 | 125-R4 | 0 | 7,664,146 | 263,014 | 3.43 | 27,948 | 290,962 | 3.80 |
| 1150C | POWERHOUSE RENOVATIONS | 2032 | 25-SQ | 0 |  |  |  |  |  | 4.55 */** |
| 1150D | SPILLWAY | 2032 | 75-R2 | 0 | 870,000 | 24,012 | 2.76 | 6,380 | 30,392 | 3.49 |
| 1150E | WATER CONTROL SYSTEMS | 2032 | 50-S4 | 0 | 458,033 | 12,783 | 2.79 | 2,722 | 15,505 | 3.39 |
| 1150F | ROADS AND SITE IMPROVEMENTS | 2032 | 50-R3 | 0 | 1,441,914 | 41,644 | 2.89 | 10,679 | 52,323 | 3.63 |
| 1150G | TURBINES AND GENERATORS | 2032 | 65-S3 | 0 | 4,603,136 | 174,447 | 3.79 | 11,639 | 186,086 | 4.04 |
| 1150 H | GOVERNORS AND EXCITATION SYSTEM | 2032 | 50-R4 |  | 882,653 | 36,143 | 4.09 | 1,427 | 37,570 | 4.26 |
| 1150L | LICENCE RENEWAL | 2032 | 50-SQ | 0 |  |  |  |  |  | 4.55 */** |
| 1150P | A/C ELECTRICAL POWER SYSTEMS | 2032 | 50-R3 | 0 | 1,441,945 | 44,385 | 3.08 | 9,003 | 53,388 | 3.70 |
| 1150Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2032 | 23-L2 | 0 | 1,220,047 | 49,483 | 4.06 | 39,641 | 89,124 | 7.30 |
| 1150R | AUXILIARY STATION PROCESSES | 2032 | 40-R2.5 | 0 | 308,504 | 9,748 | 3.16 | 2,697 | 12,445 | 4.03 |
| 1150X | SUPPORT BUILDINGS | 2032 | 65-R3 | 0 | 355,919 | 9,254 | 2.60 | 2,622 | 11,876 | 3.34 |
| 1150W | SUPPORT BUILDING RENOVATIONS | 2032 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL LAURIE RIVER |  |  |  | 19,601,835 | 673,002 | 3.43 | 117,391 | 790,393 | 4.03 |
| 11550 | JENPEG |  |  |  |  |  |  |  |  |  |
| 1155A | DAMS, DYKES AND WEIRS | 2118 | 125-R4 | 0 | 15,295,318 | 135,504 | 0.89 | $(3,801)$ | 131,703 | 0.86 |
| 1155B | POWERHOUSE | 2118 | 125-R4 | 0 | 76,905,294 | 663,443 | 0.86 | $(24,816)$ | 638,627 | 0.83 |
| 1155 C | POWERHOUSE RENOVATIONS | 2118 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1155D | SPILLWAY | 2118 | 75-R2 | 0 | 14,942,733 | 206,583 | 1.38 | 10,126 | 216,709 | 1.45 |
| 1155E | WATER CONTROL SYSTEMS | 2118 | 50-S4 | 0 | 16,762,099 | 342,073 | 2.04 | $(72,470)$ | 269,603 | 1.61 |
| 1155F | ROADS AND SITE IMPROVEMENTS | 2118 | 50-R3 | 0 | 1,563,205 | 32,252 | 2.06 | $(1,292)$ | 30,960 | 1.98 |
| 1155G | TURBINES AND GENERATORS | 2118 | 65-S3 | 0 | 79,641,550 | 1,287,144 | 1.62 | $(88,046)$ | 1,199,098 | 1.51 |
| 1155H | GOVERNORS AND EXCITATION SYSTEM | 2118 | 50-R4 | 0 |  |  |  |  |  | 2.00 * |
| 1155L | LICENCE RENEWAL | 2118 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1155P | A/C ELECTRICAL POWER SYSTEMS | 2118 | 50-R3 | 0 | 19,308,049 | 377,217 | 1.95 | $(35,925)$ | 341,292 | 1.77 |
| 1155Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2118 | 23-L2 | 0 | 3,343,800 | 130,993 | 3.92 | 15,464 | 146,457 | 4.38 |
| 1155R | AUXILIARY STATION PROCESSES | 2118 | 40-R2.5 | 0 | 9,796,258 | 253,561 | 2.59 | $(4,392)$ | 249,169 | 2.54 |
| 1155X | SUPPORT BUILDINGS | 2118 | 65-R3 | 0 | 7,885,397 | 131,668 | 1.67 | $(1,490)$ | 130,178 | 1.65 |
| 1155W | SUPPORT BUILDING RENOVATIONS | 2118 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL JENPEG |  |  |  | 245,443,703 | 3,560,438 | 1.45 | $(206,644)$ | 3,353,794 | 1.37 |
| 11600 | LAKE WINNIPEG REGULATION |  |  |  |  |  |  |  |  |  |
| 1160A | DAMS, DYKES AND WEIRS |  | 125-R4 | 0 | 96,807,065 | 813,275 | 0.84 | $(79,651)$ | 733,624 | 0.76 |
| 1160L | LICENCE RENEWAL |  | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 11602 | COMMUNITY DEVELOPMENT COSTS |  | 100-SQ | 0 | 387,802,871 | 3,878,029 | 1.00 | $(223,323)$ | 3,654,706 | 0.94 ** |
|  | TOTAL LAKE WINNIPEG REGULATION |  |  |  | 484,609,937 | 4,691,304 | 0.97 | $(302,973)$ | 4,388,331 | 0.91 |
| 11650 | CHURCHILL RIVER DIVERSION |  |  |  |  |  |  |  |  |  |
| 1165A | DAMS, DYKES AND WEIRS |  | 125-R4 | 0 | 114,718,213 | 964,090 | 0.84 | $(13,751)$ | 950,339 | 0.83 |
| 1165D | SPILLWAY |  | 75-R2 | 0 | 56,442,246 | 778,903 | 1.38 | 67,622 | 846,525 | 1.50 |
| 1165E | WATER CONTROL SYSTEMS |  | 50-S4 | 0 | 17,583,551 | 358,391 | 2.04 | $(42,591)$ | 315,800 | 1.80 |
| 1165F | ROADS AND SITE IMPROVEMENTS |  | 50-R3 | 0 | 6,799,023 | 132,832 | 1.95 | $(1,007)$ | 131,825 | 1.94 |
| 1165L | LICENCE RENEWAL |  | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1165P | A/C ELECTRICAL POWER SYSTEMS |  | 50-R3 | 0 | 1,596,593 | 31,177 | 1.95 | (247) | 30,930 | 1.94 |
| 1165Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |  | 23-L2 | 0 | 1,417,862 | 36,897 | 2.60 | 14,977 | 51,874 | 3.66 |
| 1165R | AUXILIARY STATION PROCESSES |  | 40-R2.5 | 0 | 1,799,312 | 50,377 | 2.80 | 1,435 | 51,812 | 2.88 |
| 1165X | SUPPORT BUILDINGS |  | 65-R3 | 0 | 28,361 | 491 | 1.73 | 4 | 495 | 1.75 |
| 1165W | SUPPORT BUILDING RENOVATIONS |  | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
| $1165 Z$ | COMMUNITY DEVELOPMENT COSTS |  | 100-SQ | 0 | 305,036,524 | 3,050,365 | 1.00 | $(228,014)$ | 2,822,351 | 0.93 ** |
|  | TOTAL CHURCHILL RIVER DIVERSION |  |  |  | 505,421,684 | 5,403,523 | 1.07 | $(201,571)$ | 5,201,952 | 1.03 |


| ACCOUNT | DEPRECIABLE WORK | LIFE SPAN DATE | ESTIMATED SURVIVOR CURVE | estimated NET SALVAGE | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | (3) | (4) | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 11700 | LONG SPRUCE |  |  |  |  |  |  |  |  |  |
| 1170A | DAMS, DYKES AND WEIRS | 2118 | 125-R4 | 0 | 64,744,494 | 558,569 | 0.86 | $(19,500)$ | 539,069 | 0.83 |
| 1170B | POWERHOUSE | 2118 | 125-R4 | 0 | 143,780,355 | 1,240,493 | 0.86 | $(43,364)$ | 1,197,129 | 0.83 |
| 1170 C | POWERHOUSE RENOVATIONS | 2118 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1170D | SPILLWAY | 2118 | 75-R2 | 0 | 42,273,617 | 584,041 | 1.38 | 28,146 | 612,187 | 1.45 |
| 1170E | WATER CONTROL SYSTEMS | 2118 | 50-S4 | 0 | 57,946,281 | 1,182,124 | 2.04 | $(242,437)$ | 939,687 | 1.62 |
| 1170F | ROADS AND SITE IMPROVEMENTS | 2118 | 50-R3 | 0 | 1,172,867 | 23,483 | 2.00 | $(1,383)$ | 22,100 | 1.88 |
| 1170G | TURBINES AND GENERATORS | 2118 | 65-S3 | 0 | 143,328,643 | 2,323,085 | 1.62 | $(165,333)$ | 2,157,752 | 1.51 |
| 1170 H | GOVERNORS AND EXCITATION SYSTEM | 2118 | 50-R4 | 0 | 145,844 | 3,092 | 2.12 | (40) | 3,052 | 2.09 |
| 1170L | LICENCE RENEWAL | 2118 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1170P | A/C ELECTRICAL POWER SYSTEMS | 2118 | 50-R3 | 0 | 30,503,528 | 605,258 | 1.98 | $(41,664)$ | 563,594 | 1.85 |
| 1170Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2118 | 23-L2 | 0 | 4,409,200 | 127,168 | 2.88 | 20,949 | 148,117 | 3.36 |
| 1170 R | AUXILIARY STATION PROCESSES | 2118 | 40-R2.5 | 0 | 12,199,119 | 300,072 | 2.46 | $(12,642)$ | 287,430 | 2.36 |
| 1170X | SUPPORT BUILDINGS | 2118 | 65-R3 | 0 | 160,484 | 2,815 | 1.75 | (12, | 2,816 | 1.75 |
| 1170w | SUPPORT BUILDING RENOVATIONS | 2118 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL LONG SPRUCE |  |  |  | 500,664,431 | 6,950,200 | 1.39 | $(477,268)$ | 6,472,932 | 1.29 |
| 11750 | LIMESTONE |  |  |  |  |  |  |  |  |  |
| 1175A | DAMS, DYKES AND WEIRS | 2131 | 125-R4 | 0 | 33,258,073 | 288,035 | 0.87 | $(3,907)$ | 284,128 | 0.85 |
| 1175B | POWERHOUSE | 2131 | 125-R4 | 0 | 461,430,334 | 3,997,313 | 0.87 | $(53,896)$ | 3,943,417 | 0.85 |
| 1175 C | POWERHOUSE RENOVATIONS | 2131 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1175D | SPILLWAY | 2131 | 75-R2 | 0 | 201,240,773 | 3,035,196 | 1.51 | 156,773 | 3,191,969 | 1.59 |
| 1175 E | WATER CONTROL SYSTEMS | 2131 | 50-S4 | 0 | 116,224,392 | 2,405,845 | 2.07 | $(132,827)$ | 2,273,018 | 1.96 |
| 1175F | ROADS AND SITE IMPROVEMENTS | 2131 | 50-R3 | 0 | 17,164,432 | 363,550 | 2.12 | $(1,281)$ | 362,269 | 2.11 |
| 1175 G | TURBINES AND GENERATORS | 2131 | 65-S3 | 0 | 403,825,745 | 6,663,125 | 1.65 | $(141,734)$ | 6,521,391 | 1.61 |
| 1175 H | GOVERNORS AND EXCITATION SYSTEM | 2131 | 50-R4 | 0 | 16,584,271 | 346,998 | 2.09 | $(13,989)$ | 333,009 | 2.01 |
| 1175L | LICENCE RENEWAL | 2131 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1175P | A/C ELECTRICAL POWER SYSTEMS | 2131 | 50-R3 | 0 | 144,317,307 | 3,056,641 | 2.12 | $(10,784)$ | 3,045,857 | 2.11 |
| 1175Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2131 | 23-L2 | 0 | 8,333,373 | 339,021 | 4.07 | 50,445 | 389,466 | 4.67 |
| 1175R | AUXILIARY STATION PROCESSES | 2131 | 40-R2.5 | 0 | 36,054,205 | 940,241 | 2.61 | 22,659 | 962,900 | 2.67 |
| 1175X | SUPPORT BUILDINGS | 2131 | 65-R3 | 0 | 5,703,494 | 95,625 | 1.68 | 222 | 95,847 | 1.68 |
| 1175W | SUPPORT BUILDING RENOVATIONS | 2131 | 20-SQ | 0 |  |  |  |  |  | 5.00 ** |
|  | TOTAL LIMESTONE |  |  |  | 1,444,136,399 | 21,531,590 | 1.49 | $(128,319)$ | 21,403,271 | 1.48 |
| 11800 | WUSKWATIM |  |  |  |  |  |  |  |  |  |
| 1180A | DAMS, DYKES AND WEIRS | 2152 | 125-R4 | 0 |  |  |  |  |  | 0.80 * |
| 1180B | POWERHOUSE | 2152 | 125-R4 | 0 |  |  |  |  |  | 0.80 * |
| 1180 C | POWERHOUSE RENOVATIONS | 2152 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1180D | SPILLWAY | 2152 | 75-R2 | 0 |  |  |  |  |  | 1.33 * |
| 1180E | WATER CONTROL SYSTEMS | 2152 | 50-S4 | 0 |  |  |  |  |  | 2.00 |
| 1180F | ROADS AND SITE IMPROVEMENTS | 2152 | 50-R3 | 0 |  |  |  |  |  | 2.00 |
| 1180 G | TURBINES AND GENERATORS | 2152 | 65-S3 | 0 |  |  |  |  |  | 1.54 * |
| 1180 H | GOVERNORS AND EXCITATION SYSTEM | 2152 | 50-R4 | 0 |  |  |  |  |  | 2.00 * |
| 1180P | A/C ELECTRICAL POWER SYSTEMS | 2152 | 50-R3 | 0 |  |  |  |  |  | 2.00 * |
| 1180Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2152 | 23-L2 | 0 |  |  |  |  |  | 4.35 |
| 1180R | AUXILIARY STATION PROCESSES | 2152 | 40-R2.5 | 0 |  |  |  |  |  | 2.50 |
| 1180X | SUPPORT BUILDINGS | 2152 | 65-R3 | 0 |  |  |  |  |  | 1.54 * |
| 1180w | SUPPORT BUILDING RENOVATIONS | 2152 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL WUSKWATIM |  |  |  | 0 | 0 |  | 0 | 0 |  |
| 11990 | INFRASTRUCTURE SUPPORTING GENERATION |  |  |  |  |  |  |  |  |  |
| 1199F | PROVINCIAL ROADS |  | 50-R3 | 0 | 25,380,938 | 507,851 | 2.00 | 25,909 | 533,760 | 2.10 |
| 1199 V | TOWN SITE BUILDING |  | 65-L3 | 0 | 63,280,714 | 1,067,664 | 1.69 | 77,766 | 1,145,430 | 1.81 |
| 1199W | TOWN SITE BUILDINGS RENOVATIONS |  | 20-SQ | 0 | 13,502,581 | 674,829 | 5.00 | 79,558 | 754,387 | 5.59 ** |
| 1199 Y | TOWN SITE OTHER INFRASTRUCTURE |  | 45-R3 | 0 | 26,527,464 | 643,245 | 2.42 | 19,722 | 662,967 | 2.50 |
|  | TOTAL INFRASTRUCTURE SUPPORTING GENERATION |  |  |  | 128,691,696 | 2,893,589 | 2.25 | 202,955 | 3,096,544 | 2.41 |
|  | TOTAL HYDRAULIC GENERATION |  |  |  | 4,716,467,183 | 69,157,915 | 1.47 | $(3,303,866)$ | 65,854,049 | 1.40 |


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| ल |  |  | $\begin{aligned} & 0 \\ & \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  |  |  | \| | $\begin{aligned} & \widehat{0} \\ & \underset{\sim}{0} \\ & \underset{=}{0} \end{aligned}$ |  | oode io |  |  |  | $\begin{aligned} & \text { તo } \\ & \stackrel{-}{\circ} \\ & \stackrel{-}{\infty} \end{aligned}$ |  | － |

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243,278
210,228




$11,729,518$
$4,012,331$
$19,611,168$
$2,343,861$
$14,827,183$
$8,009,703$
$26,389,775$
$47,306,417$
$7,253,899$

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* The account has no balance as of March 31, 2010 and rate will be used on a go-forward basis for future additions.
** On amortized accounts any true-up of less than $10 \%$ is not considered significant.

SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ACCRUED DEPRECIATION | BOOK ACCUMULATED DEPRECIATION | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) | (2) | (3) | (4) | (5) $=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |
| $\underline{10000}$ | GENERATION |  |  |  |  |  |  |  |
| 11000 | HYDRAULIC GENERATION |  |  |  |  |  |  |  |
| 11050 | GREAT FALLS |  |  |  |  |  |  |  |
| 1105A | DAMS, DYKES AND WEIRS | 17,302,772 | 6,214,538 | 7,613,124 | $(1,398,586)$ | (0.23) | 51.3 | $(27,263)$ |
| 1105B | POWERHOUSE | 7,990,993 | 3,038,329 | 3,698,385 | $(660,056)$ | (0.22) | 50.6 | $(13,045)$ |
| 1105C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  | ** |
| 1105D | SPILLWAY | 9,676,327 | 3,727,033 | 3,999,802 | $(272,769)$ | (0.07) | 39.2 | $(6,958)$ |
| 1105E | WATER CONTROL SYSTEMS | 24,245,253 | 8,269,309 | 9,971,579 | $(1,702,270)$ | (0.21) | 33.5 | $(50,814)$ |
| 1105F | ROADS AND SITE IMPROVEMENTS | 213,964 | 10,408 | 11,365 | (957) | (0.09) | 39.7 | (24) |
| 1105G | TURBINES AND GENERATORS | 25,128,789 | 7,085,426 | 8,424,895 | $(1,339,469)$ | (0.19) | 44.1 | $(30,373)$ |
| 1105H | GOVERNORS AND EXCITATION SYSTEM | 492,218 | 161,825 | 193,442 | $(31,617)$ | (0.20) | 39.0 | (811) |
| 1105L | LICENCE RENEWAL | * |  |  |  |  |  | ** |
| 1105P | A/C ELECTRICAL POWER SYSTEMS | 9,493,088 | 3,314,653 | 3,714,794 | $(400,141)$ | (0.12) | 31.1 | $(12,866)$ |
| 1105Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 19,271,956 | 6,679,465 | 6,778,449 | $(98,984)$ | (0.01) | 13.2 | $(7,499)$ |
| 1105R | AUXILIARY STATION PROCESSES | 8,345,798 | 3,026,374 | 3,244,974 | $(218,600)$ | (0.07) | 24.0 | $(9,108)$ |
| 1105X | SUPPORT BUILDINGS | 1,495,253 | 638,944 | 750,898 | $(111,954)$ | (0.18) | 39.7 | $(2,820)$ |
| 1105W | SUPPORT BUILDING RENOVATIONS | * 1, |  |  |  |  |  | ** |
|  | TOTAL GREAT FALLS | 123,656,412 | 42,166,304 | 48,401,707 | $(6,235,403)$ | (0.15) |  | $(161,581)$ |
| 11100 | POINTE DU BOIS |  |  |  |  |  |  |  |
| 1110A | DAMS, DYKES AND WEIRS | 11,263,332 | 1,889,913 | 3,807,139 | $(1,917,226)$ | (1.01) | 21.0 | $(91,296)$ |
| 1110B | POWERHOUSE | 6,242,749 | 552,108 | 1,114,041 | $(561,933)$ | (1.02) | 21.0 | $(26,759)$ |
| 1110 C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  | ** |
| 1110 D | SPILLWAY - ORIGINAL | 3,104,842 | 717,684 | 1,300,951 | $(583,267)$ | (0.81) | 6.9 | $(84,531)$ |
| 1110 E | WATER CONTROL SYSTEMS | 4,027,603 | 814,575 | 1,644,546 | $(829,971)$ | (1.02) | 21.0 | $(39,522)$ |
| 1110F | ROADS AND SITE IMPROVEMENTS | 28,533 | 6,120 | 12,046 | $(5,926)$ | (0.97) | 20.1 | (295) |
| 1110G | TURBINES AND GENERATORS | 24,610,324 | 3,159,817 | 6,374,825 | $(3,215,008)$ | (1.02) | 21.0 | $(153,096)$ |
| 1110 H | GOVERNORS AND EXCITATION SYSTEM | * |  |  |  |  |  | ** |
| 1110L | LICENCE RENEWAL |  |  |  |  |  |  |  |
| 1110P | A/C ELECTRICAL POWER SYSTEMS | 6,057,709 | 481,479 | 947,448 | $(465,969)$ | (0.97) | 20.3 | $(22,954)$ |
| 1110Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 355,559 | 50,269 | 88,467 | $(38,198)$ | (0.76) | 14.8 | $(2,581)$ |
| 1110R | AUXILIARY STATION PROCESSES | 1,377,014 | 239,152 | 448,852 | $(209,700)$ | (0.88) | 18.5 | $(11,335)$ |
| 1110X | SUPPORT BUILDINGS | 2,616,290 | 666,189 | 1,324,449 | $(658,260)$ | (0.99) | 20.5 | $(32,110)$ ** |
| 1110W | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  |  |
| 1111D | SPILLWAY - NEW | * |  |  |  |  |  |  |
|  | TOTAL POINTE DU BOIS | 59,683,956 | 8,577,306 | 17,062,765 | $(8,485,459)$ | (0.99) |  | $(464,480)$ |
| 11150 | SEVEN SISTERS |  |  |  |  |  |  |  |
| 1115A | DAMS, DYKES AND WEIRS | 31,497,995 | 10,903,236 | 15,406,970 | $(4,503,734)$ | (0.41) | 59.1 | $(76,205)$ |
| 1115B | POWERHOUSE | 13,653,945 | 5,953,556 | 8,292,614 | $(2,339,058)$ | (0.39) | 57.5 | $(40,679)$ |
| 1115 C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  | ** |
| 1115D | SPILLWAY | 2,841,355 | 1,392,766 | 1,607,456 | $(214,690)$ | (0.15) | 40.7 | $(5,275)$ |
| 1115 E | WATER CONTROL SYSTEMS | 4,296,891 | 2,019,990 | 2,839,823 | $(819,833)$ | (0.41) | 34.6 | $(23,695)$ |
| 1115F | ROADS AND SITE IMPROVEMENTS | 201,701 | 102,573 | 142,642 | $(40,069)$ | (0.39) | 33.8 | $(1,185)$ |
| 1115G | TURBINES AND GENERATORS | 41,208,963 | 9,885,456 | 13,488,286 | $(3,602,830)$ | (0.36) | 47.7 | $(75,531)$ |
| 1115H | GOVERNORS AND EXCITATION SYSTEM | 6,860 | 5,805 | 8,062 | $(2,257)$ | (0.39) | 5.0 | (451) |
| 1115L | LICENCE RENEWAL | * |  |  |  |  |  | ** |
| 1115P | A/C ELECTRICAL POWER SYSTEMS | 10,648,619 | 3,796,763 | 4,966,536 | $(1,169,773)$ | (0.31) | 32.4 | $(36,104)$ |
| 1115Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 3,821,416 | 2,049,090 | 2,386,760 | $(337,670)$ | (0.16) | 11.4 | $(29,620)$ |
| 1115R | AUXILIARY STATION PROCESSES | 5,224,958 | 2,217,975 | 2,809,589 | $(591,614)$ | (0.27) | 23.3 | $(25,391)$ |
| 1115X | SUPPORT BUILDINGS | 608,294 | 105,899 | 137,334 | $(31,435)$ | (0.30) | 46.5 | (676) |
| 1115W | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  | ** |
|  | TOTAL SEVEN SISTERS | 114,010,998 | 38,433,109 | 52,086,073 | (13,652,964) | (0.36) |  | $(314,814)$ |

SCHEDULE 2．CALCULATED ACCRUED DEPRECIATION，BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE－UP
FOR THE TWELVE MONTHS ENDED MARCH 31， 2010





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| DESCRIPTION |
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|  |
| SLAVE FALLS |
| DAMS，DYKES AND WEIRS |
| POWERHOUSE |
| POWERHOUSE RENOVATIONS |
| SPILLWAY |
| WATER CONTROL SYSTEMS |
| ROADS AND SITE IMPROVEMENTS |
| TURBINES AND GENERATORS |
| GOVERNORS AND EXCITATION SYSTEM |
| LICENCE RENEWAL |
| A／C ELECTRICAL POWER SYSTEMS |
| INSTRUMENTAION，CONTROL AND D／C SYSTEMS |
| AUXILIARY STATION PROCESSES |
| SUPPORT BUILDINGS |
| SUPPORT BUILDING RENOVATIONS |
| TOTAL SLAVE FALLS |
| PINE FALLS |
| DAMS，DYKES AND WEIRS |
| POWERHOUSE |
| POWERHOUSE RENOVATIONS |
| SPILLWAY |
| WATER CONTROL SYSTEMS |
| ROADS AND SITE IMPROVEMENTS |
| TURBINES AND GENERATORS |
| GOVERNORS AND EXCITATION SYSTEM |
| LICENCE RENEWAL |
| A／C ELECTRICAL POWER SYSTEMS |
| INSTRUMENTATION，CONTROL AND D／C SYSTEMS |
| AUXILIARY STATION PROCESSES |
| SUPPORT BUILDINGS |
| SUPPORT BUILDING RENOVATIONS |
| COMMUNITY DEVELOPMENT COSTS |
| TOTAL PINE FALLS |
| MCARTHUR FALLS |
| DAMS，DYKES AND WEIRS |
| POWERHOUSE |
| POWERHOUSE RENOVATIONS |
| SPILLWAY |
| WATER CONTROL SYSTEMS |
| ROADS AND SITE IMPROVEMENTS |
| TURBINES AND GENERATORS |
| GOVERNORS AND EXCITATION SYSTEM |
| LICENCE RENEWAL |
| A／C ELECTRICAL POWER SYSTEMS |
| INSTRUMENTATION，CONTROL AND D／C SYSTEMS |
| AUXILIARY STATION PROCESSES |
| SUPPORT BUILDINGS |
| SUPPORT BUILDING RENOVATIONS |
| TOTAL MCARTHUR FALLS |
| TOTAL |
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| DESCRIPTION |
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|  |
| KELSEY |
| DAMS，DYKES AND WEIRS |
| POWERHOUSE |
| POWERHOUSE RENOVATIONS |
| SPILLWAY |
| WATER CONTROL SYSTEMS |
| ROADS AND SITE IMPROVEMENTS |
| TURBINES AND GENERATORS |
| GOVERNORS AND EXCITATION SYSTEM |
| LICENCE RENEWAL |
| A／C ELECTRICAL POWER SYSTEMS |
| INSTRUMENTATION，CONTROL AND D／C SYSTEMS |
| AUXILIARY STATION PROCESSES |
| SUPPORT BUILDINGS |
| SUPPORT BUILDING RENOVATIONS |
| TOTAL KELSEY |
| GRAND RAPIDS |
| DAMS，DYKES AND WEIRS |
| POWERHOUSE |
| POWERHOUSE RENOVATIONS |
| SPILLWAY |
| WATER CONTROL SYSTEMS |
| ROADS AND SITE IMPROVEMENTS |
| TURBINES AND GENERATORS |
| GOVERNORS AND EXCITATION SYSTEM |
| LICENCE RENEWAL |
| A／C ELECTRICAL POWER SYSTEMS |
| INSTRUMENTATION，CONTROL AND D／C SYSTEMS |
| AUXILIARY STATION PROCESSES |
| SUPPORT BUILDINGS |
| SUPPORT BUILDING RENOVATIONS |
| COMMUNITY DEVELOPMENT COSTS |
| TOTAL GRAND RAPIDS |
| KETTLE |
| DAMS，DYKES AND WEIRS |
| POWERHOUSE |
| POWERHOUSE RENOVATIONS |
| SPILLWAY |
| WATER CONTROL SYSTEMS |
| ROADS AND SITE IMPROVEMENTS |
| TURBINES AND GENERATORS |
| GOVERNORS AND EXCITATION SYSTEM |
| LICENCE RENEWAL |
| A／／ELECCRICAL POWER SYSTEMS |
| INSTRUMENTATION，CONTROL AND D／C SYSTEMS |
| AUXILIARY STATION PROCESSES |
| SUPPORT BUILDINGS |
| SUPPORT BUILDING RENOVATIONS |
| TOTAL KETTLE |
| TOTE |









TOTAL JENPEG
LAKE WINNIPEG REGULATION
LICENCE RENEWAL
COMMUNITY DEVELOPMENT COSTS
TOTAL LAKE WINNIPEG REGULATION
CHURCHILL RIVER DIVERSION
SPILLWAY
WATER CONTROL SYSTEMS
ROADS AND SITE IMPROVEMENTS
LICENCE RENEWAL

| A/C ELECTRICAL POWER SYSTEMS |
| :--- |
| INSTRUMENTATION, CONTROL AND D/C SYSTEMS |

AUXILIARY STATION PROCESSES
SUPPORT BUILDINGS
SUPPORT BUILDINGS
SUPPORT BUILDING RENOVATIONS
COMMUNITY DEVELOPMENT COSTS
TOTAL CHURCHILL RIVER DIVERSION





| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AT 03/31/2010 | $\begin{aligned} & \text { CALCULATED } \\ & \text { ACCRUED } \\ & \text { DEPRECIATION } \end{aligned}$ | BOOKACCUMULATEDDEPRECIATION | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) | (2) | (3) | (4) | (5) $=(3)$-(4) | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 11700 | LONG SPRUCE |  |  |  |  |  |  |  |
| 1170A | DAMS, DYKES AND WEIRS | 64,744,494 | 17,136,124 | 18,797,519 | $(1,661,395)$ | (0.10) | 85.2 | $(19,500)$ |
| 1170B | POWERHOUSE | 143,780,355 | 38,092,455 | 41,787,059 | $(3,694,604)$ | (0.10) | 85.2 | $(43,364)$ |
| 1170 C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  | ** |
| 1170D | SPILLWAY | 42,273,617 | 18,296,252 | 17,142,264 | 1,153,988 | 0.06 | 41.0 | 28,146 |
| 1170E | WATER CONTROL SYSTEMS | 57,946,281 | 37,207,115 | 41,449,762 | $(4,242,647)$ | (0.11) | 17.5 | $(242,437)$ |
| 1170F | ROADS AND SITE IMPROVEMENTS | 1,172,867 | 657,177 | 687,609 | $(30,432)$ | (0.05) | 22.0 | $(1,383)$ |
| 1170G | TURBINES AND GENERATORS | 143,328,643 | 72,028,075 | 77,103,787 | $(5,075,712)$ | (0.07) | 30.7 | $(165,333)$ |
| 1170 H | GOVERNORS AND EXCITATION SYSTEM | 145,844 | 20,097 | 21,732 | $(1,635)$ | (0.08) | 40.7 | (40) |
| 1170L | LICENCE RENEWAL | * |  |  |  |  |  | ** |
| 1170P | A/C ELECTRICAL POWER SYSTEMS | 30,503,528 | 17,655,095 | 18,542,547 | $(887,452)$ | (0.05) | 21.3 | $(41,664)$ |
| 1170Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 4,409,200 | 3,518,156 | 3,373,611 | 144,545 | 0.04 | 6.9 | 20,949 |
| 1170R | AUXILIARY STATION PROCESSES | 12,199,119 | 6,909,582 | 7,135,875 | $(226,293)$ | (0.03) | 17.9 | $(12,642)$ |
| 1170X | SUPPORT BUILDINGS | 160,484 | 18,662 | 18,618 | 44 | 0.00 | 50.4 | 1 |
| 1170W | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  | ** |
|  | total Long spruce | 500,664,431 | 211,538,790 | 226,060,384 | (14,521,594) | (0.07) |  | $(477,268)$ |
| 11750 | LIMESTONE |  |  |  |  |  |  |  |
| 1175A | DAMS, DYKES AND WEIRS | 33,258,073 | 5,378,081 | 5,756,238 | $(378,157)$ | (0.07) | 96.8 | $(3,907)$ |
| 1175B | POWERHOUSE | 461,430,334 | 74,262,785 | 79,485,351 | $(5,222,566)$ | (0.07) | 96.9 | $(53,896)$ |
| 1175C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  | ** |
| 1175D | SPILLWAY | 201,240,773 | 56,703,974 | 49,241,598 | 7,462,376 | 0.13 | 47.6 | 156,773 |
| 1175E | WATER CONTROL SYSTEMS | 116,224,392 | 44,988,138 | 48,919,806 | $(3,931,668)$ | (0.09) | 29.6 | $(132,827)$ |
| 1175F | ROADS AND SITE IMPROVEMENTS | 17,164,432 | 6,795,781 | 6,832,303 | $(36,522)$ | (0.01) | 28.5 | $(1,281)$ |
| 1175G | TURBINES AND GENERATORS | 403,825,745 | 124,076,655 | 130,029,479 | $(5,952,824)$ | (0.05) | 42.0 | $(141,734)$ |
| 1175 H | GOVERNORS AND EXCITATION SYSTEM | 16,584,271 | 6,439,021 | 6,847,507 | $(408,486)$ | (0.06) | 29.2 | $(13,989)$ |
| 1175L | LICENCE RENEWAL | * |  |  |  |  |  | ** |
| 1175P | A/C ELECTRICAL POWER SYSTEMS | 144,317,307 | 57,149,653 | 57,457,004 | $(307,351)$ | (0.01) | 28.5 | $(10,784)$ |
| 1175Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 8,333,373 | 5,237,449 | 4,778,396 | 459,053 | 0.09 | 9.1 | 50,445 |
| 1175R | AUXILIARY STATION PROCESSES | 36,054,205 | 16,111,470 | 15,631,104 | 480,366 | 0.03 | 21.2 | 22,659 |
| 1175X | SUPPORT BUILDINGS | 5,703,494 | 1,625,607 | 1,616,130 | 9,477 | 0.01 | 42.6 | 222 |
| 1175W | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  | ** |
|  | TOTAL LIMESTONE | 1,444,136,399 | 398,768,614 | 406,594,917 | $(7,826,303)$ | (0.02) |  | $(128,319)$ |
| 11800 | WUSKWATIM |  |  |  |  |  |  |  |
| 1180A | DAMS, DYKES AND WEIRS | * |  |  |  |  |  |  |
| 1180B | POWERHOUSE | * |  |  |  |  |  |  |
| 1180C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  | ** |
| 1180D | SPILLWAY | * |  |  |  |  |  |  |
| 1180E | WATER CONTROL SYSTEMS | * |  |  |  |  |  |  |
| 1180F | ROADS AND SITE IMPROVEMENTS | * |  |  |  |  |  |  |
| 1180G | TURBINES AND GENERATORS | * |  |  |  |  |  |  |
| 1180 H | GOVERNORS AND EXCITATION SYSTEM | * |  |  |  |  |  |  |
| 1180P | A/C ELECTRICAL POWER SYSTEMS | * |  |  |  |  |  |  |
| 1180Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | * |  |  |  |  |  |  |
| 1180R | AUXILIARY STATION PROCESSES | * |  |  |  |  |  |  |
| 1180X | SUPPORT BUILDINGS | * |  |  |  |  |  |  |
| 1180w | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  | ** |
|  | TOTAL WUSKWATIM | 0 | 0 | 0 | 0 | 0.00 |  | 0 |
| 11990 | INFRASTRUCTURE SUPPORTING GENERATION |  |  |  |  |  |  |  |
| 1199F | PROVINCIAL ROADS | 25,380,938 | 14,256,798 | 13,691,986 | 564,812 | 0.04 | 21.8 | 25,909 |
| 1199V | TOWN SITE BUILDINGS | 63,280,714 | 21,821,338 | 18,850,678 | 2,970,660 | 0.14 | 38.2 | 77,766 |
| 1199W | TOWN SITE BUILDINGS RENOVATIONS | 13,502,581 | 2,082,369 | 809,439 | 1,272,930 | 0.61 | 16.0 | 79,558 ** |
| 1199Y | TOWN SITE OTHER INFRASTRUCTURE | 26,527,464 | 6,785,574 | 6,187,988 | 597,586 | 0.09 | 30.3 | 19,722 |
|  | TOTAL INFRASTRUCTURE SUPPORTING GENERATION | 128,691,696 | 44,946,079 | 39,540,091 | 5,405,988 | 0.12 |  | 202,955 |
|  | TOTAL HYDRAULIC GENERATION | 4,716,467,183 | 1,387,538,329 | 1,536,957,059 | (149,418,730) | (0.11) |  | (3,303,866) |

MANITOBA HYDRO
SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010



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| SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ACCRUED DEPRECIATION | Bоок ACCUMULATED DEPRECIATION |
| :---: | :---: | :---: |
| (2) | (3) | (4) |
| 11,729,518 | 7,632,440 | 7,309,729 |
| 4,012,331 | 2,328,563 | 2,223,066 |
| 19,611,168 | 10,357,790 | 9,929,941 |
| 2,343,861 | 1,203,338 | 1,159,256 |
| 14,827,183 | 9,606,334 | 9,136,797 |
| 8,009,703 | 5,163,840 | 4,909,693 |
| 26,389,775 | 18,364,654 | 16,247,252 |
| 47,306,417 | 28,484,735 | 26,692,451 |
| 7,253,899 | 4,385,802 | 4,205,706 |
| 141,483,855 | 87,527,496 | 81,813,891 |
| 14,925,029 | 1,823,651 | 2,280,114 |
| 9,823,758 | 1,575,357 | 1,952,163 |
| 143,284,091 | 44,692,977 | 52,513,510 |
| 6,252,586 | 1,040,520 | 1,200,472 |
| 1,114,338 | 244,755 | 258,878 |
| 10,639,560 | 2,211,095 | 2,379,753 |
| 186,039,362 | 51,588,355 | 60,584,890 |
| 6,808,812 | 4,128,965 | 6,606,843 |
| 1,630,443 | 707,589 | 1,096,260 |
| 22,750,003 | 8,478,353 | 13,369,871 |
| 17,307 | 6,360 | 10,050 |
| 48,630,259 | 10,023,062 | 14,243,657 |
| 3,171,700 | 1,919,424 | 3,013,273 |
| 5,257,468 | 2,814,592 | 3,837,942 |
| 13,791,022 | 6,369,464 | 9,558,873 |
| 1,033,229 | 450,923 | 691,355 |




DESCRIPTION


 (13,136,174)





## THERMAL GENERATION

BRANDON UNIT 5 (COAL)
POWERHOUSE
POWERHOUSE RENOVATIONS
ROADS AND SITE IMPROVEMENTS
THERMAL TURBINES AND GENERATORS
THERMAL TURBINES AND GENERATORS
GOVERNORS AND EXCITATION SYSTEM
STEAM GENERATOR AND AUXILIARIES
LICENCE RENEWAL
A/C ELECTRICAL POWER SYSTEMS
A/C ELECTRICAL POWER SYSTEMS
INSTRUMENTATION, CONTROL AND D/C SYSTEMS
AUXILIARY STATION PROCESSES
AUXILIARY STATION PROCESSES
SUPPORT BUILDINGS TOTAL BRANDON UNIT 5 (COAL) BRANDON UNITS 6 AND 7

POWERHOUSE
POWERHOUSE RENOVATIONS
THERMAL TURBINES AND GENERATORS
THERMAL TURBINES AND GENERATORS
GOVERNORS AND EXCITATION SYSTEM
COMBUSTION TURBINE
COMBUSTION TURBINE
COMBUSTION TURBINE OVERHAULS
A/C ELECTRICAL POWER SYSTEMS
INSTRUMENTATION, CONTROL AND D/C SYSTEMS
INSTRUMENTATION, CONTROL AND D/C SYSTEMS
AUXILIARY STATION PROCESSES TOTAL BRANDON UNITS 6 AND 7
SELKIRK
POWERHOUSE POWERHOUSE RENOVATIONS
ROADS AND SITE IMPROVEMENTS ROADS AND SITE IMPROVEMENTS
THERMAL TURBINES AND GENERATORS
GOVERNORS AND EXCITATION SYSTEM
 STEAM GENERATOR AND AUXILIARIES
ICENCE RENEWAL A/C ELECTRICAL POWER SYSTEMS
INSTRUMENTATION, CONTROL AND D/C SYSTEMS INSTRUMENTATION, CONTROL AND D/C SYSTEMS
AUXILIARY STATION PROCESSES SUPPORT BUILDINGS
SUPPORT BUILDING RENOVATIONS TOTAL SELKIRK TOTAL THERMAL GENERATION TOTAL GENERATION diesel generation BUILDINGS BUILDING RENOVATIONS
ENGINES AND GENERATORS - OVERHAULS
ENGINES AND GENERATORS

ENGINES AND GENERATORS
ACCESSORY STATION EQUIPMENT
FUEL STORAGE AND HANDLING

욱



| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AT 03/31/2010 | $\begin{aligned} & \text { CALCULATED } \\ & \text { ACCRUED } \\ & \text { DEPRECIATION } \end{aligned}$ | $\begin{gathered} \text { BOOK } \\ \text { ACCUMULATED } \\ \text { DEPRECIATION } \end{gathered}$ | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) | (2) | (3) | (4) | (5) $=(3)$-(4) | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |
|  | TRANSMISSION |  |  |  |  |  |  |  |
| 2000F | ROADS, TRAILS AND BRIDGES | 4,045,718 | 1,118,735 | 937,453 | 181,282 | 16.20 | 28.5 | 6,361 |
| 2000G | METAL TOWERS AND CONCRETE POLES | 340,022,220 | 90,153,172 | 99,791,962 | $(9,638,790)$ | (10.69) | 59.8 | $(161,184)$ |
| 2000 J | POLES AND FIXTURES | 104,983,312 | 31,662,039 | 37,079,466 | $(5,417,427)$ | (17.11) | 36.6 | $(148,017)$ |
| 2000K | GROUND LINE TREATMENT | 1,410,002 | 406,685 | 384,224 | 22,461 | 5.52 | 7.1 | ** |
| 2000L | OVERHEAD CONDUCTOR AND DEVICES | 304,577,152 | 101,223,234 | 131,135,862 | $(29,912,628)$ | (29.55) | 44.1 | $(678,291)$ |
| 2000M | UNDERGROUND CABLE AND DEVICES | 1,167,763 | 668,351 | 669,421 | $(1,070)$ | (0.16) | 19.5 | (55) |
|  | TOTAL TRANSMISSION | 756,206,167 | 225,232,216 | 269,998,388 | $(44,766,172)$ | (19.88) |  | $(981,186)$ |
|  | SUBSTATIONS |  |  |  |  |  |  |  |
| 3000B | BUILDINGS | 109,491,690 | 43,169,830 | 48,643,362 | $(5,473,532)$ | (12.68) | 39.1 | $(139,988)$ |
| 3000 C | BUILDING RENOVATIONS | 32,047 | 13,582 | 15,351 | $(1,769)$ | (13.03) | 11.5 | (154) ** |
| 3000F | ROADS, STEEL STRUCTURES AND CIVIL SITE WORK | 109,211,425 | 30,704,401 | 36,248,752 | ( $5,544,351$ ) | (18.06) | 36.0 | $(154,010)$ |
| 3000 J | POLES AND FIXTURES | 7,810,315 | 2,159,493 | 2,630,995 | $(471,502)$ | (21.83) | 25.4 | $(18,563)$ |
| 3100R | POWER TRANSFORMERS | 287,449,387 | 81,301,746 | 84,754,364 | (3,452,618) | (4.25) | 31.1 | $(111,017)$ |
| 3100S | OTHER TRANSFORMERS | 72,153,356 | 28,485,678 | 31,244,518 | $(2,758,840)$ | (9.69) | 20.2 | $(136,576)$ |
| 3100T | INTERRUPTING EQUIPMENT | 156,214,257 | 57,460,857 | 62,510,255 | $(5,049,398)$ | (8.79) | 26.8 | $(188,410)$ |
| $3100 \cup$ | OTHER STATION EQUIPMENT | 503,404,372 | 177,009,144 | 190,927,472 | $(13,918,328)$ | (7.86) | 26.0 | $(535,320)$ |
| 3100 V | ELECTRONIC EQUIPMENT AND BATTERIES | 151,238,104 | 72,646,527 | 79,225,503 | $(6,578,976)$ | (9.06) | 11.2 | $(587,409)$ |
| 3200M | SYNCHRONOUS CONDENSERS AND TRANSFORMERS - HVDC | 111,737,981 | 39,137,448 | 40,432,632 | $(1,295,184)$ | (3.31) | 38.9 | $(33,295)$ |
| 3200 N | SYNCHRONOUS CONDENSER OVERHAULS - HVDC | 11,320,594 | 2,820,878 | 2,861,617 | $(40,739)$ | (1.44) | 9.8 | $(4,157)$ |
| 3200P | CONVERTOR EQUIPMENT - HVDC | 214,981,687 | 114,636,506 | 138,795,432 | $(24,158,926)$ | (21.07) | 14.4 | $(1,677,703)$ |
| 3200S | SERIALIZED EQUIPMENT - HVDC | 646,219,985 | 325,860,262 | 367,310,621 | $(41,450,359)$ | (12.72) | 14.1 | $(2,939,742)$ |
| 32000 | ACCESSORY STATION EQUIPMENT - HVDC | 55,177,090 | 23,419,465 | 29,083,976 | $(5,664,511)$ | (24.19) | 25.2 | $(224,782)$ |
| 3200 V | ELECTRONIC EQUIPMENT AND BATTERIES - HVDC | 10,401,883 | 6,589,238 | 7,206,990 | $(617,752)$ | (9.38) | 8.6 | $(71,832)$ |
|  | TOTAL SUBSTATIONS | 2,446,844,172 | 1,005,415,055 | 1,121,891,841 | $(116,476,786)$ | (11.58) |  | $(6,822,958)$ |
|  | distribution |  |  |  |  |  |  |  |
| 4000A | UNDERGROUND DUCT AND CONDUIT - CONCRETE | 63,964,331 | 11,217,533 | 12,951,513 | $(1,733,980)$ | (15.46) | 67.9 | $(25,537)$ |
| 4000 C | UNDERGROUND DUCT - ROOF | 2,908,307 | 145,836 | 153,212 | $(7,376)$ | (5.06) | 41.0 | (180) |
| 4000G | METAL TOWERS | 4,571,448 | 1,173,035 | 2,355,833 | $(1,182,798)$ | (100.83) | 37.0 | $(31,968)$ |
| 4000 J | POLES AND FIXTURES | 566,174,558 | 127,369,656 | 264,136,310 | $(136,766,654)$ | (107.38) | 40.3 | (3,393,713) |
| 4000K | GROUND LINE TREATMENT | 33,145,019 | 15,894,039 | 16,746,756 | $(852,717)$ | (5.37) | 5.7 | ** |
| 4000L | OVERHEAD CONDUCTOR AND DEVICES | 613,820,471 | 134,801,042 | 245,433,977 | $(110,632,935)$ | (82.07) | 40.1 | $(2,758,926)$ |
| 4000M | UNDERGROUND CABLE AND DEVICES - 66 KV | 19,523,432 | 2,161,937 | 2,297,161 | $(135,224)$ | (6.25) | 55.0 | $(2,459)$ |
| 4000N | UNDERGROUND CABLE AND DEVICES - PRIMARY | 255,063,759 | 51,410,314 | 59,472,977 | $(8,062,663)$ | (15.68) | 46.0 | $(175,275)$ |
| 4000P | UNDERGROUND CABLE AND DEVICES - SECONDARY | 193,755,072 | 48,230,397 | 55,909,148 | $(7,678,751)$ | (15.92) | 33.1 | $(231,986)$ |
| 4000Q | SERIALIZED EQUIPMENT - OVERHEAD | 175,924,348 | 60,006,665 | 82,981,927 | $(22,975,262)$ | (38.29) | 23.9 | $(961,308)$ |
| 4000R | DSC - HIGH VOLTAGE TRANSFORMERS | 5,415,940 | 509,552 | 706,487 | $(196,935)$ | (38.65) | 34.8 | $(5,659)$ |
| 4000 S | SERIALIZED EQUIPMENT - UNDERGROUND | 174,049,772 | 43,083,841 | 58,998,471 | $(15,914,630)$ | (36.94) | 29.3 | $(543,161)$ |
| 4000 V | ELECTRONIC EQUIPMENT |  |  |  |  |  |  | ** |
| 4000w | SERVICES | 123,228,795 | 44,884,752 | 59,460,620 | $(14,575,868)$ | (32.47) | 18.6 | $(783,649)$ |
| 4000X | STREET LIGHTING | 147,121,573 | 61,545,017 | 72,708,967 | $(11,163,950)$ | (18.14) | 21.1 | $(529,097)$ |
|  | TOTAL DISTRIBUTION | 2,378,666,825 | 602,433,616 | 934,313,358 | (331,879,742) | (55.09) |  | (9,442,919) |
|  | METERS |  |  |  |  |  |  |  |
| 4900 V | METERS - ELECTRONIC | 16,111,185 | 5,320,309 | 1,490,413 | 3,829,896 | 71.99 | 11.1 | 345,036 |
| 4900Y | METERS - ANALOG | 22,469,156 | 16,861,536 | 5,931,142 | 10,930,394 | 64.82 | 4.4 | 2,484,180 |
| 4900Z | METERING TRANSFORMERS | 8,984,899 | 3,313,305 | 3,413,836 | $(100,531)$ | (3.03) | 22.6 | $(4,448)$ |
|  | TOTAL METERS | 47,565,240 | 25,495,150 | 10,835,391 | 14,659,759 | 57.50 |  | 2,824,768 |

SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP
 $\begin{array}{r}1,040,565 \\ \hline 31,840,320 \\ 245,574 \\ 780,870 \\ 3,831,869 \\ 988,096 \\ 1,343,144 \\ (521,431) \\ (414,059) \\ \hline 6,254,062 \\ \hline\end{array}$


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 SURVIVING
ORIGINAL COST
AT O33/312010
 $309,269,905$





 408,757,981 $78,461,837$
$48,379,758$
$21,256,896$
 $*$ The account has no balance as of March 31,2010 and will be used on a go-forward basis for future additions.

* On amortized account any true-up of less than 1000 is not considered significant.
$* \times$ True-up was deemed as not significant or has been limited to the annual depreciation expenses.

MANITOBA HYDRO<br>WINNIPEG, MANITOBA

## DEPRECIATION STUDY

# CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES APPLICABLE TO DEPRECIABLE ASSETS IN SERVICE AS OF MARCH 31, 2010 

## DRAFT



# Gannett Fleming 

Excellence Delivered As Promised

November 2, 2011

Manitoba Hydro
360 Portage Avenue
Winnipeg, Manitoba R3C 0G8

Attention: Mr. Vince Warden, Vice President<br>Finance \& Administration<br>And Chief Financial Officer

## Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to the electric generation, transmission, substation, distribution and general plant systems of Manitoba Hydro as of March 31, 2010. Our report presents a description of the methods used in the estimation of depreciation, the statistical analyses of service life and the summary and detailed tabulations of annual and accrued depreciation.

The calculated annual depreciation accrual rates presented in the report are applicable to plant in service as of March 31, 2010. The depreciation rates are based on the straight-line method, equal life group procedure applied on a whole life basis, using the equal life group procedure, with any accumulated depreciation variances amortized over the estimated remaining life of the assets.

Respectfully submitted, GANNETT FLEMING, INC.

## DRAFT

LARRY E. KENNEDY
Director, Canadian Services Valuation and Rate Division

LEK/hac
Project: 052988.100

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PART I. INTRODUCTION

## MANITOBA HYDRO

DEPRECIATION STUDY

## CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES APPLICABLE TO DEPRECIABLE ASSETS IN SERVICE AS OF MARCH 31, 2010

## PART I. INTRODUCTION

## SCOPE

This report sets forth the results of the depreciation study conducted for the depreciable assets of Manitoba Hydro ("Company") to determine the annual depreciation accrual rates and amounts for financial reporting purposes applicable to the original cost of plant as of March 31, 2010.

The depreciation accrual rates presented herein are based on generallyaccepted methods and procedures for calculating depreciation. The estimated survivor curves used in this report are based on studies incorporating data through 2010.

Part I, Introduction, contains statements with respect to the scope of the report and the basis of the study. Part II, Methods Used in the Estimation of Depreciation, presents the methods used in the estimation of average service lives and survivor curves used in the calculation of depreciation. Part III, Results of Study, presents a summary of annual depreciation. A separate document presenting statistical analysis of service life estimates and the detailed tabulations of annual depreciation is also provided.

## BASIS OF THE STUDY

Depreciation. The depreciation accrual rates and accrued depreciation were calculated using the straight line method, the equal life group (ELG) procedure, applied
on a whole life basis. The calculation was based on the attained ages and estimated service life for each depreciable group of assets, as of March 31, 2010.

Service Life Estimates. The method of estimating service life consisted of compiling the service life history of the plant accounts and subaccounts, reducing this history to trends through the use of analytical techniques that have been generally accepted in various regulatory jurisdictions, and forecasting the trend of survivors for each depreciable group on the basis of interpretations of past trends and consideration of Company plans for the future. The combination of the historical trend and the estimated future trend yielded a complete pattern of life characteristics from which the average service life was derived. The service life estimates used in the depreciation calculation incorporated historical data compiled through March 31, 2010. Such data included plant additions, retirements, transfers and other plant activity.

A general understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirement was obtained through interviews with Company representatives. The information gained through these discussions with company representatives was also used in the development of the average service life estimates.

International Financial Reporting Standards The Canadian Accounting Standards Board has announced that Canadian Generally Accepted Accounting Principles (GAAP) will be converged to comply, for reporting purposes, with the International Financial Reporting Standards (IFRS) by 2011¹. Gannett Fleming views

[^6]the depreciation methods and procedures as recommended in this report will comply with IFRS.

In preparation for this change, Gannett Fleming has developed depreciation rates and parameters that are in compliance with the new standard. As such, this study has included the following changes from previous Manitoba Hydro depreciation studies:

- Inclusion of a significant number of new accounts in order to comply with the componentization requirements of the International Accounting Standard ("IAS")

16;

- Elimination of the pre-collection of costs of removal; and
- Incorporation of the Equal Life Group Procedure (ELG).

Gannett Fleming has reviewed the depreciable groupings established by Manitoba Hydro and believes that the groups, as provided to Gannett Fleming, are in conformance with the componentization requirements of IFRS and continue to provide a reasonable grouping of homogeneous assets for regulatory purposes.

IFRS does not allow for any recognition of costs of removal within the depreciation expense. Removal of these costs for financial disclosure purposes is required in order to comply with IFRS and as such, all cost of removal provisions have been removed from this study.

In the view of Gannett Fleming, group accounting methods using the ELG procedure are compliant with the new standard. The ELG procedure provides a precise matching of service life estimates to depreciation expense.

## RECOMMENDATIONS

The calculated annual depreciation accrual rates set forth herein apply specifically to plant in service as of March 31, 2010. Continued surveillance and periodic revisions are normally required to maintain continued use of appropriate depreciation rates, and to comply with the standards as set out in International Accounting Standard ("IAS") 16 of IFRS.

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

PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

## PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

## DEPRECIATION

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

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

The calculation of annual and accrued depreciation based on the straight line method requires the estimation of survivor curves and the selection of group depreciation procedures. These subjects are discussed in the sections that follow.

## ESTIMATION OF SURVIVOR CURVES

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

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

Figure 1. A Typical Survivor Curve and Derived Curves
lowa Type Curves. The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the lowa type curves. There are four families in the lowa system, labeled in accordance with the location of the modes of the retirements in relationship to the average life and the relative height of the modes. The left moded curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded curves, presented in Figure 3, are those in which the greatest frequency of retirement occurs at average service life. The right moded curves, presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves ( $\mathrm{L}, \mathrm{S}, \mathrm{R}$ or O ) represents the location of the mode of the associated frequency curve with respect to the average service life. The numbers represent the relative heights of the modes of the frequency curves within each family.

The lowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the

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

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

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

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

Experiment Station's Bulletin $125 .{ }^{2}$ These curve types have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation." ${ }^{3}$ In 1957, Frank V. B. Couch, Jr., an lowa State College graduate student, submitted a thesis ${ }^{4}$ presenting his development of the fourth family consisting of the four O type survivor curves.

Retirement Rate Method of Analysis. The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to property groups for which aged accounting experience is available and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text, and is also explained in several publications, including "Statistical Analyses of Industrial Property Retirements," ${ }^{5}$ "Engineering Valuation and Depreciation," ${ }^{6}$ and "Depreciation Systems." ${ }^{7}$

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginning of the age intervals during the same period. The period of observation is referred to as the experience band, and the band of years which represent the installation dates of the property exposed to retirement

[^7]during the experience band is referred to as the placement band. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

Schedules of Annual Transactions in Plant Records. The property group used to illustrate the retirement rate method is observed for the experience band 2001-2010 during which there were placements during the years 1996-2010. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Tables 1 and 2 on pages II-12 and II-14. In Table 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, $\$ 10,000$ of the dollars invested in 1996 were retired in 2001. The $\$ 10,000$ retirement occurred during the age interval between $41 / 2$ and $51 / 2$ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of $\$ 143,000$ retired for age interval $41 / 2-51 / 2$ is the

| Experience Band 2001-2010 |  |  |  |  |  |  |  |  |  |  | Placement Band 1996-2010 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Retirements, Thousands of Dollars |  |  |  |  |  |  |  |  |  |  |  |
| Year $\longrightarrow$ During Year |  |  |  |  |  |  |  |  |  |  | Total During Age Interval | $\begin{gathered} \text { Age } \\ \text { Interval } \end{gathered}$ |
| (1) | $\frac{2001}{(2)}$ | $\frac{2002}{(3)}$ | $\frac{2003}{(4)}$ | $\frac{2004}{(5)}$ | $\frac{2005}{(6)}$ | $\frac{2006}{(7)}$ | $\frac{2007}{(8)}$ | $\frac{2008}{(9)}$ | $\frac{2009}{(10)}$ | $\frac{2010}{(11)}$ | (12) | (13) |
| 1996 | 10 | 11 | 12 | 13 | 14 | 16 | 23 | 24 | 25 | 26 | 26 | 131/2-141/2 |
| 1997 | 11 | 12 | 13 | 15 | 16 | 18 | 20 | 21 | 22 | 19 | 44 | 121/2-131/2 |
| 1998 | 11 | 12 | 13 | 14 | 16 | 17 | 19 | 21 | 22 | 18 | 64 | 111/2-121/2 |
| 1999 | 8 | 9 | 10 | 11 | 11 | 13 | 14 | 15 | 16 | 17 | 83 | 101/2-111/2 |
| 2000 | 9 | 10 | 11 | 12 | 13 | 14 | 16 | 17 | 19 | 20 | 93 | $91 / 2-10^{1 / 2}$ |
| 2001 | 4 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 20 | 105 | $8{ }^{1 / 2}-9 \frac{1 / 2}{}$ |
| 2002 |  | 5 | 11 | 12 | 13 | 14 | 15 | 16 | 18 | 20 | 113 | 71/2-81/2 |
| 2003 |  |  | 6 | 12 | 13 | 15 | 16 | 17 | 19 | 19 | 124 | $6{ }^{1 / 2}-7 \frac{1}{2}$ |
| 2004 |  |  |  | 6 | 13 | 15 | 16 | 17 | 19 | 19 | 131 | $5112-61 / 2$ |
| 2005 |  |  |  |  | 7 | 14 | 16 | 17 | 19 | 20 | 143 | 41/2-51/2 |
| 2006 |  |  |  |  |  | 8 | 18 | 20 | 22 | 23 | 146 | $3{ }^{1 / 2}-4 \frac{1}{2}$ |
| 2007 |  |  |  |  |  |  | 9 | 20 | 22 | 25 | 150 | $2^{1 / 2}-3^{1 / 2}$ |
| 2008 |  |  |  |  |  |  |  | 11 | 23 | 25 | 151 | 11/2-21/2 |
| 2009 |  |  |  |  |  |  |  |  | 11 | 24 | 153 | 1/2-11/2 |
| 2010 |  |  | - |  |  |  | - | - |  | 13 | 80 | 0-1/2 |
| Total | $\underline{\underline{53}}$ | $\underline{\underline{68}}$ | 86 | $\underline{\underline{106}}$ | 128 | $\underline{\underline{157}}$ | $\underline{\underline{196}}$ | $\underline{231}$ | $\underline{\underline{273}}$ | $\underline{308}$ | 1.606 |  |

sum of the retirements entered on Table 1 immediately above the stair step line drawn on the table beginning with the 2001 retirements of 1996 installations and ending with the 2010 retirements of the 2005 installations. Thus, the total amount of 143 for age interval $41 / 2-51 / 2$ equals the sum of:

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

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

Schedule of Plant Exposed to Retirement. The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Table 3 on page II-15. The surviving plant at the beginning of each year from 2001 through 2010 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Table 3 for each successive year following the beginning balance or addition are obtained by adding or subtracting the net entries shown on Tables 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown
TABLE 2. OTHER TRANSACTIONS FOR EACH YEAR 2001-2010
Acquisitions, Transfers and Sales, Thousands of Dollars

| Placed | Acquisitions, Transfers and Sales, Thousands of Dollars |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | During Year |  |  |  |  |  |  |  |  |  |
|  | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| 1996 | - | - | - | - | - | - | $60^{\text {a }}$ | - | - | - |
| 1997 | - | - | - | - | - | - | - | - | - | - |
| 1998 | - | - | - | - | - | - | - | - | - | - |
| 1999 | - | - | - | - | - | - | - | $(5)^{\text {b }}$ | - | - |
| 2000 | - | - | - | - | - | - | - | $6^{\text {a }}$ | - | - |
| 2001 |  | - | - | - | - | - | - | - | - | - |
| 2002 |  |  | - | - | - | - | - | - | - | - |
| 2003 |  |  | - | - | - | - | - | - | - | - |
| 2004 |  |  |  | - | - | - | - | $(12)^{\text {b }}$ | - | - |
| 2005 |  |  |  |  | - | - | - | - | $22^{\text {a }}$ | - |
| 2006 |  |  |  |  |  | - | - | $(19){ }^{\text {b }}$ | - | - |
| 2007 |  |  |  |  |  |  | - | - | - | - |
| 2008 |  |  |  |  |  |  |  | - | - | $(102)^{\text {c }}$ |
| 2009 |  |  |  |  |  |  |  |  | - | - |
| 2010 | - |  | - |  | - | - | - |  | - | - |
| Total | $\underline{-}$ | $\underline{-}$ | $\underline{-}$ | $\underline{-}$ | $\underline{-}$ | $\underline{-}$ | $\underline{\underline{60}}$ | (30) | $\underline{22}$ | (102) |



잉

Total $\doteq \doteq \doteq \doteq \doteq$
 Sale with Continued Use

Parentheses denote Credit amount.
TABLE 3. PLANT EXPOSED TO RETIREMENT JANUARY 1
SUMMARIZED BY AGE INTERVAL
Placement Band 1996-2010

|  | Exposures, Thousands of Dollars |  |  |  |  |  |  |  |  |  | Total at Beginning of Age Interval | Age Interval |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Annual Survivors at the Beginning of the Year |  |  |  |  |  |  |  |  |  |  |  |
| Year Placed | 2001 | $\underline{2002}$ | 2003 | $\underline{2004}$ | 2005 | 2006 | $\underline{2007}$ | 2008 | 2009 | 2010 |  |  |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
| 1996 | 255 | 245 | 234 | 222 | 209 | 195 | 239 | 216 | 192 | 167 | 167 | 131/2-141/2 |
| 1997 | 279 | 268 | 256 | 243 | 228 | 212 | 194 | 174 | 153 | 131 | 323 | 121/2-131/2 |
| 1998 | 307 | 296 | 284 | 271 | 257 | 241 | 224 | 205 | 184 | 162 | 531 | 111/2-121/2 |
| 1999 | 338 | 330 | 321 | 311 | 300 | 289 | 276 | 262 | 242 | 226 | 823 | 101/2-111/2 |
| = 2000 | 376 | 367 | 357 | 346 | 334 | 321 | 307 | 297 | 280 | 261 | 1,097 | 9112-101/2 |
| 宁 2001 | $420^{\text {a }}$ | 416 | 407 | 397 | 386 | 374 | 361 | 347 | 332 | 316 | 1,503 | 81/2-91/2 |
| 2002 |  | $460^{\text {a }}$ | 455 | 444 | 432 | 419 | 405 | 390 | 374 | 356 | 1,952 | $71 / 2-81 / 2$ |
| 2003 |  |  | $510^{\text {a }}$ | 504 | 492 | 479 | 464 | 448 | 431 | 412 | 2,463 | 61/2-71/2 |
| 2004 |  |  |  | $580{ }^{\text {a }}$ | 574 | 561 | 546 | 530 | 501 | 482 | 3,057 | 5112-61/2 |
| 2005 |  |  |  |  | $660^{\text {a }}$ | 653 | 639 | 623 | 628 | 609 | 3,789 | 41/2-51/2 |
| 2006 |  |  |  |  |  | $750^{\text {a }}$ | 742 | 724 | 685 | 663 | 4,332 | $31 / 2-41 / 2$ |
| 2007 |  |  |  |  |  |  | $850^{\text {a }}$ | 841 | 821 | 799 | 4,955 | 21/2-31/2 |
| 2008 |  |  |  |  |  |  |  | $960^{\text {a }}$ | 949 | 926 | 5,719 | 11/2-21/2 |
| 2009 |  |  |  |  |  |  |  |  | 1,080 ${ }^{\text {a }}$ | 1,069 | 6,579 | $1 / 2-11 / 2$ |
| 2010 |  |  |  |  |  | - |  |  |  |  | 7,490 | 0-1/2 |
| Total | $\underline{1,975}$ | $\underline{\underline{2,382}}$ | $\underline{\underline{2,824}}$ | $\underline{\underline{3,318}}$ | 3,872 | $\underline{4,494}$ | 5,247 | $\underline{6,017}$ | $\underline{\underline{6,852}}$ | $\underline{\underline{7,799}}$ | 44,780 |  |

at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2006 are calculated in the following manner:

| Exposures at age $0=$ amount of addition | $=\$ 750,000$ |
| :--- | :--- |
| Exposures at age $1 / 2=\$ 750,000-\$ 8,000$ | $=\$ 742,000$ |
| Exposures at age $11 / 2=\$ 742,000-\$ 18,000$ | $=\$ 724,000$ |
| Exposures at age $21 / 2=\$ 724,000-\$ 20,000-\$ 19,000$ | $=\$ 685,000$ |
| Exposures at age $31 / 2=\$ 685,000-\$ 22,000$ |  |

For the entire experience band 2001-2010, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Table 1). For example, the figure of 3,789 , shown as the total exposures at the beginning of age interval $41 / 2-51 / 2$, is obtained by summing:

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

Original Life Table. The original life table, illustrated in Table 4 on page II-17, is developed from the totals shown on the schedules of retirements and exposures, Tables 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios,

TABLE 4. ORIGINAL LIFE TABLE CALCULATED BY THE RETIREMENT RATE METHOD
(Exposure and Retirement Amounts are in Thousands of Dollars)

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

Column 2 from Table 3, Column 12, Plant Exposed to Retirement.
Column 3 from Table 1, Column 12, Retirements for Each Year.
Column 4 = Column 3 divided by Column 2.
Column $5=1.0000$ minus Column 4.
Column $6=$ Column 5 multiplied by Column 6 as of the Preceding Age Interval.
each of which equals one minus the retirement ratio. The percent surviving is developed by starting with $100 \%$ at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age $51 / 2$ are as follows:

| Percent surviving at age $41 / 2$ | $=88.15$ |  |
| :--- | :--- | ---: |
| Exposures at age $41 / 2$ | $=3,789,000$ |  |
| Retirements from age $41 / 2$ to $51 / 2$ | $=143,000$ |  |
| Retirement Ratio | $=143,000 \div 3,789,000=0.0377$ |  |
| Survivor Ratio | $=$ | $1.000-0.0377=0.9623$ |
| Percent surviving at age $51 / 2$ | $=$ | $(88.15) \times(0.9623)=84.83$ |

The totals of the exposures and retirements (columns 2 and 3 ) are shown for the purpose of checking with the respective totals in Tables 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless.

The original survivor curve is plotted from the original life table (column 6, Table 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

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

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the lowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Table 4 is compared with the $L, S$, and $R$ lowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0.

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

## Compliance of the Retirement Rate Method of Analysis to IFRS

The Canadian Accounting Standards Board has announced that Canadian Generally Accepted Accounting Principles (GAAP) will cease to exist as of a target date in 2011 (or 2012 for regulated entities that elect to defer implementation for 1 year). As of that date many organizations will be required to report under the International Financial Accounting Standards (IFRS). The International Accounting Standard (IAS) 16 deals with the recognition and reporting of property, plant and equipment.

This standard requires that the depreciation expense associated with an asset be aligned with the expected service life of the asset. Gannett Fleming notes that the




requirements and implementation of IFRS are generally aligned with the appropriate and reasonable depreciation practices and procedures commonly used for regulatory purposes.

In the view of Gannett Fleming, the use of an lowa curve in the estimation of average service life and retirement expectations of a group of homogenous assets meets the requirements of IAS 16 . However, the account structure of the utility must be analyzed to ensure that the assets included in each group are like in nature and service of the asset to the utility is similar. In this manner, it can be expected that any one of the assets in the group are equally likely to be subjected to any of the forces of retirement to which the group of assets are subjected.

In order to better meet the componentization requirements as discussed above, and to continue to use group accounting and depreciation practices, the company reviewed the type of physical assets included in all plant accounts. As a result of this review, Manitoba Hydro has developed a significant number of new accounts, particularly with regard to electric generation plant. Also as part of this development of new accounts, the company has recreated a database of aged plant accounting retirements and balances. Gannett Fleming used this database to perform a detailed retirement rate analysis as described previously in the report. In a limited number of accounts, Manitoba Hydro was not able to develop aged retirement balances. In these circumstances, Gannett Fleming statistically aged the unaged transactions in order that the retirement rate analysis could be completed for all accounts.

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

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

## GENERATION ACCOUNTS

Gannett Fleming developed unique depreciation rate calculations for each of the hydraulic generation plants in order to specially recognize the life span of each of the plants. However, the retirement rate analysis was prepared on the basis of a grouping at an account level of the plant accounting data related to the combined databases from all hydraulic generation sites. Therefore, the analyses presented in Section IV of the Supporting Documents and as discussed below, are based on the combined data from all locations for each account.

Account Grouping A - Dams, Dykes and Weirs, represents $10 \%$ of the generation and $4.3 \%$ of depreciable assets studied. The investment in this account related mainly to the geo-technical components, including the earthen structures. Company management and operational staff have indicated that these structures were engineered to a high standard in order to provide an increased level of safety and longevity. Additionally, the operational staff views that the environmental conditions to which the investment in this account is exposed will result in a slower erosion of the
physical structures. As such, it is expected that the investment in this account would have a longer average life expectation than many of the peer group of Canadian electric generation utilities. Additionally, on a yearly basis the company invests between $\$ 4$ and $\$ 5$ million on dam safety programs throughout its system.

The retirement rate analysis as presented on pages IV-3 through IV-5 has reviewed the retirement history from 1952 through 2010. The currently approved Iowa curve related to these assets is the lowa 100-R3. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate and an increase to the mode of the retirement dispersion curve to the lowa 125-R4.

Account Grouping B - Powerhouse, represents $20 \%$ of the generation assets and $8.4 \%$ of the depreciable assets studied. The investment in this account relates to the powerhouses and civil buildings, including the structural and concrete components.

The hydraulic generation powerhouses are normally part of the physical concrete dam structure. However, in the circumstance of the Grand Rapids generation site, the powerhouse is physically located behind the dam in a separate structure. Based on the retirement rate analysis as presented on pages IV-7 through IV-9 and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the lowa 125-R4 from the lowa 100-R3 curve for the civil assets related to the hydraulic assets. In this recommendation, the average service life characteristics of the powerhouses will be matched to the estimated retirement dispersion related to the Dams, Dykes and Weirs account.

With regard to the powerhouses related to thermal generation plants, the powerhouse is more typical of industrial concrete or steel buildings. As such it is estimated that the average service life associated with powerhouse buildings related to thermal plant locations would have a shorter average service life than the estimates for the hydraulic generation sites. Therefore, based on the expectations of operational staff, Gannett Fleming recommends continuation of the currently approved lowa 65-R4 curve for thermal assets.

Account Grouping D - Spillway, represents 7\% of the generation assets and $3.1 \%$ of the depreciable assets studied. The typical average service lives for spillways within the Canadian electric generation industry range from 60 to 100 years. The investment in this account was, in previous deprecation studies, included in the large group of civil assets and depreciated with an lowa 100-R3 curve. Given the ability to separately analyze this investment, based on the retirement rate analysis as presented on pages IV-11 through IV-13 of the supporting documents and on the expectations of operational staff, Gannett Fleming recommends the reduction of the average service life estimate for this account to the lowa 75-R2 curve.

Account Grouping E - Water Control Systems, represents $6 \%$ of the generation assets and $2.5 \%$ of the depreciated assets studied. The investment in this account includes the investment related to gates, guides and hoists. These types of assets are subjected to wear and tear and will require replacement over the life of the generation plant. The average service life estimates among Canadian peer utilities range from 45 to 75 years.

Interviews with company operational staff have indicated an expectation of a 50 year life. The investment in this account was, in previous deprecation studies, included in the large group of civil assets and depreciated with an lowa 100-R3 curve. Based on the retirement rate analysis as presented on pages IV-15 through IV-17 of the supporting documents, and on the expectations of operational staff, Gannett Fleming recommends the use of a 50-year average service life estimate and an increase in the mode of the lowa curve from R3 to S4, resulting in a recommended lowa 50-S4 curve.

Account Grouping P - A/C Electrical Power Systems, represents $22 \%$ of the generation assets and $9.2 \%$ of the depreciable assets studied. The investment in this account relates to the station electric transformer and station service. The assets in this account were previously depreciated with the Accessory Station Equipment using the lowa 50-R3 curve. With the separation of this account, a retirement rate analysis was undertaken. Based on the retirement rate analysis as presented on pages IV-34 through IV-36 and on the expectations of operational staff, Gannett Fleming recommends the continued use of the lowa $50-\mathrm{R} 3$, as shown on page IV-33 of the Supporting Documents.

Life Span Estimates. Life expectancy of electric generation plant assets are impacted by not only physical wear and tear of the assets but also on economic factors including the feasibility of the economic replacement of major operating components or the economic viability of the plant as a whole. In circumstances where the replacement of major operating components is not economically feasible, the life of the major component can be the determining factor of the generation plant and all of the assets within the plant. As such, the depreciable remaining life of electric generation plant
assets is the lesser of the physical life expectation of the asset or the period at the end of the life span of the generation plant.

The use of life span dates for determining depreciable lives for regulated electric generation plant is common through many North American Regulatory jurisdictions. The basis for the determination of the life span date is usually based on one or all of the following:

- The physical life estimation of the major and vital components of the generating plant;
- The duration of operating licenses;
- Precedent and policy of the regulatory jurisdiction;
- Expiration of the supply source for which the generation plant is dependent; and
- Expiration of market demand upon which the generation plant is dependent.

In prior depreciation reviews, Manitoba Hydro has determined a life span date for most of the regulated hydraulic plants based on an overall life estimate of 100 years. The management and operational staff of Manitoba Hydro have reviewed this policy and determined that the economic life of the generation plants should be extended to 140 years beyond the date of initial construction. The application of this policy was reviewed for its reasonableness at each of the generation plants and was modified in three circumstances as follows:

- Pointe du Bois - March 31, 2031 (125 years)
- Grand Rapids - March 31, 2091 (125 years)
- Laurie River - March 31, 2032 (80 years)


## DIESEL ACCOUNTS

Account 1300B - Buildings, represents $21 \%$ of the diesel assets and less than $1 \%$ of the depreciable assets studied. The statistical analysis indicates a 30-year average service life expectation. In addition, the Diesel Buildings are subjected to increased amounts of wear and tear than other generation buildings within the Manitoba Hydro system, and therefore will have a shorter life expectation. Based on the retirement rate analysis as presented on page IV-56, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the $30-\mathrm{R} 3$ from the 18-R2 lowa curve which was previously used.

Account 1300 N - Engines and Generators, represents $41 \%$ of the diesel assets and less than 1\% of the depreciable assets studied. The statistical analysis indicates a life of approximately 25 years. The operational staff at Manitoba Hydro also confirms the life expectation of 25 years. In addition, the industry peer average service life estimates range from 20 to 30 years. Based on the retirement rate analysis as presented on page IV-58, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account to the Iowa 25-R2.

Account 1300Q - Accessory Station Equipment, represents 30\% of the diesel assets and less than 1\% of the depreciable assets studied. The investment in this account includes the investment related to step-up transformers, and control panels which were all replaced approximately 15 to 20 years ago. Based on the retirement rate analysis presented on page IV-60, and on the expectations of operational staff, Gannett

Fleming recommends the extension of the average service life estimate for this account to the lowa 20-R3.

## TRANSMISSION ACCOUNTS

Account 2000G - Metal Towers and Concrete Poles, represents $45 \%$ of the transmission assets and $2.8 \%$ of the depreciable assets studied. The company had a previously approved life estimate of 85 years for this account. The original survivor curve as shown on page IV-67 indicated a modest level of retirement activity through age 42, with an indication of increased retirement activity thereafter. The transmission towers have historically withstood environmental influences such as ice storms, severe winter conditions, and corrosion. There are some replacements that will be required with the need to replace the 105-year old towers from Point du Bois, but there are no other significant replacement plans over the next 25 to 30 years. The industry average service life ranges from 50 to 65 years.

Interviews with company operational staff have indicated an expectation of a longer life than the industry peers. Based on the retirement rate analysis as presented on pages IV-68 through IV-70 of the supporting documents, and on the expectations of operational staff, Gannett Fleming recommends the continued use of an 85-year average service life estimate and an increase in the mode of the lowa curve from R3 to R4, resulting in a recommended lowa 85-R4 curve.

Account 2000L - Overhead Conductor and Devices, represents 40\% of the transmission assets and 3\% of the depreciable assets studied. The retirement pattern shows only modest retirements up until age 22 and retirements increasing at a low rate thereafter. Based on the retirement rate analysis as presented on pages IV-75 through
$\mathrm{V}-77$, and on the expectations of operational staff, Gannett Fleming recommends the extension of the average service life estimate for this account from a 60-L4 lowa curve to the lowa 65-R4.

## SUBSTATION ACCOUNTS

Account 3100R - Power Transformers, represents $12 \%$ of the substations assets and $2 \%$ of the depreciable assets studied. The retirement pattern shows modest retirements starting about year five and increasing thereafter. The operational staff has not identified any problems with Manitoba Hydro's transformers. Manitoba Hydro also has a standard practice to repair through operating budgets for as long of a period as possible in order to extend the lives as long as possible for transformers. Additionally, newer transformers are expected to have shorter lives than the older units, as the new units are being manufactured to tighter capacity tolerances. The typical industry lives range from 40 to 60 years. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 50-R2 curve.

Account 3100T - Interrupting Equipment, represents 6\% of the substations assets and $1 \%$ of the depreciable assets studied. The retirement pattern shows modest retirements starting about year five and increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 45-R2 curve.

Account 3100U - Other Station Equipment, represents $21 \%$ of the substations assets and $4 \%$ of the depreciable assets studied. Comparable utilities with the electric industry have lives ranging from 45 to 53 years. The retirement pattern shown at page IV-99 shows modest retirements starting about year five and increasing thereafter.

Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 43-R2 curve.

Account 3100V - Electronic Equipment and Batteries, represents 6\% of the substations assets and $1 \%$ of the depreciable assets studied. Comparable utilities within the electric industry have lives ranging from 15 and 25 years. The retirement pattern as shown at page IV-103 shows modest retirements starting about year five and increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa curve of 20-R2.

Account 3200P - Convertor Equipment HVDC, represents 9\% of the substations assets and $2 \%$ of the depreciable assets studied. The retirement pattern as shown on page IV-108 shows modest retirements starting about year nine and slowly increasing until about age 25 and increasing at a faster rate thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 25-R3 curve.

Account 3200S - Serialized Equipment-HVDC, represents $26 \%$ of the substations assets and 5\% of the depreciable assets studied. The retirement pattern as shown on page IV-110 shows retirements starting at year two and then increasing thereafter. Based on the retirement rate analysis, and on the expectations of operational staff, Gannett Fleming recommends an lowa 25-R2 curve.

## DISTRIBUTION ACCOUNTS

Account 4000J - Poles and Fixtures, represents $24 \%$ of the distribution assets and $5 \%$ of the depreciable assets studied. The poles are a mix of pine and cedar with wood poles making up about $99.5 \%$ of the poles in service. Typical industry lives for
wood poles range from 38 to 55 years. The retirement rate analysis as shown on pages IV-122 and IV-123 has indicated a preliminary average service life estimate of the Iowa 34-R3, which was at the short end of the range of peer industry comparable companies.

Manitoba Hydro operational staff confirmed the Gannett Fleming view that the statistically developed 34-year average service life estimate was too short for this account, and should have an average service life of at least 55 to 60 years. Based on all factors, Gannett Fleming recommends an lowa 55-R3 curve, which maintains the retirement dispersion shape from the retirement rate analysis, conforms to the view of the Manitoba Hydro operational staff, and is within the range of industry peers.

Account 4000L - Overhead Conductor and Devices, represents $26 \%$ of the distribution assets and $5.1 \%$ of the depreciable assets studied. The retirement rate analysis as shown on pages IV-125 and IV-126 has indicated a preliminary average service life estimate of the lowa 32-R2, which was at the short end of the range of peer industry comparable companies. Typical industry averages show lives ranging from 45 to 60 years, which is longer than the statistically developed life estimate of 32 years.

Operational staff indicated they are seeing no major issues with conductors and they would expect lives to be longer than the 55-year life estimate recommended for the poles account as the conductor is not always replaced when poles are retired. Based on all factors, Gannett Fleming recommends an lowa 60-R2 curve, which maintains the retirement dispersion shape from the retirement rate analysis, conforms to the view of the Manitoba Hydro operational staff, and is within the range of industry peers.

Account 4000N - Underground Cable and Devices - Primary, represents $11 \%$ of the distribution assets and $2 \%$ of the depreciable assets studied. Operational staff
indicated there are no major issues with newer underground cable installed within the last 25 years. However, the older cable previously installed was of inferior quality and is starting to be retired at about 45 years. Typical industry averages show lives ranging from 40 to 80 years. Based on the retirement rate analysis as shown on pages IV-130 and 131 and on the expectations of operational staff and industry comparables, Gannett Fleming recommends an lowa 60-R4 curve.

Account 4000P - Underground Cable and Devices - Secondary, represents 8\% of the distribution assets and $2 \%$ of the depreciable assets studied. The newer underground cable is about 25 years old and is showing no major issues according to Manitoba Hydro's operational staff. In addition, the older underground cable is starting to retire at about 45 years. Typical industry averages are indicating lives between 40 and 80 years. Based on the retirement rate analysis as shown on pages IV-133 and IV134 the expectations of operational staff along with industry comparables, Gannett Fleming recommends an lowa 45-R4 curve.

Account 40000 - Serialized Equipment - Overhead, represents $8 \%$ of the distribution assets and $2 \%$ of the depreciable assets studied. The investment in this account primarily relates to pole top transformers. Interviews with operational staff indicated the company intends to continue to refurbish and reuse transformers. Comparable Industry averages range from 27 to 45 years. Based on the expectations of operational staff along with industry comparables, Gannett Fleming recommends an Iowa 35-R3 curve.

Account 4000S - Serialized Equipment - Underground, represents 7\% of the distribution assets and $1 \%$ of the depreciable assets studied. The investment in this
account primarily relates to pad mounted transformers for underground service. Interviews with operational staff indicated the company intends to continue to refurbish and reuse these transformers. Comparable industry averages range from 27 to 45 years. Based on the expectations of operational staff along with industry comparables, Gannett Fleming recommends an lowa 40-R3 curve.

The survivor curve estimates for the remaining accounts were based on similar considerations of historical analyses, management outlook and estimates for this company and other electric utilities.

## NET SALVAGE ESTIMATES

This report is developed to be in compliance with the requirements of IFRS for financial reporting purposes. The pre-collection of future costs of removal within depreciation expense is not compliant with the standards. Manitoba Hydro has requested that all net negative salvage provisions be removed from the depreciation rate calculations. To the extent that it is necessary to remove existing assets in order to replace them, the costs of removal will be recorded as a capital cost of the replacement assets at the time of the retirement of the assets currently in service.

IAS 16 does provide for the recognition of residual value of assets at the time of retirement to be recognized in depreciation expense. Therefore, a residual salvage calculation has been incorporated into the depreciation rates for a number of general plant accounts.

## CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

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

The difference in calculation of depreciation expense derived from ELG and ASL can best be explained with the use of a simple example.

ASL Versus ELG Example. Assume one plant account with a total cost of \$2,000 is comprised of two subgroups of assets, each with an original cost of $\$ 1,000$. The first group has a life of 5 years, while the second group has a life of 15 years.

Under both procedures the average life of this plant account would equal 10 years $(15+5) / 2$. With the ASL procedure this average life would be used to determine the depreciation accruals for the first 5 years as follows:

$$
(\$ 2,000 / 10 \text { years })=\$ 200 \text { per year }
$$

The accrual for years 6 through 15 would be as follows:
$(\$ 1,000 / 10$ years $)=\$ 100$ per year
Under the ELG procedure, the expense for each sub group is determined and then added together. Therefore for the first 5 years, the accrual would be as follows:
$(\$ 1,000 / 5$ years $)+(\$ 1,000 / 15$ years $)=\$ 267$ per year.
The accrual for years 6 through 15 would be as follows:
$(\$ 1,000 / 15$ years $)=\$ 67$ per year.

The following table sets out the differences in the two methods:

| Average Service Life Procedure |  |  |  | Equal Life Group Procedure |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Year | Accruals <br> $(\$)$ | Retirements <br> $(\$)$ | Acc. Deprn <br> Balance (\$) | Year <br> Accruals <br> $(\$)$ | Retirements <br> $(\$)$ | Acc. Deprn <br> Balance (\$) |  |
| 1 | 200 |  | 200 | 1 | 267 |  | 267 |
| 2 | 200 |  | 400 | 2 | 267 |  | 534 |
| 3 | 200 |  | 600 | 3 | 267 |  | 801 |
| 4 | 200 |  | 800 | 4 | 267 |  | 1,068 |
| 5 | 200 | 1,000 | 0 | 5 | 267 | 1,000 | 335 |
| 6 | 100 |  | 100 | 6 | 67 |  | 402 |
| 7 | 100 |  | 200 | 7 | 67 | 469 |  |
| 8 | 100 |  | 300 | 8 | 67 | 536 |  |
| 9 | 100 |  | 400 | 9 | 67 |  | 603 |
| 10 | 100 |  | 500 | 10 | 67 |  | 670 |
| 11 | 100 |  | 600 | 11 | 66 |  | 802 |
| 12 | 100 |  | 700 | 12 | 66 |  | 868 |
| 13 | 100 |  | 800 | 13 | 66 |  | 934 |
| 14 | 100 |  | 900 | 14 | 66 |  | 0 |
| 15 | 100 | 1,000 | 0 | 15 | 66 | 1,000 |  |

It should be noted from the table that overall, both methods will recover the same original cost, however, there are two key differences. First, using the ASL procedure, after the first 5 years, no depreciation has been collected for the asset remaining in service. Essentially, the concept of depreciation expense matching the assets providing service is not met. With the ELG procedure, this problem is remedied and after the retirement at year 5 of the shorter life asset, an appropriate provision for the first 5 years of service on the longer living asset is accumulated (\$67 X 5 years = \$335). Under ELG all current users are sharing the cost of all assets in service.

Secondly, under ASL the customers using the last remaining assets are required to pick up an adjustment for the under accrual of depreciation expense during the early years of the account. This inter-generational inequity would result in a situation at

Manitoba Hydro where users in the later years of the system bear the cost of under accruals which benefited earlier users of the system.

Effectively, later users of the system would be subsiding previous users. With potential changes in the utility industry, future users of the facilities may be different from the current system users. This lack of stability will magnify the inter-generational inequity of the ASL procedure.

Conformance of ELG to IFRS. IAS 16 requires depreciation expense to reflect the life expectation of assets in service. As indicated in the above example, the rate of annual depreciation is based on the average life or average service life of the group, and this rate is applied to the surviving balances of the group's cost. As further noted in the above example, a characteristic of the ASL procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life. In this procedure, the accrued depreciation is based on the average service life of the group and the average remaining life of each vintage within the group derived from the area under the survivor curve between the attained age of the vintage and the maximum age.

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

The table on the following page presents an illustration of the calculation of equal life group depreciation in a mass property account using the lowa 15-R3 survivor curve, 0 percent net salvage and a December 31, 2010 calculation date. In the table, each equal life group is defined by the age interval shown in columns 1 and 2. These are the ages at which the first and last retirement of each group occurs, and the group's equal life, shown in column 3, is the midpoint of the interval. For purposes of the calculation, each vintage is divided into equal life groups arranged so that the midpoint of each oneyear age interval coincides with the calculation date, e.g., December 31 in this case. This enables the calculation of annual accruals for a twelve-month period centered on the date of calculation.

The retirement during the age interval, shown in column 4, is the size of each equal life group and is derived from the lowa 15-R3 survivor curve and 0 percent net salvage. It is the difference between the percents surviving at the beginning and end of the age interval. Each equal life group's annual accrual, shown in column 5, equals the group's size (column 4) divided by its life (column 3).

Columns 7 through 10 show the derivation of the annual and accrued factors for each vintage based on the information developed in the first five columns. The year installed is shown in column 6. For all vintages other than 2010, the summation of annual accruals for each year installed, shown in column 7, is calculated by adding onehalf of the group annual accrual (column 5) for that vintage's current age interval plus the group annual accruals for all succeeding age intervals. For example, the figure
7.53413204309 for 2009 equals one-half of 0.14669333333 plus all of the succeeding
figures in column 5. Only one-half of the annual accrual for the vintage's current age interval group is included in the summation because the equal life group for that interval has reached the year during which it is expected to be retired.

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

| INPUT PARAMETERS: |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CALCULATION DATE. . 12-31-2010 |  |  |  |  |  |  |  |  |  |
| SURVIVOR CURVE.... 15-R3 |  |  |  |  |  |  |  |  |  |
|  |  |  | RETIREMENTS | GROUP |  | SUMMATION | AVERAGE |  |  |
| AGE IN | TERVAL |  | DURING | ANNUAL | YEAR | OF ANNUAL | PERCENT | ANNUAL | ACCRUED |
| BEG | END | LIFE | INTERVAL | ACCRUAL | INST | ACCRUALS | SURVIVING | FACTOR | FACTOR |
| (1) | (2) | (3) | (4) | $(5)=(4) /(3)$ | (6) | ( 7 ) | (8) | (9) | (10) |
| 0.000 | 1.000 | 0.500 | 0.13204 | 0.13204000000 | 2010 | 7.73951870976 | 99.939619 | 0.0774 | 0.0387 |
| 1.000 | 2.000 | 1.500 | 0.22004 | 0.14669333333 | 2009 | 7.53413204309 | 99.757940 | 0.0755 | 0.1133 |
| 2.000 | 3.000 | 2.500 | 0.34901 | 0.13960400000 | 2008 | 7.39098337643 | 99.473416 | 0.0743 | 0.1858 |
| 3.000 | 4.000 | 3.500 | 0.53168 | 0.15190857143 | 2007 | 7.24522709071 | 99.033069 | 0.0732 | 0.2562 |
| 4.000 | 5.000 | 4.500 | 0.77648 | 0.17255111111 | 2006 | 7.08299724944 | 98.378988 | 0.0720 | 0.3240 |
| 5.000 | 6.000 | 5.500 | 1.09520 | 0.19912727273 | 2005 | 6.89715805752 | 97.443149 | 0.0708 | 0.3894 |
| 6.000 | 7.000 | 6.500 | 1.50085 | 0.23090000000 | 2004 | 6.68214442116 | 96.145127 | 0.0695 | 0.4518 |
| 7.000 | 8.000 | 7.500 | 1.99686 | 0.26624800000 | 2003 | 6.43357042116 | 94.396275 | 0.0682 | 0.5115 |
| 8.000 | 9.000 | 8.500 | 2.59836 | 0.30568941176 | 2002 | 6.14760171528 | 92.098663 | 0.0668 | 0.5678 |
| 9.000 | 10.000 | 9.500 | 3.32846 | 0.35036421053 | 2001 | 5.81957490413 | 89.135249 | 0.0653 | 0.6204 |
| 10.000 | 11.000 | 10.500 | 4.20015 | 0.40001428571 | 2000 | 5.44438565601 | 85.370944 | 0.0638 | 0.6699 |
| 11.000 | 12.000 | 11.500 | 5.24273 | 0.45588956522 | 1999 | 5.01643373055 | 80.649505 | 0.0622 | 0.7153 |
| 12.000 | 13.000 | 12.500 | 6.46397 | 0.51711760000 | 1998 | 4.52993014794 | 74.796157 | 0.0606 | 0.7575 |
| 13.000 | 14.000 | 13.500 | 7.78086 | 0.57636000000 | 1997 | 3.98319134794 | 67.673742 | 0.0589 | 0.7952 |
| 14.000 | 15.000 | 14.500 | 9.04123 | 0.62353310345 | 1996 | 3.38324479621 | 59.262695 | 0.0571 | 0.8280 |
| 15.000 | 16.000 | 15.500 | 9.97724 | 0.64369290323 | 1995 | 2.74963179287 | 49.753461 | 0.0553 | 0.8572 |
| 16.000 | 17.000 | 16.500 | 10.26569 | 0.62216303030 | 1994 | 2.11670382611 | 39.631994 | 0.0534 | 0.8811 |
| 17.000 | 18.000 | 17.500 | 9.71888 | 0.55536457143 | 1993 | 1.52794002524 | 29.639708 | 0.0516 | 0.9030 |
| 18.000 | 19.000 | 18.500 | 8.35418 | 0.45157729730 | 1992 | 1. 02446909088 | 20.603179 | 0.0497 | 0.9195 |
| 19.000 | 20.000 | 19.500 | 6.50335 | 0.33350512821 | 1991 | 0.63192787812 | 13.174414 | 0.0480 | 0.9360 |
| 20.000 | 21.000 | 20.500 | 4.58978 | 0.22389170732 | 1990 | 0.35322946036 | 7.627850 | 0.0463 | 0.9492 |
| 21.000 | 22.000 | 21.500 | 2.91547 | 0.13560325581 | 1989 | 0.17348197879 | 3.875224 | 0.0448 | 0.9632 |
| 22.000 | 23.000 | 22.500 | 1.61144 | 0.07161955556 | 1988 | 0.06987057311 | 1.611769 | 0.0434 | 0.9765 |
| 23.000 | 24.000 | 23.500 | 0.66967 | 0.02849659574 | 1987 | 0.01981249746 | 0.471215 | 0.0420 | 0.9870 |
| 24.000 | 25.000 | 24.500 | 0.13425 | 0.00547959184 | 1986 | 0.00282440367 | 0.069256 | 0.0408 | 0.9996 |
| 25.000 | 25.350 | 25.175 | 0.00213 | 0.00008460775 | 1985 | 0.00001480636 | 0.000373 | 0.0397 | 1.0000 |
| TOTAL |  |  | 100.00000 |  |  |  |  |  |  |

The summation of annual accruals (column 7) for installations during 2010 is calculated on the basis of an in-service date at the midpoint of the year, i.e., June 30. Inasmuch as the overall calculation is centered on December 31, 2010, the first figure in column 7, for vintage 2010, equals all of the group annual accrual for the first equal life group plus the accruals for all of the subsequent equal life groups.

The average percent surviving derived from the lowa $15-\mathrm{R} 3$ survivor curve and 0 percent net salvage, is shown in column 8 for each age interval. The annual factor, shown in column 9 , is the result of dividing the summation of annual accruals (column 7 ) by the average percent surviving (column 8). The accrued factor, shown in column 10, equals the annual factor multiplied by the age of the group at December 31, 2010.

## CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION

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

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

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

| ACCOUNT | TITLE | AMORTIZATION PERIOD, YEARS |
| :---: | :---: | :---: |
| 000C | POWERHOUSE RENOVATIONS | 25 |
| 000L | LICENCE RENEWAL | 50 |
| 000w | SUPPORT BUILDING RENOVATIONS | 20 |
| 000M | COMBUSTION TURBINE OVERHAULS | 10 |
| $1125 z$ | COMMUNITY DEVELOPMENT COSTS [Pine Falls] | 81 |
| 1140Z | COMMUNITY DEVELOPMENT COSTS [Grand Rapids] | 80 |
| 1160Z | COMMUNITY DEVELOPMENT COSTS [Lake Winnipeg Regulation] | 100 |
| $1165 Z$ | COMMUNITY DEVELOPMENT COSTS [Churchill River Diversion] | 100 |
| 1300C | BUILDING RENOVATIONS | 15 |
| 1300M | ENGINES AND GENERATORS - OVERHAULS | 5 |
| 3000C | BUILDING RENOVATIONS | 20 |
| 4000K | GROUND LINE TREATMENT | 10 |
| 4000V | ELECTRONIC EQUIPMENT | 10 |
| 5000C | BUILDING RENOVATIONS | 20 |
| 5000K | OPERATIONAL IT EQUIPMENT | 5 |
| 5000M | MOBILE RADIO, TELEPHONE AND VIDEO CONFERENCING | 8 |
| 5000 N | OPERATIONAL DATA NETWORK | 8 |
| 8000C | BUILDING RENOVATIONS | 20 |
| 9000 H | TOOLS, SHOP AND GARAGE EQUIPMENT | 15 |
| 9000K | COMPUTER EQUIPMENT | 5 |
| 9000L | OFFICE FURNITURE AND EQUIPMENT | 20 |
| 9000M | HOT WATER TANKS | 6 |
| A200H | COMPUTER DEVELOPMENT - SMALL SYSTEMS | 10 |
| A200J | COMPUTER SOFTWARE - GENERAL | 5 |
| A200K | COMPUTER SOFTWARE - COMMUNICATION/OPERATIONAL | 5 |

For the purpose of calculating annual amortization amounts as of March 31, 2010, the book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The book reserve assigned to vintages with an age greater than the amortization period is equal to the vintage's original cost. The remaining book reserve is allocated among vintages with an age less than the amortization period in proportion to the calculated accrued amortization. The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization
period. The annual amortization amount is determined by dividing the future amortizations (original cost less allocated book reserve) by the remaining period of amortization for the vintage.

## MONITORING OF BOOK ACCUMULATED DEPRECIATION

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

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

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

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

The book costs and lives of the several equal life groups, which are summed in the foregoing equation, are defined by the estimated future survivor curve.

Inasmuch as book cost divided by life equals the whole life annual accrual, the foregoing equation reduces to the following form:

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

PART III. RESULTS OF STUDY

## PART III. RESULTS OF STUDY

## QUALIFICATION OF RESULTS

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

## DESCRIPTION OF DETAILED TABULATIONS

The service life estimates were based on judgment that incorporated statistical analysis of retirement data, discussions with management and consideration of estimates made for other electric utilities. The results of the statistical analysis of service life are presented in the section beginning on pages IV-2, within the supporting documents of this report.

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

The tables of the calculated annual depreciation applicable to depreciable assets as of March 31, 2010 are presented in account sequence starting on page V -2 of the supporting documents. The tables indicate the estimated average survivor curves used in the calculations. The tables set forth, for each installation year, the original cost, calculated accrued depreciation, and the calculated annual accrual.

## MANITOBA HYDRO

SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \\ & \text { DATE } \end{aligned}$ | ESTIMATED <br> SURVIVOR <br> CURVE <br> $(2)$ | ESTIMATED <br> NET <br> SALVAGE <br> $(3)$ | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  |  |  | (4) | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 10000 | GENERATION |  |  |  |  |  |  |  |  |  |
| 11000 | HYDRAULIC GENERATION |  |  |  |  |  |  |  |  |  |
| 11050 | GREAT FALLS |  |  |  |  |  |  |  |  |  |
| 1105A | DAMS, DYKES AND WEIRS | 2063 | 125-R4 | 0 | 17,302,772 | 218,229 | 1.26 | $(27,263)$ | 190,966 | 1.10 |
| 1105B | POWERHOUSE | 2063 | 125-R4 | 0 | 7,990,993 | 99,815 | 1.25 | $(13,045)$ | 86,770 | 1.09 |
| 1105C | POWERHOUSE RENOVATIONS | 2063 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1105D | SPILLWAY | 2063 | 75-R2 | 0 | 9,676,327 | 151,875 | 1.57 | $(6,958)$ | 144,917 | 1.50 |
| 1105E | WATER CONTROL SYSTEMS | 2063 | 50-S4 | 0 | 24,245,253 | 497,229 | 2.05 | $(50,814)$ | 446,415 | 1.84 |
| 1105F | ROADS AND SITE IMPROVEMENTS | 2063 | 50-R3 | 0 | 213,964 | 5,129 | 2.40 | (24) | 5,105 | 2.39 |
| 1105G | TURBINES AND GENERATORS | 2063 | 65-S3 | 0 | 25,128,789 | 433,087 | 1.72 | $(30,373)$ | 402,714 | 1.60 |
| 1105 H | GOVERNORS AND EXCITATION SYSTEM | 2063 | 50-R4 | 0 | 492,218 | 10,048 | 2.04 | (811) | 9,237 | 1.88 |
| 1105L | LICENCE RENEWAL | 2063 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1105P | A/C ELECTRICAL POWER SYSTEMS | 2063 | 50-R3 | 0 | 9,493,088 | 201,933 | 2.13 | $(12,866)$ | 189,067 | 1.99 |
| 1105Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2063 | 23-L2 | 0 | 19,271,956 | 955,210 | 4.96 | $(7,499)$ | 947,711 | 4.92 |
| 1105R | AUXILIARY STATION PROCESSES | 2063 | 40-R2.5 | 0 | 8,345,798 | 224,470 | 2.69 | $(9,108)$ | 215,362 | 2.58 |
| 1105X | SUPPORT BUILDINGS | 2063 | 65-R3 | 0 | 1,495,253 | 24,424 | 1.63 | $(2,820)$ | 21,604 | 1.44 |
| 1105W | SUPPORT BUILDING RENOVATIONS | 2063 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL GREAT FALLS |  |  |  | 123,656,412 | 2,821,449 | 2.28 | (161,581) | 2,659,868 | 2.15 |
| 11100 | POINTE DU BOIS |  |  |  |  |  |  |  |  |  |
| 1110A | DAMS, DYKES AND WEIRS | 2031 | 125-R4 | 0 | 11,263,332 | 446,825 | 3.97 | $(91,296)$ | 355,529 | 3.16 |
| 1110B | POWERHOUSE | 2031 | 125-R4 | 0 | 6,242,749 | 271,010 | 4.34 | $(26,759)$ | 244,251 | 3.91 |
| 1110 C | POWERHOUSE RENOVATIONS | 2031 | 25-SQ | 0 |  |  |  |  |  | 4.84 */** |
| 1110 D | SPILLWAY - ORIGINAL | 2017 | 75-R2 | 0 | 3,104,842 | 345,659 | 11.13 | $(84,531)$ | 261,128 | 8.41 |
| 1110 E | WATER CONTROL SYSTEMS | 2031 | 50-S4 | 0 | 4,027,603 | 152,884 | 3.80 | $(39,522)$ | 113,362 | 2.81 |
| 1110 F | ROADS AND SITE IMPROVEMENTS | 2031 | 50-R3 | 0 | 28,533 | 1,113 | 3.90 | (295) | 818 | 2.87 |
| 1110 G | TURBINES AND GENERATORS | 2031 | 65-S3 | 0 | 24,610,324 | 1,022,300 | 4.15 | $(153,096)$ | 869,204 | 3.53 |
| 1110 H | GOVERNORS AND EXCITATION SYSTEM | 2031 | 50-R4 | 0 |  |  |  |  |  | 5.04 * |
| 1110 ${ }^{\text {L }}$ | LICENCE RENEWAL | 2031 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 4.76 */** |
| 1110P | A/C ELECTRICAL POWER SYSTEMS | 2031 | 50-R3 | 0 | 6,057,709 | 274,987 | 4.54 | $(22,954)$ | 252,033 | 4.16 |
| 1110Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2031 | 23-L2 | 0 | 355,559 | 20,840 | 5.86 | $(2,581)$ | 18,259 | 5.14 |
| 1110R | AUXILIARY STATION PROCESSES | 2031 | 40-R2.5 | 0 | 1,377,014 | 62,068 | 4.51 | $(11,335)$ | 50,733 | 3.68 |
| 1110X | SUPPORT BUILDINGS | 2031 | 65-R3 | 0 | 2,616,290 | 95,041 | 3.63 | $(32,110)$ | 62,931 | 2.41 |
| 1110W | SUPPORT BUILDING RENOVATIONS | 2031 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
| 1111D | SPILLWAY - NEW |  | 75-R2 | 0 |  |  |  |  |  | 1.33 * |
|  | TOTAL POINTE DU BOIS |  |  |  | 59,683,956 | 2,692,727 | 4.51 | $(464,480)$ | 2,228,247 | 3.73 |
| 11150 | SEVEN SISTERS |  |  |  |  |  |  |  |  |  |
| 1115A | DAMS, DYKES AND WEIRS | 2072 | 125-R4 | 0 | 31,497,995 | 353,966 | 1.12 | $(76,205)$ | 277,761 | 0.88 |
| 1115B | POWERHOUSE | 2072 | 125-R4 | 0 | 13,653,945 | 143,721 | 1.05 | $(40,679)$ | 103,042 | 0.75 |
| 1115C | POWERHOUSE RENOVATIONS | 2072 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1115D | SPILLWAY | 2072 | 75-R2 | 0 | 2,841,355 | 39,847 | 1.40 | $(5,275)$ | 34,572 | 1.22 |
| 1115 E | WATER CONTROL SYSTEMS | 2072 | 50-S4 | 0 | 4,296,891 | 81,034 | 1.89 | $(23,695)$ | 57,339 | 1.33 |
| 1115F | ROADS AND SITE IMPROVEMENTS | 2072 | 50-R3 | 0 | 201,701 | 3,718 | 1.84 | $(1,185)$ | 2,533 | 1.26 |
| 1115G | TURBINES AND GENERATORS | 2072 | 65-S3 | 0 | 41,208,963 | 689,938 | 1.67 | $(75,531)$ | 614,407 | 1.49 |
| 1115H | GOVERNORS AND EXCITATION SYSTEM | 2072 | 50-R4 | 0 | 6,860 | 125 | 1.82 | (451) | (326) | 2.00 |
| 1115L | LICENCE RENEWAL | 2072 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1115P | A/C ELECTRICAL POWER SYSTEMS | 2072 | 50-R3 | 0 | 10,648,619 | 223,532 | 2.10 | $(36,104)$ | 187,428 | 1.76 |
| 1115Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2072 | 23-L2 | 0 | 3,821,416 | 163,482 | 4.28 | $(29,620)$ | 133,862 | 3.50 |
| 1115R | AUXILIARY STATION PROCESSES | 2072 | 40-R2.5 | 0 | 5,224,958 | 131,285 | 2.51 | $(25,391)$ | 105,894 | 2.03 |
| 1115X | SUPPORT BUILDINGS | 2072 | 65-R3 | 0 | 608,294 | 11,021 | 1.81 | (676) | 10,345 | 1.70 |
| 1115 W | SUPPORT BUILDING RENOVATIONS | 2072 | 20-SQ | 0 |  |  |  |  |  | 5.00 *** |
|  | TOTAL SEVEN SISTERS |  |  |  | 114,010,998 | 1,841,669 | 1.62 | $(314,814)$ | 1,526,855 | 1.34 |


| ACCOUNT | DEPRECIABLE WORK | LIFE <br> SPAN <br> DATE | ESTIMATED SURVIVOR CURVE | EStIMATED NET SALVAGE | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | (3) | (4) | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 11200 | SLAVE FALLS |  |  |  |  |  |  |  |  |  |
| 1120A | DAMS, DYKES AND WEIRS | 2072 | 125-R4 | 0 | 954,684 | 14,817 | 1.55 | (153) | 14,664 | 1.54 |
| 1120B | POWERHOUSE | 2072 | 125-R4 | 0 | 45,692,194 | 663,677 | 1.45 | $(17,065)$ | 646,612 | 1.42 |
| 1120 C | POWERHOUSE RENOVATIONS | 2072 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1120D | SPILLWAY | 2072 | 75-R2 | 0 | 760,201 | 15,394 | 2.03 | 58 | 15,452 | 2.03 |
| 1120E | WATER CONTROL SYSTEMS | 2072 | 50-S4 | 0 | 318,933 | 6,602 | 2.07 | (96) | 6,506 | 2.04 |
| 1120F | ROADS AND SITE IMPROVEMENTS | 2072 | 50-R3 | 0 | 769,506 | 17,545 | 2.28 | (107) | 17,438 | 2.27 |
| 1120G | TURBINES AND GENERATORS | 2072 | 65-S3 | 0 | 11,630,909 | 200,112 | 1.72 | $(4,924)$ | 195,188 | 1.68 |
| 1120 H | GOVERNORS AND EXCITATION SYSTEM | 2072 | 50-R4 | 0 |  |  |  |  |  | 2.00 * |
| 1120 L | LICENCE RENEWAL | 2072 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1120P | A/C ELECTRICAL POWER SYSTEMS | 2072 | 50-R3 | 0 | 21,815,741 | 505,179 | 2.32 | $(2,972)$ | 502,207 | 2.30 |
| 1120Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2072 | 23-L2 | 0 | 786,382 | 42,365 | 5.39 | 217 | 42,582 | 5.41 |
| 1120R | AUXILIARY STATION PROCESSES | 2072 | 40-R2.5 | 0 | 2,201,466 | 68,661 | 3.12 | 262 | 68,923 | 3.13 |
| 1120 X | SUPPORT BUILDINGS | 2072 | 65-R3 | 0 | 3,724,095 | 67,791 | 1.82 | (955) | 66,836 | 1.79 |
| 1120W | SUPPORT BUILDING RENOVATIONS | 2072 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL SLAVE FALLS |  |  |  | 88,654,109 | 1,602,143 | 1.81 | $(25,735)$ | 1,576,408 | 1.78 |
| 11250 | PINE FALLS |  |  |  |  |  |  |  |  |  |
| 1125A | DAMS, DYKES AND WEIRS | 2092 | 125-R4 | 0 | 14,110,589 | 156,702 | 1.11 | $(6,323)$ | 150,379 | 1.07 |
| 1125B | POWERHOUSE | 2092 | 125-R4 | 0 | 10,060,843 | 87,828 | 0.87 | $(15,968)$ | 71,860 | 0.71 |
| 1125C | POWERHOUSE RENOVATIONS | 2092 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1125D | SPILLWAY | 2092 | 75-R2 | 0 | 93,376 | 1,804 | 1.93 | 8 | 1,812 | 1.94 |
| 1125E | WATER CONTROL SYSTEMS | 2092 | 50-S4 | 0 | 3,564,106 | 67,205 | 1.89 | $(15,006)$ | 52,199 | 1.46 |
| 1125F | ROADS AND SITE IMPROVEMENTS | 2092 | 50-R3 | 0 | 1,178,575 | 19,598 | 1.66 | $(18,921)$ | 677 | 0.06 |
| 1125G | TURBINES AND GENERATORS | 2092 | 65-S3 | 0 | 9,464,220 | 145,587 | 1.54 | $(25,177)$ | 120,410 | 1.27 |
| 1125 H | GOVERNORS AND EXCITATION SYSTEM | 2092 | 50-R4 | 0 |  |  |  |  |  | 2.00 * |
| 1125L | LICENCE RENEWAL | 2092 | $50-\mathrm{SQ}$ | 0 |  |  |  |  |  | 2.00 */** |
| 1125P | A/C ELECTRICAL POWER SYSTEMS | 2092 | 50-R3 | 0 | 5,071,108 | 104,504 | 2.06 | $(9,469)$ | 95,035 | 1.87 |
| 1125Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2092 | 23-L2 | 0 | 2,156,586 | 99,187 | 4.60 | $(3,305)$ | 95,882 | 4.45 |
| 1125R | AUXILIARY STATION PROCESSES | 2092 | 40-R2.5 | 0 | 3,790,230 | 99,575 | 2.63 | $(7,530)$ | 92,045 | 2.43 |
| 1125X | SUPPORT BUILDINGS | 2092 | 65-R3 | 0 | 336,412 | 5,683 | 1.69 | (241) | 5,442 | 1.62 |
| 1125W | SUPPORT BUILDING RENOVATIONS | 2092 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
| 11252 | COMMUNITY DEVELOPMENT COSTS | 2092 | 81-SQ | 0 | 4,425,543 | 54,434 | 1.23 | $(2,471)$ | 51,963 | 1.17 ** |
|  | TOTAL PINE FALLS |  |  |  | 54,251,587 | 842,107 | 1.55 | $(104,404)$ | 737,703 | 1.36 |
| 11300 | MCARTHUR FALLS |  |  |  |  |  |  |  |  |  |
| 1130A | DAMS, DYKES AND WEIRS | 2095 | 125-R4 | 0 | 3,578,068 | 32,928 | 0.92 | $(3,695)$ | 29,233 | 0.82 |
| 1130B | POWERHOUSE | 2095 | 125-R4 | 0 | 9,523,798 | 83,002 | 0.87 | $(12,467)$ | 70,535 | 0.74 |
| 1130 C | POWERHOUSE RENOVATIONS | 2095 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1130D | SPILLWAY | 2095 | 75-R2 | 0 | 2,351,438 | 28,217 | 1.20 | $(4,929)$ | 23,288 | 0.99 |
| 1130E | WATER CONTROL SYSTEMS | 2095 | 50-S4 | 0 | 11,703,203 | 238,168 | 2.04 | $(26,096)$ | 212,072 | 1.81 |
| 1130F | ROADS AND SITE IMPROVEMENTS | 2095 | 50-R3 | 0 | 234,820 | 4,758 | 2.03 | (551) | 4,207 | 1.79 |
| 1130G | TURBINES AND GENERATORS | 2095 | 65-S3 | 0 | 5,096,367 | 72,094 | 1.41 | $(44,855)$ | 27,239 | 0.53 |
| 1130 H | GOVERNORS AND EXCITATION SYSTEM | 2095 | 50-R4 | 0 | 119,315 | 2,513 | 2.11 | (166) | 2,347 | 1.97 |
| 1130L | LICENCE RENEWAL | 2095 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1130P | A/C ELECTRICAL POWER SYSTEMS | 2095 | 50-R3 | 0 | 2,480,539 | 45,912 | 1.85 | $(9,219)$ | 36,693 | 1.48 |
| 1130Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2095 | 23-L2 | 0 | 1,245,885 | 49,056 | 3.94 | $(4,082)$ | 44,974 | 3.61 |
| 1130R | AUXILIARY STATION PROCESSES | 2095 | 40-R2.5 | 0 | 3,440,197 | 90,405 | 2.63 | $(5,443)$ | 84,962 | 2.47 |
| 1130X | SUPPORT BUILDINGS | 2095 | 65-R3 | 0 | 227,212 | 3,840 | 1.69 | (133) | 3,707 | 1.63 |
| 1130W | SUPPORT BUILDING RENOVATIONS | 2095 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL MCARTHUR FALLS |  |  |  | 40,000,842 | 650,893 | 1.63 | $(111,636)$ | 539,257 | 1.35 |


| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \\ & \text { DATE } \end{aligned}$ | ESTIMATED SURVIVOR CURVE (2) | ESTIMATED <br> NET <br> SALVAGE <br> $(3)$ | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | TOTAL DEPRECIATION RELATED TO LIFE |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  |  |  |  | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 11350 | KELSEY |  |  |  |  |  |  |  |  |  |
| 1135A | DAMS, DYKES AND WEIRS | 2101 | 125-R4 | 0 | 11,066,409 | 110,124 | 1.00 | $(3,623)$ | 106,501 | 0.96 |
| 1135B | POWERHOUSE | 2101 | 125-R4 | 0 | 27,569,817 | 239,892 | 0.87 | $(19,889)$ | 220,003 | 0.80 |
| 1135 C | POWERHOUSE RENOVATIONS | 2101 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1135D | SPILLWAY | 2101 | 75-R2 | 0 | 5,331,929 | 66,116 | 1.24 | $(2,091)$ | 64,025 | 1.20 |
| 1135E | WATER CONTROL SYSTEMS | 2101 | 50-S4 | 0 | 11,792,566 | 233,252 | 1.98 | $(20,286)$ | 212,966 | 1.81 |
| 1135F | ROADS AND SITE IMPROVEMENTS | 2101 | 50-R3 | 0 | 6,442,928 | 126,660 | 1.97 | $(12,225)$ | 114,435 | 1.78 |
| 1135G | TURBINES AND GENERATORS | 2101 | 65-S3 | 0 | 130,323,693 | 2,139,901 | 1.64 | $(18,996)$ | 2,120,905 | 1.63 |
| 1135 H | GOVERNORS AND EXCITATION SYSTEM | 2101 | 50-R4 | 0 | 88,651 | 1,871 | 2.11 | (87) | 1,784 | 2.01 |
| 1135L | LICENCE RENEWAL | 2101 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1135P | A/C ELECTRICAL POWER SYSTEMS | 2101 | 50-R3 | 0 | 5,751,610 | 113,771 | 1.98 | $(12,141)$ | 101,630 | 1.77 |
| 1135Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2101 | 23-L2 | 0 | 3,595,490 | 162,610 | 4.52 | 3,100 | 165,710 | 4.61 |
| 1135R | AUXILIARY STATION PROCESSES | 2101 | 40-R2.5 | 0 | 7,788,815 | 203,179 | 2.61 | $(4,650)$ | 198,529 | 2.55 |
| 1135X | SUPPORT BUILDINGS | 2101 | 65-R3 | 0 | 9,953,977 | 170,743 | 1.72 | $(2,021)$ | 168,722 | 1.70 |
| 1135W | SUPPORT BUILDING RENOVATIONS | 2101 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL KELSEY |  |  |  | 219,705,886 | 3,568,119 | 1.62 | $(92,910)$ | 3,475,209 | 1.58 |
| 11400 | GRAND RAPIDS |  |  |  |  |  |  |  |  |  |
| 1140A | DAMS, DYKES AND WEIRS | 2091 | 125-R4 | 0 | 53,468,974 | 514,944 | 0.96 | $(46,792)$ | 468,152 | 0.88 |
| 1140B | POWERHOUSE | 2091 | 125-R4 | 0 | 24,506,522 | 223,336 | 0.91 | $(25,953)$ | 197,383 | 0.81 |
| 1140C | POWERHOUSE RENOVATIONS | 2091 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1140D | SPILLWAY | 2091 | 75-R2 | 0 | 5,308,334 | 68,207 | 1.28 | $(4,198)$ | 64,009 | 1.21 |
| 1140E | WATER CONTROL SYSTEMS | 2091 | 50-S4 | 0 | 15,982,492 | 309,243 | 1.93 | $(61,544)$ | 247,699 | 1.55 |
| 1140F | ROADS AND SITE IMPROVEMENTS | 2091 | 50-R3 | 0 | 2,581,475 | 47,126 | 1.83 | $(15,904)$ | 31,222 | 1.21 |
| 1140G | TURBINES AND GENERATORS | 2091 | 65-S3 | 0 | 113,066,160 | 1,856,605 | 1.64 | $(81,564)$ | 1,775,041 | 1.57 |
| 1140 H | GOVERNORS AND EXCITATION SYSTEM | 2091 | 50-R4 | 0 | 42,718 | 897 | 2.10 | (44) | 853 | 2.00 |
| 1140L | LICENCE RENEWAL | 2091 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1140P | A/C ELECTRICAL POWER SYSTEMS | 2091 | 50-R3 | 0 | 8,240,545 | 173,871 | 2.11 | $(12,341)$ | 161,530 | 1.96 |
| 1140Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2091 | 23-L2 | 0 | 4,674,247 | 165,394 | 3.54 | $(17,828)$ | 147,566 | 3.16 |
| 1140R | AUXILIARY STATION PROCESSES | 2091 | 40-R2.5 | 0 | 5,600,506 | 153,945 | 2.75 | $(3,785)$ | 150,160 | 2.68 |
| 1140X | SUPPORT BUILDINGS | 2091 | 65-R3 | 0 | 6,190,376 | 106,722 | 1.72 | $(2,100)$ | 104,622 | 1.69 |
| 1140W | SUPPORT BUILDING RENOVATIONS | 2091 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
| 1140Z | COMMUNITY DEVELOPMENT COSTS | 2091 | 80-SQ | 0 | 101,442,997 | 1,268,037 | 1.25 | $(90,628)$ | 1,177,409 | 1.16 ** |
|  | TOTAL GRAND RAPIDS |  |  |  | 341,105,346 | 4,888,327 | 1.43 | $(362,682)$ | 4,525,645 | 1.33 |
| 11450 | Kettle |  |  |  |  |  |  |  |  |  |
| 1145A | DAMS, DYKES AND WEIRS | 2111 | 125-R4 | 0 | 45,280,663 | 390,107 | 0.86 | $(34,169)$ | 355,938 | 0.79 |
| 1145B | POWERHOUSE | 2111 | 125-R4 | 0 | 146,207,420 | 1,262,257 | 0.86 | $(108,788)$ | 1,153,469 | 0.79 |
| 1145C | POWERHOUSE RENOVATIONS | 2111 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1145D | SPILLWAY | 2111 | 75-R2 | 0 | 25,406,960 | 337,913 | 1.33 | $(11,392)$ | 326,521 | 1.29 |
| 1145E | WATER CONTROL SYSTEMS | 2111 | 50-S4 | 0 | 17,834,945 | 355,361 | 1.99 | $(173,994)$ | 181,367 | 1.02 |
| 1145F | ROADS AND SITE IMPROVEMENTS | 2111 | 50-R3 | 0 | 10,591 | 235 | 2.22 | (5) | 230 | 2.17 |
| 1145G | TURBINES AND GENERATORS | 2111 | 65-S3 | 0 | 70,740,028 | 1,123,607 | 1.59 | $(208,486)$ | 915,121 | 1.29 |
| 1145 H | GOVERNORS AND EXCITATION SYSTEM | 2111 | 50-R4 | 0 | 3,304,326 | 64,753 | 1.96 | $(26,160)$ | 38,593 | 1.17 |
| 1145L | LICENCE RENEWAL | 2111 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1145P | A/C ELECTRICAL POWER SYSTEMS | 2111 | 50-R3 | 0 | 6,771,761 | 141,808 | 2.09 | $(11,636)$ | 130,172 | 1.92 |
| 1145Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2111 | 23-L2 | 0 | 12,001,279 | 430,663 | 3.59 | $(34,185)$ | 396,478 | 3.30 |
| 1145R | AUXILIARY STATION PROCESSES | 2111 | 40-R2.5 | 0 | 15,361,985 | 379,871 | 2.47 | $(50,094)$ | 329,777 | 2.15 |
| 1145X | SUPPORT BUILDINGS | 2111 | 65-R3 | 0 | 3,908,404 | 60,260 | 1.54 | $(10,284)$ | 49,976 | 1.28 |
| 1145W | SUPPORT BUILDING RENOVATIONS | 2111 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL KETTLE |  |  |  | 346,828,362 | 4,546,835 | 1.31 | $(669,194)$ | 3,877,641 | 1.12 |


| ANNUAL PROVISION FOR TRUE-UP | TOTAL DEPRECIATION |  |
| :---: | :---: | :---: |
|  | RELATED TO LIFE |  |
|  | EXPENSE | RATE (\%) |
| (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 2,634 | 10,723 | 3.02 |
| 27,948 | 290,962 | 3.80 |
|  |  | 4.55 */** |
| 6,380 | 30,392 | 3.49 |
| 2,722 | 15,505 | 3.39 |
| 10,679 | 52,323 | 3.63 |
| 11,639 | 186,086 | 4.04 |
| 1,427 | 37,570 | 4.26 |
|  |  | 4.55 */** |
| 9,003 | 53,388 | 3.70 |
| 39,641 | 89,124 | 7.30 |
| 2,697 | 12,445 | 4.03 |
| 2,622 | 11,876 | 3.34 |
|  |  | 5.00 */** |
| 117,391 | 790,393 | 4.03 |
| $(3,801)$ | 131,703 | 0.86 |
| $(24,816)$ | 638,627 | 0.83 |
|  |  | 4.00 */** |
| 10,126 | 216,709 | 1.45 |
| $(72,470)$ | 269,603 | 1.61 |
| $(1,292)$ | 30,960 | 1.98 |
| $(88,046)$ | 1,199,098 | 1.51 |
|  |  | 2.00 |
|  |  | 2.00 */** |
| $(35,925)$ | 341,292 | 1.77 |
| 15,464 | 146,457 | 4.38 |
| $(4,392)$ | 249,169 | 2.54 |
| $(1,490)$ | 130,178 | 1.65 |
|  |  | 5.00 */** |
| $(206,644)$ | 3,353,794 | 1.37 |
| $(79,651)$ | 733,624 | 0.76 |
|  |  | 2.00 */** |
| $(223,323)$ | 3,654,706 | 0.94 ** |
| $(302,973)$ | 4,388,331 | 0.91 |
| $(13,751)$ | 950,339 | 0.83 |
| 67,622 | 846,525 | 1.50 |
| $(42,591)$ | 315,800 | 1.80 |
| $(1,007)$ | 131,825 | 1.94 |
|  |  | 2.00 */** |
| (247) | 30,930 | 1.94 |
| 14,977 | 51,874 | 3.66 |
| 1,435 | 51,812 | 2.88 |
| 4 | 495 | 1.75 |
|  |  | 5.00 */** |
| $(228,014)$ | 2,822,351 | 0.93 ** |
| $(201,571)$ | 5,201,952 | 1.03 |


| ACCOUNT | DEPRECIABLE WORK | LIFE SPAN | estimated SURVIVOR | EStimated NET | SURVIVING ORIGINAL COST | CALCULATED ANNUAL ACCRUAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | DATE | CURVE | SALVAGE | AT 03/31/2010 | AMOUNT | RATE (\%) |
|  | (1) |  | (2) | (3) | (4) | (5) | (6) $=(5) /(4)$ |
| 11500 | LAURIE RIVER |  |  |  |  |  |  |
| 1150A | DAMS, DYKES AND WEIRS | 2032 | 125-R4 | 0 | 355,538 | 8,089 | 2.28 |
| 1150B | POWERHOUSE | 2032 | 125-R4 | 0 | 7,664,146 | 263,014 | 3.43 |
| 1150C | POWERHOUSE RENOVATIONS | 2032 | 25-SQ | 0 |  |  |  |
| 1150D | SPILLWAY | 2032 | 75-R2 | 0 | 870,000 | 24,012 | 2.76 |
| 1150E | WATER CONTROL SYSTEMS | 2032 | 50-S4 | 0 | 458,033 | 12,783 | 2.79 |
| 1150F | ROADS AND SITE IMPROVEMENTS | 2032 | 50-R3 | 0 | 1,441,914 | 41,644 | 2.89 |
| 1150G | TURBINES AND GENERATORS | 2032 | 65-S3 | 0 | 4,603,136 | 174,447 | 3.79 |
| 1150H | GOVERNORS AND EXCITATION SYSTEM | 2032 | 50-R4 | 0 | 882,653 | 36,143 | 4.09 |
| 1150L | LICENCE RENEWAL | 2032 | 50-SQ | 0 |  |  |  |
| 1150P | A/C ELECTRICAL POWER SYSTEMS | 2032 | 50-R3 | 0 | 1,441,945 | 44,385 | 3.08 |
| 1150Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2032 | 23-L2 | 0 | 1,220,047 | 49,483 | 4.06 |
| 1150R | AUXILIARY STATION PROCESSES | 2032 | 40-R2.5 | 0 | 308,504 | 9,748 | 3.16 |
| 1150X | SUPPORT BUILDINGS | 2032 | 65-R3 | 0 | 355,919 | 9,254 | 2.60 |
| 1150W | SUPPORT BUILDING RENOVATIONS | 2032 | 20-SQ | 0 |  |  |  |
|  | TOTAL LAURIE RIVER |  |  |  | 19,601,835 | 673,002 | 3.43 |
| 11550 | JENPEG |  |  |  |  |  |  |
| 1155A | DAMS, DYKES AND WEIRS | 2118 | 125-R4 | 0 | 15,295,318 | 135,504 | 0.89 |
| 1155B | POWERHOUSE | 2118 | 125-R4 | 0 | 76,905,294 | 663,443 | 0.86 |
| 1155C | POWERHOUSE RENOVATIONS | 2118 | 25-SQ | 0 |  |  |  |
| 1155D | SPILLWAY | 2118 | 75-R2 | 0 | 14,942,733 | 206,583 | 1.38 |
| 1155E | WATER CONTROL SYSTEMS | 2118 | 50-S4 | 0 | 16,762,099 | 342,073 | 2.04 |
| 1155F | ROADS AND SITE IMPROVEMENTS | 2118 | 50-R3 | 0 | 1,563,205 | 32,252 | 2.06 |
| 1155G | TURBINES AND GENERATORS | 2118 | 65-S3 | 0 | 79,641,550 | 1,287,144 | 1.62 |
| 1155H | GOVERNORS AND EXCITATION SYSTEM | 2118 | 50-R4 | 0 |  |  |  |
| 1155L | LICENCE RENEWAL | 2118 | 50-SQ | 0 |  |  |  |
| 1155P | A/C ELECTRICAL POWER SYSTEMS | 2118 | 50-R3 | 0 | 19,308,049 | 377,217 | 1.95 |
| 1155Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2118 | 23-L2 | 0 | 3,343,800 | 130,993 | 3.92 |
| 1155R | AUXILIARY STATION PROCESSES | 2118 | 40-R2.5 | 0 | 9,796,258 | 253,561 | 2.59 |
| 1155X | SUPPORT BUILDINGS | 2118 | 65-R3 | 0 | 7,885,397 | 131,668 | 1.67 |
| 1155W | SUPPORT BUILDING RENOVATIONS | 2118 | 20-SQ | 0 |  |  |  |
|  | TOTAL JENPEG |  |  |  | 245,443,703 | 3,560,438 | 1.45 |
| 11600 | LAKE WINNIPEG REGULATION |  |  |  |  |  |  |
| 1160A | DAMS, DYKES AND WEIRS |  | 125-R4 | 0 | 96,807,065 | 813,275 | 0.84 |
| 1160L | LICENCE RENEWAL |  | 50-SQ | 0 |  |  |  |
| 11602 | COMMUNITY DEVELOPMENT COSTS |  | 100-SQ | 0 | 387,802,871 | 3,878,029 | 1.00 |
|  | TOTAL LAKE WINNIPEG REGULATION |  |  |  | 484,609,937 | 4,691,304 | 0.97 |
| 11650 | CHURCHILL RIVER DIVERSION |  |  |  |  |  |  |
| 1165A | DAMS, DYKES AND WEIRS |  | 125-R4 | 0 | 114,718,213 | 964,090 | 0.84 |
| 1165D | SPILLWAY |  | 75-R2 | 0 | 56,442,246 | 778,903 | 1.38 |
| 1165E | WATER CONTROL SYSTEMS |  | 50-S4 | 0 | 17,583,551 | 358,391 | 2.04 |
| 1165F | ROADS AND SITE IMPROVEMENTS |  | 50-R3 | 0 | 6,799,023 | 132,832 | 1.95 |
| 1165L | LICENCE RENEWAL |  | 50-SQ | 0 |  |  |  |
| 1165P | A/C ELECTRICAL POWER SYSTEMS |  | 50-R3 | 0 | 1,596,593 | 31,177 | 1.95 |
| 1165Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |  | 23-L2 | 0 | 1,417,862 | 36,897 | 2.60 |
| 1165R | AUXILIARY STATION PROCESSES |  | 40-R2.5 | 0 | 1,799,312 | 50,377 | 2.80 |
| 1165X | SUPPORT BUILDINGS |  | 65-R3 | 0 | 28,361 | 491 | 1.73 |
| 1165W | SUPPORT BUILDING RENOVATIONS |  | 20-SQ | 0 |  |  |  |
| $1165 Z$ | COMMUNITY DEVELOPMENT COSTS |  | 100-SQ | 0 | 305,036,524 | 3,050,365 | 1.00 |
|  | TOTAL CHURCHILL RIVER DIVERSION |  |  |  | 505,421,684 | 5,403,523 | 1.07 |

## MANITOBA HYDRO

SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DEPRECIABLE WORK | LIFE SPAN DATE | estimated SURVIVOR CURVE | $\begin{aligned} & \text { ESTIMATED } \\ & \text { NET } \\ & \text { SALVAGE } \end{aligned}$ | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | (3) | (4) | (5) | (6) $=(5) /(4)$ | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 11700 | LONG SPRUCE |  |  |  |  |  |  |  |  |  |
| 1170A | DAMS, DYKES AND WEIRS | 2118 | 125-R4 | 0 | 64,744,494 | 558,569 | 0.86 | $(19,500)$ | 539,069 | 0.83 |
| 1170B | POWERHOUSE | 2118 | 125-R4 | 0 | 143,780,355 | 1,240,493 | 0.86 | $(43,364)$ | 1,197,129 | 0.83 |
| 1170 C | POWERHOUSE RENOVATIONS | 2118 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1170D | SPILLWAY | 2118 | 75-R2 | 0 | 42,273,617 | 584,041 | 1.38 | 28,146 | 612,187 | 1.45 |
| 1170E | WATER CONTROL SYSTEMS | 2118 | 50-S4 | 0 | 57,946,281 | 1,182,124 | 2.04 | $(242,437)$ | 939,687 | 1.62 |
| 1170F | ROADS AND SITE IMPROVEMENTS | 2118 | 50-R3 | 0 | 1,172,867 | 23,483 | 2.00 | $(1,383)$ | 22,100 | 1.88 |
| 1170G | TURBINES AND GENERATORS | 2118 | 65-S3 | 0 | 143,328,643 | 2,323,085 | 1.62 | $(165,333)$ | 2,157,752 | 1.51 |
| 1170 H | GOVERNORS AND EXCITATION SYSTEM | 2118 | 50-R4 | 0 | 145,844 | 3,092 | 2.12 | (40) | 3,052 | 2.09 |
| 1170L | LICENCE RENEWAL | 2118 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1170P | A/C ELECTRICAL POWER SYSTEMS | 2118 | 50-R3 | 0 | 30,503,528 | 605,258 | 1.98 | $(41,664)$ | 563,594 | 1.85 |
| 1170Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2118 | 23-L2 | 0 | 4,409,200 | 127,168 | 2.88 | 20,949 | 148,117 | 3.36 |
| 1170R | AUXILIARY STATION PROCESSES | 2118 | 40-R2.5 | 0 | 12,199,119 | 300,072 | 2.46 | $(12,642)$ | 287,430 | 2.36 |
| 1170X | SUPPORT BUILDINGS | 2118 | 65-R3 | 0 | 160,484 | 2,815 | 1.75 | ) | 2,816 | 1.75 |
| 1170W | SUPPORT BUILDING RENOVATIONS | 2118 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL LONG SPRUCE |  |  |  | 500,664,431 | 6,950,200 | 1.39 | $(477,268)$ | 6,472,932 | 1.29 |
| 11750 | LIMESTONE |  |  |  |  |  |  |  |  |  |
| 1175A | DAMS, DYKES AND WEIRS | 2131 | 125-R4 | 0 | 33,258,073 | 288,035 | 0.87 | $(3,907)$ | 284,128 | 0.85 |
| 1175B | POWERHOUSE | 2131 | 125-R4 | 0 | 461,430,334 | 3,997,313 | 0.87 | $(53,896)$ | 3,943,417 | 0.85 |
| 1175 C | POWERHOUSE RENOVATIONS | 2131 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1175D | SPILLWAY | 2131 | 75-R2 | 0 | 201,240,773 | 3,035,196 | 1.51 | 156,773 | 3,191,969 | 1.59 |
| 1175E | WATER CONTROL SYSTEMS | 2131 | 50-S4 | 0 | 116,224,392 | 2,405,845 | 2.07 | $(132,827)$ | 2,273,018 | 1.96 |
| 1175F | ROADS AND SITE IMPROVEMENTS | 2131 | 50-R3 | 0 | 17,164,432 | 363,550 | 2.12 | $(1,281)$ | 362,269 | 2.11 |
| 1175G | TURBINES AND GENERATORS | 2131 | 65-S3 | 0 | 403,825,745 | 6,663,125 | 1.65 | $(141,734)$ | 6,521,391 | 1.61 |
| 1175H | GOVERNORS AND EXCITATION SYSTEM | 2131 | 50-R4 | 0 | 16,584,271 | 346,998 | 2.09 | $(13,989)$ | 333,009 | 2.01 |
| 1175L | LICENCE RENEWAL | 2131 | 50-SQ | 0 |  |  |  |  |  | 2.00 */** |
| 1175P | A/C ELECTRICAL POWER SYSTEMS | 2131 | 50-R3 | 0 | 144,317,307 | 3,056,641 | 2.12 | $(10,784)$ | 3,045,857 | 2.11 |
| 1175Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2131 | 23-L2 | 0 | 8,333,373 | 339,021 | 4.07 | 50,445 | 389,466 | 4.67 |
| 1175R | AUXILIARY STATION PROCESSES | 2131 | 40-R2.5 | 0 | 36,054,205 | 940,241 | 2.61 | 22,659 | 962,900 | 2.67 |
| 1175X | SUPPORT BUILDINGS | 2131 | 65-R3 | 0 | 5,703,494 | 95,625 | 1.68 | 222 | 95,847 | 1.68 |
| 1175W | SUPPORT BUILDING RENOVATIONS | 2131 | 20-SQ | 0 |  |  |  |  |  | 5.00 ** |
|  | TOTAL LIMESTONE |  |  |  | 1,444,136,399 | 21,531,590 | 1.49 | $(128,319)$ | 21,403,271 | 1.48 |
| 11800 | WUSKWATIM |  |  |  |  |  |  |  |  |  |
| 1180A | DAMS, DYKES AND WEIRS | 2152 | 125-R4 | 0 |  |  |  |  |  | 0.80 * |
| 1180B | POWERHOUSE | 2152 | 125-R4 | 0 |  |  |  |  |  | 0.80 * |
| 1180 C | POWERHOUSE RENOVATIONS | 2152 | 25-SQ | 0 |  |  |  |  |  | 4.00 */** |
| 1180D | SPILLWAY | 2152 | 75-R2 | 0 |  |  |  |  |  | 1.33 * |
| 1180E | WATER CONTROL SYSTEMS | 2152 | 50-S4 | 0 |  |  |  |  |  | 2.00 * |
| 1180F | ROADS AND SITE IMPROVEMENTS | 2152 | 50-R3 | 0 |  |  |  |  |  | 2.00 * |
| 1180G | TURBINES AND GENERATORS | 2152 | 65-S3 | 0 |  |  |  |  |  | 1.54 * |
| 1180 H | GOVERNORS AND EXCITATION SYSTEM | 2152 | 50-R4 | 0 |  |  |  |  |  | 2.00 * |
| 1180P | A/C ELECTRICAL POWER SYSTEMS | 2152 | 50-R3 | 0 |  |  |  |  |  | 2.00 * |
| 1180Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2152 | 23-L2 | 0 |  |  |  |  |  | 4.35 * |
| 1180R | AUXILIARY STATION PROCESSES | 2152 | 40-R2.5 | 0 |  |  |  |  |  | 2.50 * |
| 1180X | SUPPORT BUILDINGS | 2152 | 65-R3 | 0 |  |  |  |  |  | 1.54 * |
| 1180W | SUPPORT BUILDING RENOVATIONS | 2152 | 20-SQ | 0 |  |  |  |  |  | 5.00 */** |
|  | TOTAL WUSKWATIM |  |  |  | 0 | 0 |  | 0 | 0 |  |
| 11990 | INFRASTRUCTURE SUPPORTING GENERATION |  |  |  |  |  |  |  |  |  |
| 1199F | PROVINCIAL ROADS |  | 50-R3 | 0 | 25,380,938 | 507,851 | 2.00 | 25,909 | 533,760 | 2.10 |
| 1199V | TOWN SITE BUILDING |  | 65-L3 | 0 | 63,280,714 | 1,067,664 | 1.69 | 77,766 | 1,145,430 | 1.81 |
| 1199W | TOWN SITE BUILDINGS RENOVATIONS |  | 20-SQ | 0 | 13,502,581 | 674,829 | 5.00 | 79,558 | 754,387 | 5.59 ** |
| 1199 Y | TOWN SITE OTHER INFRASTRUCTURE |  | 45-R3 | 0 | 26,527,464 | 643,245 | 2.42 | 19,722 | 662,967 | 2.50 |
|  | TOTAL INFRASTRUCTURE SUPPORTING GENERATION |  |  |  | 128,691,696 | 2,893,589 | 2.25 | 202,955 | 3,096,544 | 2.41 |
|  | TOTAL HYDRAULIC GENERATION |  |  |  | 4,716,467,183 | 69,157,915 | 1.47 | $(3,303,866)$ | 65,854,049 | 1.40 |



| $\begin{aligned} & \text { N} \\ & \stackrel{N}{N} \\ & \text { N- } \\ & \text { } \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{0} \\ & \sim \\ & \infty \\ & \infty \\ & \hline \end{aligned}$ | $\stackrel{\rightharpoonup}{0}$ |  |  | N 0 0 0 $\infty$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |










$\frac{\text { CALCULATED ANNUAL ACCRUAL }}{\text { AMOUNT }} \frac{\text { RATE }(\%)}{(6)=(5) /(4)}$

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## thermal generation

BRANDON UNIT 5 （COAL）
POWERHOUSE
POWERHOUSE RENOVATIONS
POWERHOUSE RENOVATIONS
ROADS AND SITE IMPROVEMENTS
THERMAL TURBINES AND GENERATORS
GOVERNORS AND EXCITATION SYSTEM
12000

$1205 B$
1205 C
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 TOTAL BRANDON UNIT 5 （COAL）
BRANDON UNITS 6 AND 7
POWERHOUSE
POWERHOUSE POWERHOUSE RENOVATIONS
THERMAL TURBINES AND GENERATORS
GOVERNORS AND EXCITATION SYSTEM
COMBUSTION TURBINE COMBUSTION TURBINE
LICENCE RENEWAL
A／C ELECTRICAL POWER SYSTEMS INSTRUMENTATION，CONTROL AND D／C SYSTEMS
AUXILIARY STATION PROCESSES
TOTAL BRANDON UNITS 6 AND 7

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| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \\ & \text { DATE } \end{aligned}$ | ESTIMATEDSURVIVORCURVE | ESTIMATED <br> NET <br> SALVAGE <br> $(3)$ | SURVIVING ORIGINAL COST AT 03/31/2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL <br> PROVISIONFOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  |  |  |  | (5) | (6)=(5)/(4) |  | (8)=(5)+(7) | (9)=(8)/(4) |
|  | COMMUNICATION |  |  |  |  |  |  |  |  |  |
| 5000B | BUILDINGS |  | 65-R4 | 0 | 4,154,458 | 67,568 | 1.63 | 2,456 | 70,024 | 1.69 |
| 5000 C | BUILDING RENOVATIONS |  | 20-SQ | 0 | 2,741,652 | 135,856 | 4.96 | 9,033 | 144,889 | 5.28 ** |
| 5000D | BUILDING - SYSTEM CONTROL CENTRE |  | 65-R4 | 0 | 15,857,686 | 258,480 | 1.63 | 10,718 | 269,198 | 1.70 |
| 5000G | COMMUNICATION TOWERS |  | 60-R2.5 | 0 | 8,733,929 | 169,211 | 1.94 | 12,444 | 181,655 | 2.08 |
| 5000 H | FIBRE OPTIC AND METALLIC CABLE |  | 35-R1.5 | 0 | 117,999,925 | 4,182,599 | 3.54 | 477,843 | 4,660,442 | 3.95 |
| 5000 J | CARRIER EQUIPMENT |  | 15-S0.5 | 0 | 119,230,804 | 8,327,782 | 6.98 | 2,228,785 | 10,556,567 | 8.85 |
| 5000K | OPERATIONAL IT EQUIPMENT |  | 5-SQ | 0 | 2,197,495 | 366,710 | 16.69 | 72,460 | 439,170 | 19.99 ** |
| 5000M | MOBILE RADIO, TELEPHONE AND VIDEO CONFERENCING |  | 8-SQ | 0 | 22,085,412 | 1,412,806 | 6.40 | 395,972 | 1,808,778 | 8.19 ** |
| 5000 N | OPERATIONAL DATA NETWORK |  | 8-SQ | 0 | 8,530,264 | 1,066,283 | 12.50 | 58,577 | 1,124,860 | 13.19 ** |
| 5000R | POWER SYSTEM CONTROL |  | 10-R2 | 0 | 7,738,280 | 572,474 | 7.40 | 253,796 | 826,270 | 10.68 |
|  | TOTAL COMMUNICATION |  |  |  | 309,269,905 | 16,559,769 | 5.35 | 3,522,083 | 20,081,852 | 6.49 |
|  | MOTOR VEHICLES |  |  |  |  |  |  |  |  |  |
| 6000E | PASSENGER VEHICLES |  | 9-L2 | 20 | 1,304,413 | 116,873 | 8.96 | 61,394 | 178,267 | 13.67 |
| 6000F | LIGHT TRUCKS |  | 10-L3 | 15 | 52,299,249 | 4,431,892 | 8.47 | 166,143 | 4,598,035 | 8.79 |
| 6000G | HEAVY TRUCKS |  | 15-L2 | 10 | 61,004,014 | 3,855,518 | 6.32 | 517,820 | 4,373,338 | 7.17 |
| 6000 H | CONSTRUCTION EQUIPMENT |  | 15-L2 | 20 | 17,016,205 | 941,112 | 5.53 | 131,746 | 1,072,858 | 6.30 |
| 60001 | LARGE SOFT-TRACK EQUIPMENT |  | 22-L2.5 | 15 | 13,146,265 | 536,840 | 4.08 | 116,795 | 653,635 | 4.97 |
| 6000 J | TRAILERS |  | 35-R3 | 25 | 15,996,331 | 370,448 | 2.32 | $(22,001)$ | 348,447 | 2.18 |
| 6000K | MISCELLANEOUS VEHICLES |  | 10-L1.5 | 15 | 5,724,654 | 481,594 | 8.41 | $(81,188)$ | 400,406 | 6.99 |
|  | TOTAL MOTOR VEHICLES |  |  |  | 166,491,131 | 10,734,277 | 6.45 | 890,708 | 11,624,985 | 6.98 |
|  | BUILDINGS |  |  |  |  |  |  |  |  |  |
| 8000B | BUILDINGS - GENERAL |  | 65-R4 | 0 | 88,797,107 | 1,428,579 | 1.61 | $(23,061)$ | 1,405,518 | 1.58 |
| 8000 C | BUILDING RENOVATIONS |  | 20-SQ | 0 | 46,779,508 | 2,272,271 | 4.86 | 841,795 | 3,114,066 | 6.66 ** |
| 8000D | BUILDING - 360 PORTAGE - CIVIL |  | 100-R4 | 0 | 207,292,785 | 2,198,841 | 1.06 | $(1,752)$ | 2,197,089 | 1.06 |
| 8000E | BUILDING - 360 PORTAGE - ELECTRO/MECHANICAL |  | 45-R2 | 0 | 65,888,581 | 2,016,603 | 3.06 | 24,589 | 2,041,192 | 3.10 |
|  | TOTAL BUILDINGS |  |  |  | 408,757,981 | 7,916,294 | 1.94 | 841,572 | 8,757,866 | 2.14 |
|  | GENERAL EQUIPMENT |  |  |  |  |  |  |  |  |  |
| 9000 H | TOOLS, SHOP AND GARAGE EQUIPMENT |  | 15-SQ | 0 | 78,461,837 | 5,233,405 | 6.67 | 842,696 | 6,076,101 | 7.74 ** |
| 9000K | COMPUTER EQUIPMENT |  | 5-SQ | 0 | 48,379,758 | 9,401,982 | 19.43 | 4,375,187 | 13,777,169 | 28.48 ** |
| 9000L | OFFICE FURNITURE AND EQUIPMENT |  | 20-SQ | 0 | 21,726,896 | 1,086,345 | 5.00 | $(41,021)$ | 1,045,324 | 4.81 ** |
| 9000M | HOT WATER TANKS |  | 6-SQ | 0 | 4,511,783 | 197,108 | 4.37 | 759,615 | 956,723 | 21.20 ** |
|  | TOTAL GENERAL EQUIPMENT |  |  |  | 153,080,275 | 15,918,840 | 10.40 | 5,936,477 | 21,855,317 | 14.28 |
|  | EASEMENTS |  |  |  |  |  |  |  |  |  |
| A100A | EASEMENTS |  | 75-R3 | 0 | 50,612,345 | 749,695 | 1.48 | 5,463 | 755,158 | 1.49 |
|  | TOTAL EASEMENTS |  |  |  | 50,612,345 | 749,695 | 1.48 | 5,463 | 755,158 | 1.49 |
|  | COMPUTER SOFTWARE AND DEVELOPMENT |  |  |  |  |  |  |  |  |  |
| A200G | COMPUTER DEVELOPMENT - MAJOR SYSTEMS |  | 10-R3 | 0 | 100,980,015 | 10,205,232 | 10.11 | 324,889 | 10,530,121 | 10.43 |
| A200H | COMPUTER DEVELOPMENT - SMALL SYSTEMS |  | 10-SQ | 0 | 42,827,602 | 4,282,760 | 10.00 | 0 | 4,282,760 | 10.00 ** |
| A200J | COMPUTER SOFTWARE - GENERAL |  | 5-SQ | 0 | 5,076,404 | 1,002,927 | 19.76 | 0 | 1,002,927 | 19.76 ** |
| A200K | COMPUTER SOFTWARE - COMMUNICATION/OPERATIONAL |  | 5-SQ | 0 | 3,639,540 | 360,800 | 9.91 | 146,167 | 506,967 | 13.93 ** |
| A200L | OPERATIONAL SYSTEM MAJOR SOFTWARE - EMS/SCADA |  | 6-R3 | 0 | 6,016,817 | 811,282 | 13.48 | 577,570 | 1,388,852 | 23.08 |
|  | TOTAL COMPUTER SOFTWARE AND DEVELOPMENT |  |  |  | 158,540,378 | 16,663,001 | 10.51 | 1,048,625 | 17,711,626 | 11.17 |
|  | TOTAL DEPRECIABLE ASSETS |  |  |  | 12,067,737,939 | 301,077,032 | 2.49 | (6,791,243) | 294,285,788 | 2.44 |







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|  |  |  |  |  |  |  |  | $\begin{aligned} & \underset{\sim}{N} \\ & \stackrel{N}{0} \\ & \underset{\sim}{\sim} \\ & \underset{\sim}{n} \end{aligned}$ |  |  |  |  |


| DESCRIPTION |
| :--- |
|  |
| SLAVE FALLS |
| DAMS，DYKES AND WEIRS |
| POWERHOUSE |
| POWERHOUSE RENOVATIONS |
| SPILLWAY |
| WATER CONTROL SYSTEMS |
| ROADS AND SITE IMPROVEMENTS |
| TURBINES AND GENERATORS |
| GOVERNORS AND EXCITATION SYSTEM |
| LICENCE RENEWAL |
| A／C ELECTRICAL POWER SYSTEMS |
| INSTRUMENTATION，CONTROL AND D／C SYSTEMS |
| AUXILIARY STATION PROCESSES |
| SUPPORT BUILDINGS |
| SUPPORT BUILDING RENOVATIONS |
| TOTAL SLAVE FALLS |
| PINE FALLS |
| DAMS，DYKES AND WEIRS |
| POWERHOUSE |
| POWERHOUSE RENOVATIONS |
| SPILLWAY |
| WATER CONTROL SYSTEMS |
| ROADS AND SITE IMPROVEMENTS |
| TURBINES AND GENERATORS |
| GOVERNORS AND EXCITATION SYSTEM |
| LICENCE RENEWAL |
| A／C ELECTRICAL POWER SYSTEMS |
| INSTRUMENTATION，CONTROL AND D／C SYSTEMS |
| AUXILIARY STATION PROCESSES |
| SUPPORT BUILDINGS |
| SUPPORT BUILDING RENOVATIONS |
| COMMUNITY DEVELOPMENT COSTS |
| TOTAL PINE FALLS |
| MCARTHUR FALLS |
| DAMS，DYKES AND WEIRS |
| POWERHOUUE |
| POWERHOUSE RENOVATIONS |
| SPILLWAY |
| WATER CONTROL SYSTEMS |
| ROADS AND SITE IMPROVEMENTS |
| TURBINES AND GENERATORS |
| GOVERNORS AND EXCITATION SYSTEM |
| LICENCE RENEWAL |
| ACC EEECTRICAL POWER SYSTEMS |
| INSTRUMENTATION，CONTROL AND D／C SYSTEMS |
| AUXILIARY STATION PROCESSES |
| SUPPORT BUILDINGS |
| SUPPORT BUILDING RENOVATIONS |
| TOTAL MCARTHUR FALLS |





| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AT 03/31/2010 | $\begin{aligned} & \text { CALCULATED } \\ & \text { ACCRUUED } \\ & \text { DEPRECIATION } \end{aligned}$ | $\begin{aligned} & \text { BOOK } \\ & \text { ACCUMULATED } \\ & \text { DEPRECIATION } \end{aligned}$ | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) | (2) | (3) |  | (5) $=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 11350 | KELSEY |  |  |  |  |  |  |  |
| 1135A | DAMS, DYKES AND WEIRS | 11,066,409 | 2,091,406 | 2,388,154 | $(296,748)$ | (0.14) | 81.9 | $(3,623)$ |
| 1135B | POWERHOUSE | 27,569,817 | 10,369,448 | 11,797,459 | $(1,428,011)$ | (0.14) | 71.8 | $(19,889)$ |
| 1135 C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  | * |
| 1135D | SPILLWAY | 5,331,929 | 3,272,738 | 3,337,776 | $(65,038)$ | (0.02) | 31.1 | $(2,091)$ |
| 1135E | WATER CONTROL SYSTEMS | 11,792,566 | 5,095,822 | 5,858,592 | $(762,770)$ | (0.15) | 37.6 | $(20,286)$ |
| 1135F | ROADS AND SITE IMPROVEMENTS | 6,442,928 | 3,327,136 | 3,675,535 | $(348,399)$ | (0.10) | 28.5 | $(12,225)$ |
| 1135G | TURBINES AND GENERATORS | 130,323,693 | 9,810,603 | 10,889,594 | $(1,078,991)$ | (0.11) | 56.8 | $(18,996)$ |
| 1135H | GOVERNORS AND EXCITATION SYSTEM | 88,651 | 25,248 | 28,203 | $(2,955)$ | (0.12) | 33.9 | (87) |
| 1135L | LICENCE RENEWAL | * |  |  |  |  |  | ** |
| 1135P | A/C ELECTRICAL POWER SYSTEMS | 5,751,610 | 3,144,625 | 3,442,084 | $(297,459)$ | (0.09) | 24.5 | $(12,141)$ |
| 1135Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 3,595,490 | 1,573,603 | 1,535,475 | 38,128 | 0.02 | 12.3 | 3,100 |
| 1135R | AUXILIARY STATION PROCESSES | 7,788,815 | 3,256,761 | 3,361,853 | $(105,092)$ | (0.03) | 22.6 | $(4,650)$ |
| 1135X | SUPPORT BUILDINGS | 9,953,977 | 1,934,994 | 2,030,173 | $(95,179)$ | (0.05) | 47.1 | $(2,021)$ |
| 1135W | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  | ** |
|  | TOTAL KELSEY | 219,705,886 | 43,902,384 | 48,344,899 | $(4,442,515)$ | (0.10) |  | $(92,910)$ |
| 11400 | GRAND RAPIDS |  |  |  |  |  |  |  |
| 1140A | DAMS, DYKES AND WEIRS | 53,468,974 | 16,904,945 | 20,241,182 | $(3,336,237)$ | (0.20) | 71.3 | $(46,792)$ |
| 1140B | POWERHOUSE | 24,506,522 | 9,074,278 | 10,870,236 | $(1,795,958)$ | (0.20) | 69.2 | $(25,953)$ |
| 1140 C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  | ** |
| 1140D | SPILLWAY | 5,308,334 | 2,984,459 | 3,127,598 | $(143,139)$ | (0.05) | 34.1 | $(4,198)$ |
| 1140E | WATER CONTROL SYSTEMS | 15,982,492 | 10,781,268 | 12,935,293 | $(2,154,025)$ | (0.20) | 35.0 | $(61,544)$ |
| 1140F | ROADS AND SITE IMPROVEMENTS | 2,581,475 | 1,853,663 | 2,151,076 | $(297,413)$ | (0.16) | 18.7 | $(15,904)$ |
| 1140G | TURBINES AND GENERATORS | 113,066,160 | 24,914,070 | 28,837,308 | $(3,923,238)$ | (0.16) | 48.1 | $(81,564)$ |
| 1140 H | GOVERNORS AND EXCITATION SYSTEM | 42,718 | 9,742 | 11,420 | $(1,678)$ | (0.17) | 37.8 | (44) |
| 1140 L | LICENCE RENEWAL | * |  |  |  |  |  | ** |
| 1140P | A/C ELECTRICAL POWER SYSTEMS | 8,240,545 | 2,996,076 | 3,393,467 | $(397,391)$ | (0.13) | 32.2 | $(12,341)$ |
| 1140Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 4,674,247 | 3,162,334 | 3,344,181 | $(181,847)$ | (0.06) | 10.2 | $(17,828)$ |
| 1140R | AUXILIARY STATION PROCESSES | 5,600,506 | 1,772,923 | 1,867,556 | $(94,633)$ | (0.05) | 25.0 | $(3,785)$ |
| 1140X | SUPPORT BUILDINGS | 6,190,376 | 1,167,718 | 1,266,627 | $(98,909)$ | (0.08) | 47.1 | $(2,100)$ |
| 1140W | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  | ** |
| 11402 | COMMUNITY DEVELOPMENT COSTS | 101,442,997 | 11,399,379 | 17,852,104 | $(6,452,725)$ | (0.57) | 71.2 | $(90,628)$ |
|  | TOTAL GRAND RAPIDS | 341,105,346 | 87,020,855 | 105,898,046 | (18,877,191) | (0.22) |  | $(362,682)$ |
| 11450 | KEttLe |  |  |  |  |  |  |  |
| 1145A | DAMS, DYKES AND WEIRS | 45,280,663 | 14,457,365 | 17,156,728 | $(2,699,363)$ | (0.19) | 79.0 | $(34,169)$ |
| 1145B | POWERHOUSE | 146,207,420 | 46,205,345 | 54,832,267 | $(8,626,922)$ | (0.19) | 79.3 | $(108,788)$ |
| 1145 C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  | ** |
| 1145D | SPILLWAY | 25,406,960 | 12,672,991 | 13,102,475 | $(429,484)$ | (0.03) | 37.7 | $(11,392)$ |
| 1145E | WATER CONTROL SYSTEMS | 17,834,945 | 12,943,500 | 15,570,815 | $(2,627,315)$ | (0.20) | 15.1 | $(173,994)$ |
| 1145F | ROADS AND SITE IMPROVEMENTS | 10,591 | 2,234 | 2,424 | (190) | (0.08) | 35.5 | (5) |
| 1145G | TURBINES AND GENERATORS | 70,740,028 | 38,119,760 | 44,332,641 | $(6,212,881)$ | (0.16) | 29.8 | $(208,486)$ |
| 1145H | GOVERNORS AND EXCITATION SYSTEM | 3,304,326 | 2,291,949 | 2,718,363 | $(426,414)$ | (0.19) | 16.3 | $(26,160)$ |
| 1145L | LICENCE RENEWAL | * |  |  |  |  |  | ** |
| 1145P | A/C ELECTRICAL POWER SYSTEMS | 6,771,761 | 2,715,301 | 3,063,216 | $(347,915)$ | (0.13) | 29.9 | $(11,636)$ |
| 1145Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 12,001,279 | 7,812,908 | 8,161,591 | $(348,683)$ | (0.04) | 10.2 | $(34,185)$ |
| 1145R | AUXILIARY STATION PROCESSES | 15,361,985 | 8,293,267 | 9,355,269 | $(1,062,002)$ | (0.13) | 21.2 | $(50,094)$ |
| 1145X | SUPPORT BUILDINGS | 3,908,404 | 2,242,225 | 2,527,081 | $(284,856)$ | (0.13) | 27.7 | $(10,284)$ |
| 1145W | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  | ** |
|  | total kettle | 346,828,362 | 147,756,845 | 170,822,869 | $(23,066,024)$ | (0.16) |  | $(669,194)$ |






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|  |  |  |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  |  |  | 8 <br> 0 <br> 0 <br> 0 <br> 8 <br> 8 | $\begin{aligned} & \text { H } \\ & \text { م } \\ & \text { N } \\ & \text { O} \\ & \stackrel{\infty}{\infty} \end{aligned}$ |  |  |  |  | （ |


TOTAL JENPEG
LAKE WINNIPEG REGULATION
DAKE WINS，DYKES AND WEIRS
LICENCE RENEWAL
LICENCE RENEWAL
COMMUNITY DEVELOPMENT COSTS TOTAL LAKE WINNIPEG REGULATION
CHURCHILL RIVER DIVERSION
DAMS，DYKES AND WEIRS
SPILLWAY
WATER CONTROL SYSTEMS
ROADS AND SITE IMPROVEMENTS
LICENCE RENEWAL

| A／C ELECTRICAL POWER SYSTEMS |
| :--- |
| INSTRUMENTATION，CONTROL AND D／C SYSTEMS |

AUXILIARY STATION PROCESSES
SUPPORT BUILDINGS
SUPPORT BUILDINGS
SUPPORT BUILDING RENOVATIONS
COMMUNITY DEVELOPMENT COSTS
TOTAL CHURCHILL RIVER DIVERSION





| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AT 03/31/2010 | $\begin{aligned} & \text { CALCULATED } \\ & \text { ACCRUED } \\ & \text { DEPRECIATION } \end{aligned}$ | BOOK ACCUMULATED DEPRECIATION | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) | (2) | (3) | (4) | (5) $=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 11700 | LONG SPRUCE |  |  |  |  |  |  |  |
| 1170A | DAMS, DYKES AND WEIRS | 64,744,494 | 17,136,124 | 18,797,519 | $(1,661,395)$ | (0.10) | 85.2 | $(19,500)$ |
| 1170B | POWERHOUSE | 143,780,355 | 38,092,455 | 41,787,059 | $(3,694,604)$ | (0.10) | 85.2 | $(43,364)$ |
| 1170C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  | ** |
| 1170D | SPILLWAY | 42,273,617 | 18,296,252 | 17,142,264 | 1,153,988 | 0.06 | 41.0 | 28,146 |
| 1170E | WATER CONTROL SYSTEMS | 57,946,281 | 37,207,115 | 41,449,762 | $(4,242,647)$ | (0.11) | 17.5 | $(242,437)$ |
| 1170F | ROADS AND SITE IMPROVEMENTS | 1,172,867 | 657,177 | 687,609 | $(30,432)$ | (0.05) | 22.0 | $(1,383)$ |
| 1170G | TURBINES AND GENERATORS | 143,328,643 | 72,028,075 | 77,103,787 | $(5,075,712)$ | (0.07) | 30.7 | $(165,333)$ |
| 1170 H | GOVERNORS AND EXCITATION SYSTEM | 145,844 | 20,097 | 21,732 | $(1,635)$ | (0.08) | 40.7 | (40) |
| 1170L | LICENCE RENEWAL | * |  |  |  |  |  | ** |
| 1170P | A/C ELECTRICAL POWER SYSTEMS | 30,503,528 | 17,655,095 | 18,542,547 | $(887,452)$ | (0.05) | 21.3 | $(41,664)$ |
| 1170Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 4,409,200 | 3,518,156 | 3,373,611 | 144,545 | 0.04 | 6.9 | 20,949 |
| 1170R | AUXILIARY STATION PROCESSES | 12,199,119 | 6,909,582 | 7,135,875 | $(226,293)$ | (0.03) | 17.9 | $(12,642)$ |
| 1170X | SUPPORT BUILDINGS | 160,484 | 18,662 | 18,618 | 44 | 0.00 | 50.4 | 1 |
| 1170W | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  | ** |
|  | TOTAL LONG SPRUCE | 500,664,431 | 211,538,790 | 226,060,384 | (14,521,594) | (0.07) |  | $(477,268)$ |
| 11750 | Limestone |  |  |  |  |  |  |  |
| 1175A | DAMS, DYKES AND WEIRS | 33,258,073 | 5,378,081 | 5,756,238 | $(378,157)$ | (0.07) | 96.8 | $(3,907)$ |
| 1175B | POWERHOUSE | 461,430,334 | 74,262,785 | 79,485,351 | $(5,222,566)$ | (0.07) | 96.9 | $(53,896)$ |
| 1175C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  | ** |
| 1175D | SPILLWAY | 201,240,773 | 56,703,974 | 49,241,598 | 7,462,376 | 0.13 | 47.6 | 156,773 |
| 1175E | WATER CONTROL SYSTEMS | 116,224,392 | 44,988,138 | 48,919,806 | $(3,931,668)$ | (0.09) | 29.6 | $(132,827)$ |
| 1175F | ROADS AND SITE IMPROVEMENTS | 17,164,432 | 6,795,781 | 6,832,303 | $(36,522)$ | (0.01) | 28.5 | $(1,281)$ |
| 1175G | TURBINES AND GENERATORS | 403,825,745 | 124,076,655 | 130,029,479 | $(5,952,824)$ | (0.05) | 42.0 | $(141,734)$ |
| 1175 H | GOVERNORS AND EXCITATION SYSTEM | 16,584,271 | 6,439,021 | 6,847,507 | $(408,486)$ | (0.06) | 29.2 | $(13,989)$ |
| 1175L | LICENCE RENEWAL | * |  |  |  |  |  | ** |
| 1175P | A/C ELECTRICAL POWER SYSTEMS | 144,317,307 | 57,149,653 | 57,457,004 | $(307,351)$ | (0.01) | 28.5 | $(10,784)$ |
| 1175Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 8,333,373 | 5,237,449 | 4,778,396 | 459,053 | 0.09 | 9.1 | 50,445 |
| 1175R | AUXILIARY STATION PROCESSES | 36,054,205 | 16,111,470 | 15,631,104 | 480,366 | 0.03 | 21.2 | 22,659 |
| 1175X | SUPPORT BUILDINGS | 5,703,494 | 1,625,607 | 1,616,130 | 9,477 | 0.01 | 42.6 | 222 |
| 1175W | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  | ** |
|  | total limestone | 1,444,136,399 | 398,768,614 | 406,594,917 | (7,826,303) | (0.02) |  | $(128,319)$ |
| 11800 | WUSKWATIM |  |  |  |  |  |  |  |
| 1180A | DAMS, DYKES AND WEIRS | * |  |  |  |  |  |  |
| 1180B | POWERHOUSE | * |  |  |  |  |  |  |
| 1180 C | POWERHOUSE RENOVATIONS | * |  |  |  |  |  | ** |
| 1180D | SPILLWAY | * |  |  |  |  |  |  |
| 1180E | WATER CONTROL SYSTEMS | * |  |  |  |  |  |  |
| 1180F | ROADS AND SITE IMPROVEMENTS | * |  |  |  |  |  |  |
| 1180G | TURBINES AND GENERATORS | * |  |  |  |  |  |  |
| 1180 H | GOVERNORS AND EXCITATION SYSTEM | * |  |  |  |  |  |  |
| 1180P | A/C ELECTRICAL POWER SYSTEMS | * |  |  |  |  |  |  |
| 1180Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | * |  |  |  |  |  |  |
| 1180R | AUXILIARY STATION PROCESSES | * |  |  |  |  |  |  |
| 1180X | SUPPORT BUILDINGS | * |  |  |  |  |  |  |
| 1180W | SUPPORT BUILDING RENOVATIONS | * |  |  |  |  |  | ** |
|  | TOTAL WUSKWATIM | 0 | 0 | 0 | 0 | 0.00 |  | 0 |
| 11990 | INFRASTRUCTURE SUPPORTING GENERATION |  |  |  |  |  |  |  |
| 1199F | PROVINCIAL ROADS | 25,380,938 | 14,256,798 | 13,691,986 | 564,812 | 0.04 | 21.8 | 25,909 |
| 1199V | TOWN SITE BUILDINGS | 63,280,714 | 21,821,338 | 18,850,678 | 2,970,660 | 0.14 | 38.2 | 77,766 |
| 1199W | TOWN SITE BUILDINGS RENOVATIONS | 13,502,581 | 2,082,369 | 809,439 | 1,272,930 | 0.61 | 16.0 | 79,558 ** |
| 1199Y | TOWN SITE OTHER INFRASTRUCTURE | 26,527,464 | 6,785,574 | 6,187,988 | 597,586 | 0.09 | 30.3 | 19,722 |
|  | TOTAL INFRASTRUCTURE SUPPORTING GENERATION | 128,691,696 | 44,946,079 | 39,540,091 | 5,405,988 | 0.12 |  | 202,955 |
|  | TOTAL HYDRAULIC GENERATION | 4,716,467,183 | 1,387,538,329 | 1,536,957,059 | (149,418,730) | (0.11) |  | (3,303,866) |

SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010



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| SURVIVING ORIGINAL COST AT 03/31/2010 | $\begin{aligned} & \text { CALCULATED } \\ & \text { ACCRUED } \\ & \text { DEPRECIATION } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { BOOK } \\ & \text { ACCUMULATED } \\ & \text { DEPRECIATION } \end{aligned}$ |
| :---: | :---: | :---: |
| (2) | (3) | (4) |
| 11,729,518 | 7,632,440 | 7,309,729 |
| 4,012,331 | 2,328,563 | 2,223,066 |
| 19,611,168 | 10,357,790 | 9,929,941 |
| 2,343,861 | 1,203,338 | 1,159,256 |
| 14,827,183 | 9,606,334 | 9,136,797 |
| 8,009,703 | 5,163,840 | 4,909,693 |
| 26,389,775 | 18,364,654 | 16,247,252 |
| 47,306,417 | 28,484,735 | 26,692,451 |
| 7,253,899 | 4,385,802 | 4,205,706 |
| 141,483,855 | 87,527,496 | 81,813,891 |
| 14,925,029 | 1,823,651 | 2,280,114 |
| 9,823,758 | 1,575,357 | 1,952,163 |
| 143,284,091 | 44,692,977 | 52,513,510 |
| 6,252,586 | 1,040,520 | 1,200,472 |
| 1,114,338 | 244,755 | 258,878 |
| 10,639,560 | 2,211,095 | 2,379,753 |
| 186,039,362 | 51,588,355 | 60,584,890 |
| 6,808,812 | 4,128,965 | 6,606,843 |
| 1,630,443 | 707,589 | 1,096,260 |
| 22,750,003 | 8,478,353 | 13,369,871 |
| 17,307 | 6,360 | 10,050 |
| 48,630,259 | 10,023,062 | 14,243,657 |
| 3,171,700 | 1,919,424 | 3,013,273 |
| 5,257,468 | 2,814,592 | 3,837,942 |
| 13,791,022 | 6,369,464 | 9,558,873 |
| 1,033,229 | 450,923 | 691,355 |









## THERMAL GENERATION

POWERHOUSE RENOVATIONS
POWERHOUSE RENOVATIONS
ROADS AND SITE IMPROVEMENTS
THERMAL TURBINES AND GENERATORS
GOVERNORS AND EXCITATION SYSTEM
STEAM GENERATOR AND AUXIIARIES
STEAM GENERATOR AND AUXILIARIES
LICENCE RENEWAL
A/C ELECTRICAL POWER SYSTEMS
INSTRUMENTATION CONTROL AND D/C SYSTEMS
INSTRUMENTATION, CONTROL AND D/C SYSTEMS
AUXILIARY STATION PROCESSES
SUPPORT BUILDINGS
SUPPORT BUILDING RENOVATIONS TOTAL BRANDON UNIT 5 (COAL) BRANDON UNITS 6 AND 7

POWERHOUSE RENOVATIONS
POWERHOUSE RENOVATIONS THERMAL TURBINES AND GENERATORS
GOVERNORS AND EXCITATION SYSTEM COMBUSTION TURBINE

COMBUSE RENEWAL
COMBUSTION TURBINE OVERHAULS
A/C ELECTRICAL POWER SYSTEMS
INSTRUMENTATION, CONTROL AND D/C SYSTEMS
AUXILIARY STATION PROCESSES
AUXILIARY STATION PROCESSES TOTAL BRANDON UNITS 6 AND 7
SELKIRK
POWERHOUSE
POWERHOUSE RENOVATIONS TOTAL BRANDON UNITS 6 AND 7
SELKIRK
POWERHOUSE
POWERHOUSE RENOVATIONS POWERHOUSE RENOVATIONS THERMAL TURBINES AND GENERATORS
GOVERNORS AND EXCITATION SYSTEM GOVERNORS AND EXCITATION SYSTEM
STEAM GENERATOR AND AUXILIARIES A/C ELECTRICAL POWER SYSTEMS INSTRUMENTATION, CONTROL AND D/C SYSTEMS
AUXILIARY STATION PROCESSES SUPPORT BUILDINGS
SUPPORT BUILDING RENOVATIONS TOTAL SELKIRK TOTAL THERMAL GENERATION TOTAL GENERATION diesel generation BUILDINGS BUILDING RENOVATIONS
ENGINES AND GENERATORS - OVERHAULS
ENGINES AND GENERATORS ENGINES AND GENERATORS
ACCESSORY STATION EQUIPMENT
FUEL STORAGE AND HANDLING

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| ACCOUNT | DESCRIPTION | SURVIVINGORIGINAL COSTAT 03/31/2010 | $\begin{aligned} & \text { CALCULATED } \\ & \text { ACCRUED } \\ & \text { DEPRECIATION } \end{aligned}$ | BOOK ACCUMULATED DEPRECIATION | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) |  | (3) |  | (5) $=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |
|  | TRANSMISSION |  |  |  |  |  |  |  |
| 2000F | ROADS, TRAILS AND BRIDGES | 4,045,718 | 1,118,735 | 937,453 | 181,282 | 16.20 | 28.5 | 6,361 |
| 2000G | METAL TOWERS AND CONCRETE POLES | 340,022,220 | 90,153,172 | 99,791,962 | (9,638,790) | (10.69) | 59.8 | $(161,184)$ |
| 2000 J | POLES AND FIXTURES | 104,983,312 | 31,662,039 | 37,079,466 | $(5,417,427)$ | (17.11) | 36.6 | $(148,017)$ |
| 2000K | GROUND LINE TREATMENT | 1,410,002 | 406,685 | 384,224 | 22,461 | 5.52 | 7.1 | ** |
| 2000L | OVERHEAD CONDUCTOR AND DEVICES | 304,577,152 | 101,223,234 | 131,135,862 | $(29,912,628)$ | (29.55) | 44.1 | $(678,291)$ |
| 2000M | UNDERGROUND CABLE AND DEVICES | 1,167,763 | 668,351 | 669,421 | $(1,070)$ | (0.16) | 19.5 | (55) |
|  | TOTAL TRANSMISSION | 756,206,167 | 225,232,216 | 269,998,388 | $(44,766,172)$ | (19.88) |  | $(981,186)$ |
|  | SUBSTATIONS |  |  |  |  |  |  |  |
| 3000B | BUILDINGS | 109,491,690 | 43,169,830 | 48,643,362 | $(5,473,532)$ | (12.68) | 39.1 | $(139,988)$ |
| 3000 C | BUILDING RENOVATIONS | 32,047 | 13,582 | 15,351 | $(1,769)$ | (13.03) | 11.5 | (154) ** |
| 3000F | ROADS, STEEL STRUCTURES AND CIVIL SITE WORK | 109,211,425 | 30,704,401 | 36,248,752 | $(5,544,351)$ | (18.06) | 36.0 | $(154,010)$ |
| 3000 J | POLES AND FIXTURES | 7,810,315 | 2,159,493 | 2,630,995 | $(471,502)$ | (21.83) | 25.4 | $(18,563)$ |
| 3100 R | POWER TRANSFORMERS | 287,449,387 | 81,301,746 | 84,754,364 | $(3,452,618)$ | (4.25) | 31.1 | $(111,017)$ |
| 3100 S | OTHER TRANSFORMERS | 72,153,356 | 28,485,678 | 31,244,518 | $(2,758,840)$ | (9.69) | 20.2 | $(136,576)$ |
| 31007 | INTERRUPTING EQUIPMENT | 156,214,257 | 57,460,857 | 62,510,255 | $(5,049,398)$ | (8.79) | 26.8 | $(188,410)$ |
| 3100 U | OTHER STATION EQUIPMENT | 503,404,372 | 177,009,144 | 190,927,472 | $(13,918,328)$ | (7.86) | 26.0 | $(535,320)$ |
| 3100 V | ELECTRONIC EQUIPMENT AND BATTERIES | 151,238,104 | 72,646,527 | 79,225,503 | $(6,578,976)$ | (9.06) | 11.2 | $(587,409)$ |
| 3200M | SYNCHRONOUS CONDENSERS AND TRANSFORMERS - HVDC | 111,737,981 | 39,137,448 | 40,432,632 | $(1,295,184)$ | (3.31) | 38.9 | $(33,295)$ |
| 3200 N | SYNCHRONOUS CONDENSER OVERHAULS - HVDC | 11,320,594 | 2,820,878 | 2,861,617 | $(40,739)$ | (1.44) | 9.8 | $(4,157)$ |
| 3200P | CONVERTOR EQUIPMENT - HVDC | 214,981,687 | 114,636,506 | 138,795,432 | $(24,158,926)$ | (21.07) | 14.4 | $(1,677,703)$ |
| 3200S | SERIALIZED EQUIPMENT - HVDC | 646,219,985 | 325,860,262 | 367,310,621 | $(41,450,359)$ | (12.72) | 14.1 | $(2,939,742)$ |
| $3200 \cup$ | ACCESSORY STATION EQUIPMENT - HVDC | 55,177,090 | 23,419,465 | 29,083,976 | $(5,664,511)$ | (24.19) | 25.2 | $(224,782)$ |
| 3200 V | ELECTRONIC EQUIPMENT AND BATTERIES - HVDC | 10,401,883 | 6,589,238 | 7,206,990 | $(617,752)$ | (9.38) | 8.6 | $(71,832)$ |
|  | TOTAL SUBSTATIONS | 2,446,844,172 | 1,005,415,055 | 1,121,891,841 | $(116,476,786)$ | (11.58) |  | $(6,822,958)$ |
|  | DISTRIBUTION |  |  |  |  |  |  |  |
| 4000A | UNDERGROUND DUCT AND CONDUIT - CONCRETE | 63,964,331 | 11,217,533 | 12,951,513 | $(1,733,980)$ | (15.46) | 67.9 | $(25,537)$ |
| 4000 C | UNDERGROUND DUCT-ROOF | 2,908,307 | 145,836 | 153,212 | $(7,376)$ | (5.06) | 41.0 | (180) |
| 4000G | METAL TOWERS | 4,571,448 | 1,173,035 | 2,355,833 | $(1,182,798)$ | (100.83) | 37.0 | $(31,968)$ |
| 4000 J | POLES AND FIXTURES | 566,174,558 | 127,369,656 | 264,136,310 | $(136,766,654)$ | (107.38) | 40.3 | $(3,393,713)$ |
| 4000K | GROUND LINE TREATMENT | 33,145,019 | 15,894,039 | 16,746,756 | $(852,717)$ | (5.37) | 5.7 | ** |
| 4000L | OVERHEAD CONDUCTOR AND DEVICES | 613,820,471 | 134,801,042 | 245,433,977 | $(110,632,935)$ | (82.07) | 40.1 | $(2,758,926)$ |
| 4000M | UNDERGROUND CABLE AND DEVICES - 66 KV | 19,523,432 | 2,161,937 | 2,297,161 | $(135,224)$ | (6.25) | 55.0 | $(2,459)$ |
| 4000N | UNDERGROUND CABLE AND DEVICES - PRIMARY | 255,063,759 | 51,410,314 | 59,472,977 | $(8,062,663)$ | (15.68) | 46.0 | $(175,275)$ |
| 4000P | UNDERGROUND CABLE AND DEVICES - SECONDARY | 193,755,072 | 48,230,397 | 55,909,148 | $(7,678,751)$ | (15.92) | 33.1 | $(231,986)$ |
| 4000 Q | SERIALIZED EQUIPMENT - OVERHEAD | 175,924,348 | 60,006,665 | 82,981,927 | $(22,975,262)$ | (38.29) | 23.9 | $(961,308)$ |
| 4000R | DSC - HIGH VOLTAGE TRANSFORMERS | 5,415,940 | 509,552 | 706,487 | $(196,935)$ | (38.65) | 34.8 | $(5,659)$ |
| 4000S | SERIALIZED EQUIPMENT - UNDERGROUND | 174,049,772 | 43,083,841 | 58,998,471 | $(15,914,630)$ | (36.94) | 29.3 | $(543,161)$ |
| 4000 V | ELECTRONIC EQUIPMENT |  |  |  |  |  |  | ** |
| 4000w | SERVICES | 123,228,795 | 44,884,752 | 59,460,620 | $(14,575,868)$ | (32.47) | 18.6 | $(783,649)$ |
| 4000x | STREET LIGHTING | 147,121,573 | 61,545,017 | 72,708,967 | $(11,163,950)$ | (18.14) | 21.1 | $(529,097)$ |
|  | TOTAL DISTRIBUTION | 2,378,666,825 | 602,433,616 | 934,313,358 | (331,879,742) | (55.09) |  | (9,442,919) |
|  | METERS |  |  |  |  |  |  |  |
| 4900 V | METERS - ELECTRONIC | 16,111,185 | 5,320,309 | 1,490,413 | 3,829,896 | 71.99 | 11.1 | 345,036 |
| 4900Y | METERS - ANALOG | 22,469,156 | 16,861,536 | 5,931,142 | 10,930,394 | 64.82 | 4.4 | 2,484,180 |
| 49002 | METERING TRANSFORMERS | 8,984,899 | 3,313,305 | 3,413,836 | $(100,531)$ | (3.03) | 22.6 | $(4,448)$ |
|  | TOTAL METERS | 47,565,240 | 25,495,150 | 10,835,391 | 14,659,759 | 57.50 |  | 2,824,768 |

SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP
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 SURVIVING
ORIGINAL COST
AT 03/31/2010
 309,269,905





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## MANITOBA HYDRO

2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

## MANITOBA INDUSTRIAL POWER USERS GROUP ("MIPUG") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## MIPUG/MH/PRE-ASK-2

Question:
Please provide a copy of any instructions, comments or recommendations from Hydro to Gannett Fleming during the course of the assignment, including in regard to methods to be used or lives to be assumed.

Response:
Please see Manitoba Hydro’s response to MIPUG/MH/PRE-ASK-1.

## MANITOBA HYDRO

2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

## MANITOBA INDUSTRIAL POWER USERS GROUP ("MIPUG") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## MIPUG/MH/PRE-ASK-3

Question:
To the extent that they have not otherwise been provided, please provide copies of any written comments, advice or recommendations provided by Gannett Fleming to Hydro in regard to options which are compliant with IFRS, the selection of methods, lives, or other approaches to conducting the study.

Response:
Please see Manitoba Hydro’s response to MIPUG/MH/PRE-ASK-1

## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

## MANITOBA INDUSTRIAL POWER USERS GROUP ("MIPUG") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## MIPUG/MH/PRE-ASK-4

Question:
a) Please provide a copy of any drafts of the Gannett Fleming report to Hydro, including Manitoba Hydro's response to the draft reports.
b) Also, in regard to the Wuskwatim depreciation estimates in the November 2, 2011 Gannett Fleming study (ELG)

## Response:

a) Please see Manitoba Hydro's response to MIPUG/MH/PRE-ASK-1.
b) During the course of the 2010 Depreciation Study, Manitoba Hydro advised Gannett Fleming that a new generating station, Wuskwatim GS, would be placed into service during the timeframe in which the rates from this depreciation study would be used. Manitoba Hydro asked Gannett Fleming to determine appropriate depreciation rates for the new Wuskwatim GS, using life assumptions consistent with the other hydraulic generating stations. There were no separate draft reports or communications specific to the Wuskwatim GS.

Please note, the final Gannett Fleming depreciation study (ELG) was dated November 28, 2011, and although it contains recommended depreciation rates for Wuskwatim GS, it does not contain any depreciation estimates for Wuskwatim GS.

## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

# MANITOBA INDUSTRIAL POWER USERS GROUP ("MIPUG") PRE-ASK QUESTIONS OF MANITOBA HYDRO 

## MIPUG/MH/PRE-ASK-5

## Question:

Please confirm that the rates shown at page III-8 of the Gannett Fleming study are not correct for the first year of depreciating Wuskwatim once in-service under an ELG approach (they appear to be rates related to an ASL approach absent net salvage). If the rates shown are incorrect for the ELG approach, please provide the correct year 1 ELG depreciation rates for Wuskwatim.

## ANSWER:

The following response was prepared by Gannett Fleming.

The referenced depreciation rates were calculated in accordance with the ASL procedure. The ELG procedure is dependent upon a vintage surviving cost distribution, with varying annual accrual rates applicable to each vintage. Given that the Wuskwatim generation plant was not yet in service and was expected to have large amounts of investment prior to the next depreciation study, and further given the precise amounts of investment by account and year were not known at the time, Gannett Fleming viewed that the use of an Average Service Life (ASL) depreciation rate would be reasonable for the period of time until the next depreciation study is completed.

Gannett Fleming understood that the Wuskwatim plant was expected to be placed into service prior to the next review of depreciation rates. Manitoba Hydro will require depreciation rates once the plant is in service, therefore depreciation rates for this plant were requested in this study. At the time of the next study, the plant will have been placed into service, and an appropriate depreciation rate will be calculated in accordance with the ELG procedure. However, for the 2010 Depreciation Study, given that the ELG procedure weights depreciation rates on the investment by vintage, Gannett Fleming views that use of a forecast depreciation rate based on the ASL procedure is appropriate for this account.

Furthermore, given the very long life estimates and Life Spans for the Wuskwatim plant, the variance in the accumulated depreciation account that will require adjustment over the remaining life of the facilities will not be material on an annual basis.

Notwithstanding the above, if the ELG procedure was to be used in the first year of service, the following depreciation rates would have been recommended:

```
Account 1180A - Dams, Dykes and Weirs - 0.87\%
Account 1180B - Powerhouse - 0.87\%
Account 1180C - Powerhouse Renovations - 4.00\%
Account 1180D - Spillway - 2.06\%
Account 1180E - Water Control Systems - 2.07\%
Account 1180F - Roads and Site Improvements - 2.36\%
Account 1180G - Turbines and Generators - 1.65\%
Account 1180H - Governors and Excitation Systems - 2.13\%
Account 1180P - A/C Electrical Power Systems - 2.36\%
Account 1180Q - Instrumentation, control and D/C Systems - 5.50\%
Account 1180R - Auxiliary Station Processes - 3.33\%
Account 1180X - Support Buildings - 1.82\%
Account 1180W - Support Building Renovations - 5.00\%
```

As a supplement to the above response, Manitoba Hydro has included the following table which provides a comparison between the depreciation rates proposed in the 2010 Depreciation Study and the ELG based depreciation rates provided by Gannett Fleming, Inc. in the above response:

## Depreciation Rates Calculated Without Net Salvage:

| Account | Depreciable Work | ASL <br> (\%) | ELG <br> (\%) |
| :--- | :--- | :---: | :---: |
| 1180A | Dams, Dykes \& Weirs | 0.80 | 0.87 |
| 1180B | Powerhouse | 0.80 | 0.87 |
| 1180C | Powerhouse Renovations | 4.00 | 4.00 |
| 1180D | Spillway | 1.33 | 2.06 |
| 1180E | Water Control Systems | 2.00 | 2.07 |
| 1180F | Roads \& Site Improvements | 2.00 | 2.36 |
| 1180G | Turbines \& Generators | 1.54 | 1.65 |
| 1180H | Governors \& Excitation System | 2.00 | 2.13 |
| 1180P | A/C Electrical Power Systems | 2.00 | 2.36 |
| 1180Q | Instrumentation, Control \& D/C Systems | 4.35 | 5.50 |
| 1180R | Auxiliary Station Processes | 2.50 | 3.33 |
| 1180X | Support Buildings | 1.54 | 1.82 |
| 1180W | Support Building Renovations | 5.00 | 5.00 |

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## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

# MANITOBA INDUSTRIAL POWER USERS GROUP ("MIPUG") PRE-ASK QUESTIONS OF MANITOBA HYDRO 

## MIPUG/MH/PRE-ASK-6

## Question:

If the answer to (5) above is that the rates shown in the Gannett Fleming report are correct, please confirm that in its first year for example, additions to an asset class using a $75-\mathrm{R} 2$ survivor curve should have a rate in excess of $2 \%$ (also as shown in MIPUG/MH-I-15(q) Attachment 1 for recent additions to the Limestone spillway in 2010) as compared to the Wuskwatim rate shown of $1.33 \%$. If this higher rate $>2 \%$ is not applicable for Wuskwatim additions in their early years, please explain why the difference from the rate used for Limestone recent additions.

## ANSWER:

The following response was prepared by Gannett Fleming.

As described in Manitoba Hydro’s response to MIPUG/MH/PRE-ASK-5, the use of the ASL procedure is appropriate. As such, the depreciation rate of $1.33 \%$ for a $75-\mathrm{R} 2$ survivor curve (without net salvage), as shown in the depreciation study, is correct for the Wuskwatim generating station.

## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

## MANITOBA INDUSTRIAL POWER USERS GROUP ("MIPUG") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## MIPUG/MH/PRE-ASK-7

## Question: $\quad$ Per Transcript page 1857 - line 5

Please provide a copy of the following:
a) Manitoba Hydro's current capitalization policy with respect to capital maintenance and overhauls;
b) The date of any changes to Manitoba Hydro's capitalization policy over the last 10-15 years;
c) If any substantial changes are noted in (b), please provide a copy of the policy that then existed; and
d) Any planned changes to the policies with respect to capital maintenance and overhauls that are planned to be adopted concurrent with the change to IFRS or at any time during the next few years.

## Response:

The following response applies to questions a-d above.

In general, Manitoba Hydro capitalizes expenditures on plant assets that result in identifiable benefits to Manitoba Hydro for a period greater than one year. Identifiable benefits may include the following:

- An increase to the service capacity of the asset;
- An extension of the service life of the asset; or
- A reduction in the future operating costs of the asset.

Plant related expenditures that do not result in identifiable future benefits are considered maintenance and charged to net income as incurred. Such maintenance related expenditures are made to restore and keep capital assets in good operating condition which typically includes corrective repairs or minor replacements. Such costs do not increase the service
value or service life of a plant asset, but are necessary to maintain the asset's existing service potential.

Plant related expenditures for significant capital maintenance and overhauls that result in identifiable future benefits are capitalized by Manitoba Hydro. Such expenditures are included within the depreciation components of the specific plant assets to which they relate.

The following table provides some examples of such expenditures and their related depreciation components:

| Plant Asset Category | Capital Maintenance / Overhaul Component |
| :--- | :--- |
| Hydraulic Generation \& Civil <br> Components - Dykes, Dams and <br> Wiers | - Dyke or dam rehabilitation requiring placement <br> and/or removal of more than 10 ooo cubic <br> meters of materials. |
|  | -Replacement of concrete comprising more than <br> 10\% of the escalated cost of the original <br> structure |
|  | -Anchors to improve the stability of the <br> structures |
| Generation: Roads and Site <br> Improvements | -Resurfacing of more than 20\% of a roadway <br> surface |
| Turbines | -Resurfacing of parking lot involving more than <br> $50 \%$ of area |
| -If any part of the main turbine unit is replaced <br> such that increased capacity or efficiency results <br> in comparison to the rated capacity of the <br> original unit, or if an extension to the originally <br> planned service life of these components of <br> Hydraulic Generation results, the costs of such <br> rebuild are deemed to be capita and the <br> replaced portion of the turbine is retired. |  |

Such policies have been in existence dating back to the 1990's and earlier. No significant changes have been implemented in the last ten years.

In reference to Mr. Kennedy's comments on transcript page 1857 (commencing on line 5), the limited amounts of actual retirement experience pertaining to past work performed on spillways is largely due to the nature of past spillway work performed and how it was recorded. Spillway related improvements have not always resulted in the retirement of an
existing asset. Many of these projects involved the improvement / reinforcement of existing structures where the majority of the project costs involved the addition of materials as opposed to the removal and replacement of an existing asset. Under circumstances where the original asset cost, including the costs to retire the asset, are insignificant relative to the nature of the capital work being performed, the entire costs of the project may be recognized in the cost of the added materials. The nature of the work performed and its impact on the life of the related asset would then be considered in the assessment of the respective asset's service life as performed in the next scheduled depreciation study.

There are no formal planned changes to be made with respect to the accounting for capital maintenance and overhauls over the next few years. The process for reviewing and assessing the accounting for such expenditures is ongoing. As annual budgets are established and plant related expenditures are incurred, they are reviewed for their impact on the plant asset and for proper accounting classification (i.e. expense or capitalize). For example, the latest componentization exercise as part of the 2010 depreciation study identified new depreciable "overhaul" components for plant items with well defined and material overhaul requirements such as the Brandon Combustion Turbines, Diesel generators, and HVDC synchronous condensers.

## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

## MANITOBA INDUSTRIAL POWER USERS GROUP ("MIPUG") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## MIPUG/MH/PRE-ASK-8

## Question: Per Spillways - CAC book of documents, Exhibit CAC-5 pages 24-27

a) Please indicate where in the evidence filed MIPUG can locate any information about the selection of the Iowa 75-R2 curve for spillways, the alternative curves considered as part of the study and the specific reason for their rejection, and the sum of least squares (per transcript page 1861 lines 19-21) for each alternative curve considered. If this is not provided in the evidence, please provide;
b) Please provide a link to where in the evidence MIPUG can locate any engineering information or backup that was provided to Mr. Kennedy in regards to the selection of the 75-R2 Iowa curve for spillways, and if not in the evidence today please provide that backup;
c) Please provide a version of page 24 which also shows an Iowa 75-R4;
d) Please provide updated values for the Spillways at each plant in the Schedule 1 and Schedule 2 of the ELG study (November 2, 2011 version) assuming Spillways are based on an Iowa 75-R4; and
e) Please provide updated values for the Spillways at each plant in the Schedule 1 and Schedule 2 of the ASL study (January 13, 2012 letter) assuming Spillways are based on an Iowa 75-R4 curve, with and without net salvage.

## Response:

The following response was provided by Gannett Fleming.
a) The following evidence regarding the average service life estimate for Spillways have been entered in this proceeding:

- A short discussion relating to the average service life estimate was provided at page II27 of the Gannett Fleming 2010 Depreciation Study;
- Information related to a $\$ 1.8$ million Spillway Stability Anchoring Program at Kelsey was indentified;
- Specific discussion of the average service life selection for Spillways was provided in the Manitoba Rebuttal Evidence at page 7 from Lines 1-13.
- The calculation of the Observed Life Table and Iowa curve selection were proved in Attachment 1 to Appendix 16 of the Application and were also provided as pages 24 through 27 of the CAC book of Documents.
- The Life analysis related to Spillways was discussed during cross-examination at transcript pages 1851 through 1865.
- The average service life of peers has been entered as an attachment to Manitoba Hydro Exhibit \# 57 (Undertaking \#32). Included in the attachment are the following relevant life estimates of peer hydro generation facilities:
o BC Hydro - Account 23001 using an Iowa curve of 75-R2
o FortisBC - Account 331.00 using an Iowa curve of 60-L3
o Newfoundland and Labrador Power - Account 627 using an Iowa curve of 100-R4
o SaskPower - Account G023 using a 60 year average service life estimate.
As indicated at pages 25 through 27 of the CAC book of Documents, this account has had a very limited amount of historic retirement activity. As such, a statistical best fit analysis (based on a sum of least squares fit) could not be calculated.
b) As indicated at Transcript pages 1522 through 1524, this depreciation study was a continuation of work completed by Gannett Fleming for Manitoba Hydro that span a long period of time and was initially undertaken to assist in the componentization of accounts to ensure compliance with the IFRS standard IAS 16. Over this period the characteristic of the civil hydraulic structures were discussed and reviewed. A summary of the types of information that were considered by Mr. Kennedy have been provided in the Manitoba Hydro Rebuttal evidence at page 7.
c) Please refer to the attachment MIPUG/MH/PRE-ASK-8c-Attachment1.
d) Please refer to the attachments MIPUG/MH/PRE-ASK-8d-Attachments 1 and 2, which provide the information related the hydraulic generation plant incorporating a 75-R4 Iowa curve with the depreciation rates calculated in accordance with the ELG procedure.
e) Please refer to the attachments MIPUG/MH/PRE-ASK-8e-Attachments 1 and 2, which provide the information related the hydraulic generation plant incorporating a 75-R4 Iowa curve with the depreciation rates calculated in accordance with the ASL procedure with inclusion of a provision for net salvage.

Please refer to the attachments MIPUG/MH/PRE-ASK-8e-Attachments 3 and 4, which provide the information related the hydraulic generation plant incorporating a 75-R4 Iowa curve with the depreciation rates calculated in accordance with the ASL procedure excluding a provision for net salvage.


## SChedule 1. estimated survivor Curves, net Salvage percents, Original cost and annual accruals

FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \\ & \text { DATE } \end{aligned}$ | SURVIVOR | NET SALVAGE <br> (3) | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 <br> (4) | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |  |
|  | (1) |  | (2) |  |  | (5) | (6) $=(5) /(4)$ | (7) | $(8)=(5)+(7)$ | (9)=(8)/(4) |  |
| 10000 | GENERATION |  |  |  |  |  |  |  |  |  |  |
| 11000 | HYDRAULIC GENERATION |  |  |  |  |  |  |  |  |  |  |
| 11050 | GREAT FALLS |  |  |  |  |  |  |  |  |  |  |
| 1105A | DAMS, DYKES AND WEIRS | 2063 | 125-R4 | 0 | 17,302,772 | 218,229 | 1.26 | $(27,263)$ |  |  |  |
| 1105B | POWERHOUSE | 2063 | 125-84 | 0 | 7,990,993 | 99,815 | 1.25 | $(13,045)$ | 190,966 | 1.10 1.09 |  |
| 1105C | POWERHOUSE RENOVATIONS | 2063 | 25-SQ | 0 | 7,000,993 | 9,,815 | 1.25 |  |  | 1.09 4.00 | *** |
| 1105D | SPILLWAY | 2063 | 75-R4 | 0 | 9,676,327 | 142,204 | 1.47 | $(11,641)$ | 130,563 | 1.35 |  |
| 1105 E | WATER CONTROL SYSTEMS | 2063 | 50-S4 | 0 | 24,245,253 | 497,229 | 2.05 | $(50,814)$ | 446,415 | 1.84 |  |
| 1105 F | ROADS AND SITE IMPROVEMENTS | 2063 | 50-R3 | 0 | 213,964 | 5,129 | 2.40 | (24) | 5,105 | 2.39 |  |
| 1105G | TURBINES AND GENERATORS | 2063 | 65-S3 | 0 | 25,128,789 | 433,087 | 1.72 | $(30,373)$ | 5,15 402,714 | 2.39 1.60 |  |
| 1105 H | GOVERNORS AND EXCITATION SYSTEM | 2063 | 50-R4 | 0 | 492,218 | 10,048 | 2.04 | (811) | 40, 9,237 | 1.88 |  |
| 1105 L | LICENCE RENEWAL | 2063 | 50-SQ | 0 |  |  | 2.04 | (81) | 9,237 | 1.88 |  |
| 1105P | A/C ELECTRICAL POWER SYSTEMS | 2063 | 50-R3 | 0 | 9,493,088 | 201,933 | 2.13 | $(12,866)$ | 189,067 | 1.99 |  |
| 1105Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2063 | 23-L2 | 0 | 19,271,956 | 955,210 | 4.96 | $(7,499)$ | 947,711 | 4.92 |  |
| 1105R | AUXILIARY STATION PROCESSES | 2063 | 40-R2.5 | 0 | 8,345,798 | 224,470 | 2.69 | $(9,108)$ | 215,362 | 2.58 |  |
| 1105X | SUPPORT BUILDINGS | 2063 | 65-R3 | 0 | 1,495,253 | 24,424 | 1.63 | $(2,820)$ | 21,604 | 1.44 |  |
| 1105W | SUPPORT BUILDING RENOVATIONS | 2063 | $20-\mathrm{SQ}$ | 0 |  |  |  |  |  | 5.00 | *** |
|  | TOTAL GREAT FALLS |  |  |  | 123,656,412 | 2,811,778 |  | $(166,264)$ | 2,645,514 |  |  |
| 11100 | POINTE dU BOIS |  |  |  |  |  |  |  |  |  |  |
| 1110A | DAMS, DYKES AND WEIRS | 2031 | 125-R4 | 0 | 11,263,332 | 446,825 | 3.97 | $(91,296)$ | 355,529 | 3.16 |  |
| 1110B | POWERHOUSE | 2031 | 125-R4 | 0 | 6,242,749 | 271,010 | 4.34 | $(26,759)$ | 244,251 | 3.91 |  |
| 1110 C | POWERHOUSE RENOVATIONS | 2031 | 25-SQ | 0 |  |  |  |  | 244,251 | 4.00 |  |
| 1110 D | SPILLWAY - ORIGINAL | 2017 | 75-R4 | 0 | 3,104,842 | 342,123 | 11.02 | $(84,244)$ | 257,879 | 8.31 |  |
| 1110E | WATER CONTROL SYSTEMS | 2031 | 50-S4 | 0 | 4,027,603 | 152,884 | 3.80 | $(39,522)$ | 113,362 | 2.81 |  |
| 1110 F 1110 G | ROADS AND SITE IMPROVEMENTS | 2031 | 50-R3 | 0 | 28,533 | 1,113 | 3.90 | (295) | 818 | 2.87 |  |
| ${ }^{1110 G}$ | TURBINES AND GENERATORS | 2031 | 65-S3 | 0 | 24,610,324 | 1,022,300 | 4.15 | $(153,096)$ | 869,204 | 3.53 |  |
| 1110 H | GOVERNORS AND EXCITATION SYSTEM | 2031 | 50-R4 | 0 | 24,610,32 | 1,022,300 | 4.15 | $(153,096)$ | 869,204 | 3.53 | * |
| 1110L | LICENCE RENEWAL | 2031 | 50-SQ | 0 |  |  |  |  |  | 2.00 | *** |
| 1110 P | A/C ELECTRICAL POWER SYSTEMS | 2031 | 50-R3 | 0 | 6,057,709 | 274,987 | 4.54 | $(22,954)$ | 252,033 | 4.16 |  |
| 1110Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2031 | 23-L2 | 0 | 355,559 | 20,840 | 5.86 | $(2,581)$ | 18,259 | 5.14 |  |
| 1110R | AUXILIARY STATION PROCESSES | 2031 | 40-R2.5 | 0 | 1,377,014 | 62,068 | 4.51 | $(11,335)$ | 50,733 | 5.14 3.68 |  |
| 1110x | SUPPORT BUILDINGS | 2031 | 65-R3 | 0 | 2,616,290 | 95,041 | 3.63 | $(32,110)$ | 62,931 | 2.41 |  |
| 1110W | SUPPORT BUILDING RENOVATIONS | 2031 | 20-SQ | 0 |  |  |  |  |  | 5.00 | *** |
| 1111D | SPILLWAY - NEW |  | 75-R2 | 0 |  |  |  |  |  |  | , |
|  | TOTAL POINTE DU BOIS |  |  |  | 59,683,956 | 2,689,191 |  | $(464,193)$ | 2,224,998 |  |  |
| 11150 | SEVEN SISters |  |  |  |  |  |  |  |  |  |  |
| 1115A | DAMS, DYKES AND WEIRS | 2072 | 125-R4 | 0 | 31,497,995 | 353,966 | 1.12 | $(76,205)$ | 277,761 | 0.88 |  |
| 1115B | POWERHOUSE | 2072 | 125-R4 | 0 | 13,653,945 | 143,721 | 1.05 | $(40,679)$ | 103,042 | 0.75 |  |
| 1115 C | POWERHOUSE RENOVATIONS | 2072 | 25-SQ | 0 |  |  |  |  |  | 4.00 |  |
| 1115 D | SpILLWAY | 2072 | 75-R4 | 0 | 2,841,355 | 38,142 | 1.34 | $(3,486)$ | 34,655 | 1.22 |  |
| 1115 E | WATER CONTROL SYSTEMS | 2072 | 50-S4 | 0 | 4,296,891 | 81,034 | 1.89 | $(23,695)$ | 57,339 | 1.33 |  |
| 1115 F | ROADS AND SITE IMPROVEMENTS | 2072 | 50-R3 | 0 | 201,701 | 3,718 | 1.84 | $(1,185)$ | 2,533 | 1.26 |  |
| 1115G | TURBINES AND GENERATORS | 2072 | 65-S3 | 0 | 41,208,963 | 689,938 | 1.67 | $(75,531)$ | 614,407 | 1.49 |  |
| 1115 H | GOVERNORS AND EXCITATION SYSTEM | 2072 | 50-R4 | 0 | 6,860 | 125 | 1.82 | (451) | (326) | (4.76) |  |
| 1115L | LICENCE RENEWAL | 2072 | 50-SQ | 0 |  |  |  |  |  | 2.00 |  |
| 1115 P | A/C ELECTRICAL POWER SYSTEMS | 2072 | 50-R3 | 0 | 10,648,619 | 223,532 | 2.10 | $(36,104)$ | 187,428 | 1.76 |  |
| 1115 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2072 | 23-L2 | 0 | 3,821,416 | 163,482 | 4.28 | $(29,620)$ | 133,862 | 3.50 |  |
| 1115R | AUXILIARY STATION PROCESSES | 2072 | 40-R2.5 | 0 | 5,224,958 | 131,285 | 2.51 | $(25,391)$ | 105,894 | 2.03 |  |
| 1115X | SUPPORT BUILDINGS | 2072 | 65-R3 | 0 | 608,294 | 11,021 | 1.81 | (676) | 10,345 | 1.70 |  |
| 1115W | SUPPORT BUILDING RENOVATIONS | 2072 | 20-SQ | 0 |  |  |  |  |  | 5.00 | *** |
|  | TOTAL SEVEN SISTERS |  |  |  | 114,010,998 | 1,839,964 |  | $(313,025)$ | 1,526,939 |  |  |

SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DEPRECIABLE WORK <br> (1) | LIFE <br> SPAN <br> DATE | SURVIVOR <br> CURVE(2) | $\begin{gathered} \begin{array}{c} \text { NET } \\ \text { SALVAGE } \end{array} \\ \hline(3) \end{gathered}$ | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 (4) | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | ${ }_{\text {AMOUNT }}$ | RATE (\%) |  | EXPENSE | RATE (\%) |  |
| 11200 | SLAVE FALLS |  |  |  |  | (5) |  | (7) | $(8)=(5)+(7)$ | (9) $=(8) /(4)$ |  |
| 1120A | DAMS, DYKES AND WEIRS | 2072 | 125-84 |  |  |  |  |  |  |  |  |
| 1120B | POWERHOUSE | 2072 | 125-R4 | 0 | 954,684 $45,692,194$ | 14,817 | 1.55 | (153) | 14,664 | 1.54 |  |
| 1120 C | POWERHOUSE RENOVATIONS | 2072 | 25-SQ | 0 | 45,692,194 | 663,677 | 1.45 | $(17,065)$ | 646,612 | 1.42 |  |
| 1120D | SPILLWAY | 2072 | 75-R4 | 0 | 760,201 | 12,379 | 1.63 | (156) |  | 4.00 |  |
| 1120F | WATER AND SITE IMPROMEMENTS | 2072 | 50-S4 | 0 | 318,933 | 6,602 | 2.07 | (96) | 12,223 6,506 | 1.61 2.04 |  |
| 1120G | TURBINES AND GENERATORS | 2072 | 50-R3 | 0 | 769,506 | 17,545 | 2.28 | (107) | 17,438 | 2.27 |  |
| 1120 H | GOVERNORS AND EXCITATION SYSTEM | 2072 | 50-R4 | 0 | 11,630,909 | 200,112 | 1.72 | $(4,924)$ | 195,188 | 1.68 |  |
| 1120 L | LICENCE RENEWAL | 2072 | 50-SQ | 0 |  |  |  |  |  |  |  |
| 1120 P | A/C ELECTRICAL POWER SYSTEMS | 2072 | 50-R3 | 0 |  |  |  |  |  | 2.00 | *** |
| 1120 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2072 | 23-L2 | 0 | 21,815,741 | 505,179 | 2.32 | $(2,972)$ | 502,207 | 2.30 |  |
| 1120 R | AUXILIARY STATION PROCESSES | 2072 | 40-R2.5 | 0 | 786,382 | 42,365 | 5.39 | 217 | 42,582 | 5.41 |  |
| 1120X | SUPPORT BUILDINGS | 2072 | 65-R3 | 0 | 2,201,466 | 68,661 | 3.12 | 262 | 68,923 | 3.13 |  |
| 1120W | SUPPORT BUILDING RENOVATIONS | 2072 | 20-SQ | 0 | 3,724,095 | 67,791 | 1.82 | (955) | 66,836 | 1.79 |  |
|  | TOTAL SLAVE FALLS |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 88,654,109 | 1,599,128 |  | $(25,950)$ | 1,573,179 |  |  |
| 11250 | PINE FALLS |  |  |  |  |  |  |  |  |  |  |
| 1125A | DAMS, DYKES AND WEIRS | 2092 | 125-R4 |  |  |  |  |  |  |  |  |
| 1125B | POWERHOUSE | 2092 | 125-84 | 0 | 14,110,589 | 156,702 | 1.11 | $(6,323)$ | 150,379 | 1.07 |  |
| 1125 C | POWERHOUSE RENOVATIONS | 2092 | 25-SQ | 0 | 10,060,843 | 87,828 | 0.87 | $(15,968)$ | 71,860 | 0.71 |  |
| 1125D | SPILLWAY | 2092 | 75-R4 | 0 |  |  |  |  |  | 4.00 | *** |
| 1125 E | WATER CONTROL SYSTEMS | 2092 | 50-S4 | 0 | 3,564,106 | 1,349 | 1.45 | (7) | 1,342 | 1.44 |  |
| 1125 F | ROADS AND SITE IMPROVEMENTS | 2092 | 50-R3 | 0 | $3,564,106$ $1,178,575$ | 67,205 19,598 | 1.89 | $(15,006)$ | 52,199 | 1.46 |  |
| 1125 G | TURBINES AND GENERATORS | 2092 | $65-\mathrm{S3}$ | 0 | $1,178,575$ $9,464,220$ | 19,598 | 1.66 | $(18,921)$ | 677 | 0.06 |  |
| ${ }^{1125 H}$ | GOVERNORS AND EXCITATION SYSTEM | 2092 | 50-R4 | 0 | 9,464,220 | 145,587 | 1.54 | $(25,177)$ | 120,410 | 1.27 |  |
| 1125 L | LICENCE RENEWAL | 2092 | 50-SQ | 0 |  |  |  |  |  |  |  |
| 1125P | A/C ELECTRICAL POWER SYSTEMS | 2092 | 50-R3 | 0 | 5,071,108 |  |  |  |  | 2.00 | *** |
| 1125Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2092 | 23-L2 | 0 | 2,156,586 | 104,504 99,187 | 2.06 4.60 | (9,469) | 95,035 | 1.87 |  |
| 1125X | AUXILIARY STATION PROCESSES | 2092 | 40-R2.5 | 0 | 3,790,230 | 99,575 | 2.63 | (3,505) | 95,882 | 4.45 |  |
| 1125W | SUPPORT BUILDINGS | 2092 | 65-R3 | 0 | 336,412 | 5,683 | 1.69 | (241) |  | 2.4 |  |
| $1125 Z$ | COMMUNITY DEVELOPMENT COSTS | 2092 | 20-SQ | 0 |  |  |  |  |  | 5.00 |  |
|  |  | 2092 | 81-SQ | 0 | 4,425,543 | 54,434 | 1.23 | $(2,471)$ | 51,963 | 1.17 |  |
|  | TOTAL PINE FALLS |  |  |  | 54,251,587 | 841,652 |  | $(104,419)$ | 737,233 |  |  |
| 11300 | MCARTHUR FALLS |  |  |  |  |  |  |  |  |  |  |
| 1130A | DAMS, DYKES AND WEIRS | 2095 | 125-R4 |  |  |  |  |  |  |  |  |
| 1130 B | POWERHOUSE | 2095 | 125-84 | 0 | 3,578,068 9,523 | 32,928 | 0.92 | $(3,695)$ | 29,233 | 0.82 |  |
| 1130 C | POWERHOUSE RENOVATIONS | 2095 | 25-SQ | 0 | 9,523,798 | 83,002 | 0.87 | $(12,467)$ | 70,535 | 0.74 |  |
| 1130 D | SPILLWAY | 2095 | 75-R4 | 0 | 2,351,438 |  |  |  |  | 4.00 | \%** |
| 1130 E | WATER CONTROL SYSTEMS | 2095 | 50-S4 | 0 | 11,703,203 | 230,569 | 1.30 | (305) | 30,264 | 1.29 |  |
| 1130 F 1130 G | ROADS AND SITE IMPROVEMENTS | 2095 | 50-R3 | 0 | 11,234,820 | 238,168 4,758 | 2.04 2.03 | $(26,096)$ | 212,072 | 1.81 |  |
| 1130 G 1130 H | TURBINES AND GENERATORS | 2095 | 65-53 | 0 | 5,096,367 | 72,094 | 1.41 | (551) | 4,207 | 1.79 |  |
| 1130 H 1130 L | GOVERNORS AND EXCITATION SYSTEM | 2095 | 50-R4 | 0 | -119,315 | 72,094 $\mathbf{2}, 513$ | 1.41 2.11 | $(44,855)$ | 27,239 | 0.53 |  |
| 1130 L | LICENCE RENEWAL | 2095 | 50-SQ | 0 | 119,315 | 2,513 | 2.11 | (166) | 2,347 | 1.97 |  |
| 1130 P 1130 Q | A/C ELECTRICAL POWER SYSTEMS | 2095 | 50-R3 | 0 | 2,480,539 |  |  |  |  | 2.00 | / |
| 1130 Q 1130 R | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2095 | 23-L2 | 0 | 1,245,885 | 49,056 | 1.85 3.94 | (9,219) | 36,693 | 1.48 |  |
| 1130 R 1130 X | AUXILIARY STATION PROCESSES | 2095 | 40-R2.5 | 0 | 3,440,197 |  | 3.94 2.63 | $(4,082)$ | 44,974 | 3.61 |  |
| 1130 X 1130 w | SUPPORT BUILDINGS | 2095 | 65-R3 | 0 | 3,440,197 | 90,405 | 2.63 | $(5,443)$ | 84,962 | 2.47 |  |
| 1130W | SUPPORT BUILDING RENOVATIONS | 2095 | 20-SQ | 0 | 227,212 | 3,840 | 1.69 | (133) | 3,707 | $\begin{aligned} & 1.63 \\ & 5.00 \end{aligned}$ |  |
|  | TOTAL MCARTHUR FALLS |  |  |  | 40,000,842 | 653,245 |  | $(107,012)$ | 546,233 |  |  |

SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \\ & \text { DATE } \end{aligned}$ | SURVIVOR CURVE | NET SALVAGE <br> (3) | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |  |
|  |  |  | (2) |  |  | (5) | (6)=(5)/(4) | (7) | $(8)=(5)+(7)$ | (9)=(8)/(4) |  |
| 11350 | KELSEY |  |  |  |  |  |  |  |  |  |  |
| 1135A | DAMS, DYKES AND WEIRS | 2101 | 125-R4 | 0 |  |  |  |  |  |  |  |
| ${ }^{1135 B}$ | POWERHOUSE | 2101 | 125-R4 | 0 | $11,066,409$ $27,569,817$ | 110,124 239892 | 1.00 | $(3,623)$ | 106,501 | 0.96 |  |
| 1135 C | POWERHOUSE RENOVATIONS | 2101 | 25-SQ | 0 | 27,569,817 | 239,892 | 0.87 | $(19,889)$ | 220,003 | 0.80 |  |
| 1135D | SPILLWAY | 2101 | 75-R4 | 0 |  |  |  |  |  | 4.00 |  |
| 1135 E | WATER CONTROL SYSTEMS | 2101 | 50-S4 | 0 | 5,331,929 11,792,566 | 70,915 $\mathbf{2 3 3 , 2 5 2}$ | 1.33 | 6,722 | 77,637 | 1.46 |  |
| 1135 F | ROADS AND SITE IMPROVEMENTS | 2101 | 50-R3 | 0 | $11,792,566$ $6,442,928$ | 233,252 126,660 | 1.98 | $(20,286)$ | 212,966 | 1.81 |  |
| 1135 G | TURBINES AND GENERATORS | 2101 | 65-S3 | 0 | 6,442,928 $130,323,693$ | 126,660 $2,139,901$ | 1.97 1.64 | $(12,225)$ | 114,435 | 1.78 |  |
| ${ }^{1135 H}$ | GOVERNORS AND EXCITATION SYSTEM | 2101 | 50-R4 | 0 | $130,323,693$ 88,651 | $2,139,901$ 1,871 | 1.64 2.11 | $(18,996)$ | 2,120,905 | 1.63 |  |
| ${ }^{1135 L}$ | LICENCE RENEWAL | 2101 | 50-SQ | 0 | 88,651 | 1,871 | 2.11 | (87) | 1,784 | 2.01 |  |
| 1135 P | A/C ELECTRICAL POWER SYSTEMS | 2101 | 50-R3 | 0 |  |  |  |  |  | 2.00 | *** |
| 1135Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2101 | 23-L2 | 0 | 5,551,610 $3,595,490$ | 113,771 162,610 | 1.98 4.52 | $(12,141)$ 3,100 | 101,630 | 1.77 |  |
| 1135R | AUXILIARY STATION PROCESSES | 2101 | 40-R2.5 | 0 | 7,788,815 | 203,179 | 4.52 2.61 | 3,100 $(4,650)$ | 165,710 | 4.61 |  |
| 1135X | SUPPORT BUILDINGS | 2101 | 65-R3 | 0 | 9,953,977 | 170,743 |  | $(4,650)$ | 198,529 | 2.55 |  |
| 135W | SUPPORT BUILDING RENOVATIONS | 2101 | 20-SQ | 0 | 9,953,977 | 170,743 | 1.72 |  | 168,722 | $\begin{aligned} & 1.70 \\ & 5.00 \end{aligned}$ |  |
|  | TOTAL KELSEY |  |  |  | 219,705,886 | 3,572,918 |  | $(84,096)$ | 3,488,821 |  |  |
| 11400 | GRAND RAPIDS |  |  |  |  |  |  |  |  |  |  |
| 1140A | DAMS, DYKES AND WEIRS | 2091 | 125-R4 | 0 |  |  |  |  |  |  |  |
| 1140B | POWERHOUSE | 2091 | 125-84 | 0 | 53,468,974 $24,506,522$ | 514,944 | 0.96 | $(46,792)$ | 468,152 | 0.88 |  |
| 1140 C | POWERHOUSE RENOVATIONS | 2091 | 25-SQ | 0 | 24,506,522 | 223,336 | 0.91 | $(25,953)$ | 197,383 | 0.81 |  |
| 1140D | SPILLWAY | 2091 | 75-R4 | 0 | 5,308,334 |  |  |  |  | 4.00 | $\% *$ |
| 1140 E | WATER CONTROL SYSTEMS | 2091 | 50-S4 | 0 | 15,982,492 | 71,793 | 1.35 | 473 | 72,266 | 1.36 |  |
| 1140 F | ROADS AND SITE IMPROVEMENTS | 2091 | 50-R3 | 0 | +2,581,475 | 309,243 47,126 | 1.93 1.83 | $(61,544)$ | 247,699 | 1.55 |  |
| 1140G | TURBINES AND GENERATORS | 2091 | 65-S3 | 0 | 113,066,160 | r $1,856,605$ | 1.83 1.64 | $(15,904)$ | 31,222 | 1.21 |  |
| 1140 H | GOVERNORS AND EXCITATION SYSTEM | 2091 | 50-R4 | 0 | 113,06,718 | 1,856,605 897 | 1.64 2.10 | $(81,564)$ | 1,775,041 | 1.57 |  |
| 1140 | LICENCE RENEWAL | 2091 | 50-SQ | 0 | 42,718 | 897 | 2.10 | (44) | 853 | 2.00 |  |
| 1140P | A/C ELECTRICAL POWER SYSTEMS | 2091 | 50-R3 | 0 | 8,240,545 | 173,871 |  |  |  | 2.00 | *** |
| 1140Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2091 | 23-L2 | 0 | 4,674,247 | 165,394 | 3.54 | (12,341) | 161,530 | 1.96 |  |
| 1140R | AUXILIARY STATION PROCESSES | 2091 | 40-R2.5 | 0 | 5,600,506 | 153,945 | 2.75 | $(17,828)$ $(3,785)$ | 147,566 | 3.16 |  |
| 1140X | SUPPORT BUILDINGS | 2091 | 65-R3 | 0 | 6,190,376 | 106,722 | 1.72 | (3,785) | 150,160 | 2.68 |  |
| 1140 W | SUPPORT BUILDING RENOVATIONS | 2091 | 20-SQ | 0 |  |  |  | $(2,100)$ | 104,622 | 1.69 |  |
| $1140 Z$ | COMMUNITY DEVELOPMENT COSTS | 2091 | 80-SQ | 0 | 101,442,997 | 1,268,037 | 1.25 | $(90,628)$ | 1,177,409 | 5.00 1.16 |  |
|  | TOTAL GRAND RAPIDS |  |  |  | 341,105,346 | 4,891,913 |  | $(358,011)$ | 4,533,901 |  |  |
| 11450 | KEttle |  |  |  |  |  |  |  |  |  |  |
| 1145A | DAMS, DYKES AND WEIRS | 2111 | 125-R4 |  | 45,280,663 |  |  |  |  |  |  |
| 1145 B | POWERHOUSE | 2111 | 125-R4 | 0 | 146,207,420 | 1,262,257 | 0.86 0.86 | $(34,169)$ $(108,788)$ | 355,938 | 0.79 |  |
| 1145 C | POWERHOUSE RENOVATIONS | 2111 | 25-SQ | 0 | 146,207,420 | 1,262,257 | 0.86 | $(108,788)$ | 1,153,469 | 0.79 |  |
| 1145D | SPILLWAY | 2111 | 75-R4 | 0 | 25,406,960 | 348,075 |  |  |  | 4.00 | *** |
| 1145E | WATER CONTROL SYSTEMS | 2111 | 50-S4 | 0 | 17,834,945 | 355,361 | 1.99 | $(1,363)$ $(173,994)$ | 346,713 | 1.36 |  |
| 1145F | ROADS AND SITE IMPROVEMENTS | 2111 | 50-R3 | 0 | 17,84,945 | -355,361 | 1.99 2.22 | (173,994) | 181,367 | 1.02 |  |
| 1145G | TURBINES AND GENERATORS | 2111 | 65-S3 | 0 | 70,740,028 | 1,123,607 | 2.22 1.59 |  | 230 915,121 | 2.17 |  |
| 1145 H | GOVERNORS AND EXCITATION SYSTEM | 2111 | 50-R4 | 0 | 3,304,326 | 1,64,753 | 1.59 | $(208,486)$ | 915,121 | 1.29 |  |
| 1145L | LICENCE RENEWAL | 2111 | 50-SQ | 0 | 3,304,326 | 64,753 | 1.96 | $(26,160)$ | 38,593 | 1.17 |  |
| 1145 P | A/C ELECTRICAL POWER SYSTEMS | 2111 | 50-R3 | 0 | 6,771,761 | 141,808 | 2.09 |  |  | 2.00 | *** |
| 1145 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2111 | 23-L2 | 0 | 12,001,279 | 430,663 | 3.59 | $(34,185)$ | 130,172 396,478 | 1.92 |  |
| 1145R | AUXILIARY STATION PROCESSES | 2111 | 40-R2.5 | 0 | 15,361,985 | 379,871 | 2.47 | $(54,094)$ $(10,85)$ | 396,478 329777 | 3.30 |  |
| 1145X | SUPPORT BUILDINGS | 2111 | 65-R3 | 0 | 3,908,404 | 60,260 | 1.54 | $(10,284)$ | 329,777 | 2.15 |  |
| 1145W | SUPPORT BUILDING RENOVATIONS | 2111 | 20-SQ | 0 |  |  |  |  | 49,976 | 1.28 5.00 | *** |
|  | total kettle |  |  |  | 346,828,362 | 4,556,997 |  | (659,165) | 3,897,832 | 1.12 |  |




SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DEPRECIABLE WORK | LIFE <br> SPAN <br> DATE | SURVIVORCURVE | NETSALVAGE | surviving ORIGINAL COST AS OF MARCH 31, 2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | $\frac{\text { TOTAL DEPRECIATION }}{\text { RELATED TO LIFE }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | (3) | (4) | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9) $=(8) /(4)$ |

[^9]On amortized accounts any true-up of less than $10 \%$ is not considered significant.

## SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP

 FOR THE TWELVE MONTHS ENDED MARCH 31, 2010| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 <br> (2) | CALCULATED accrued DEPRECIATION | BOOKACCUMULATEDDEPRECIATION | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | GENERATION (1) |  | (3) | (4) | $(5)=(3)-(4)$ | $(6)=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 11000 | HYDRAULIC GENERATION |  |  |  |  |  |  |  |
| 11050 | GREAT FALLS |  |  |  |  |  |  |  |
| 1105A | DAMS, DYKES AND WEIRS | 17,302,772 | 6,214,538 |  |  |  |  |  |
| 1105B | POWERHOUSE | 7,990,993 | 3,038,329 | 3,698,385 | $(660,056)$ | (0.23) | 51.3 | $(27,263)$ |
| 1105C | POWERHOUSE RENOVATIONS | 7,900,9૭ | 3,038,329 |  | $(660,056)$ 0 | (0.22) | 50.6 | $(13,045)$./. |
| 1105D | SPILLWAY | 9,676,327 | 3,492,959 | 3,999,802 | $(506,843)$ | (0.15) | 43.5 | $(11,641)^{* / *}$ |
| 1105E | WATER CONTROL SYSTEMS | 24,245,253 | 8,269,309 | 9,971,579 | $(1,702,270)$ | (0.21) | 33.5 |  |
| 1105F | ROADS AND SITE IMPROVEMENTS | 213,964 | 10,408 | 11,365 | (957) | (0.09) |  | $(50,814)$ |
| 1105G | TURBINES AND GENERATORS | 25,128,789 | 7,085,426 | 8,424,895 | $(1,339,469)$ | (0.19) | 39.7 | (24) |
| 1105 H | GOVERNORS AND EXCITATION SYSTEM | 492,218 | 161,825 | 193,442 | $(31,617)$ | (0.20) | 44.1 | $(30,373)$ |
| 1105L | LICENCE RENEWAL |  |  |  | (31,61) | (0.20) | 39.0 | (811) */.. |
| 1105P | A/C ELECTRICAL POWER SYSTEMS | 9,493,088 | 3,314,653 | 3,714,794 | $(400,141)$ |  |  | (12.866) ${ }^{\text {\%/**}}$ |
| 1105Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 19,271,956 | 6,679,465 | 6,778,449 | $(98,984)$ | (0.01) | 13. | $(12,866)$ |
| 1105R | AUXILIARY STATION PROCESSES | 8,345,798 | 3,026,374 | 3,244,974 | $(218,600)$ | (0.07) | 14.2 | $(7,499)$ |
| 1105X | SUPPORT BUILDINGS | 1,495,253 | 638,944 | 750,898 |  | (0.18) | 39.7 | $(9,108)$ |
| 1105W | SUPPORT BUILDING RENOVATIONS |  |  |  | $(11,954)$ | (0.18) | 39.7 | $(2,820)$ */* |
|  | TOTAL GREAT FALLS | 123,656,412 | 41,932,230 | 48,401,707 | $(6,469,477)$ |  |  | $(166,264)$ |
| 11100 | POINTE DU BOIS |  |  |  |  |  |  |  |
| 1110A | DAMS, DYKES AND WEIRS | 11,263,332 | 1,889,913 | 3,807,139 | $(1,917,226)$ |  |  |  |
| 1110B | POWERHOUSE | 6,242,749 | 552,108 | 1,114,041 | $(561,933)$ | (1.02) | 21.0 | $(91,296)$ $(26,759)$ |
| 1110 C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  | $(26,759)$ |
| 1110 D | SPILLWAY - ORIGINAL | 3,104,842 | 711,241 | 1,300,951 | $(589,710)$ | (0.83) | 7.0 | $(84,244)$ |
| 1110 E | WATER CONTROL SYSTEMS | 4,027,603 | 814,575 | 1,644,546 | (829,971) | (1.02) | 21.0 | $(34,522)$ |
| 1110F | ROADS AND SITE IMPROVEMENTS | 28,533 | 6,120 | 12,046 | $(5,926)$ | (0.97) | 20.1 | (295) |
| 1110 G | TURBINES AND GENERATORS | 24,610,324 | 3,159,817 | 6,374,825 | (3,215,008) | (1.02) | 21.0 | $(153,096)$ * |
| 1110 H | GOVERNORS AND EXCITATION SYSTEM |  |  |  | (3,215,008) | (1.02) |  | (153,096) */* |
| 1110L | LICENCE RENEWAL |  |  |  |  |  |  | * |
| 1110P | A/C ELECTRICAL POWER SYSTEMS | 6,057,709 | 481,479 | 947,448 | $(465,969)$ |  |  |  |
| 1110Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 355,559 | 50,269 | 88,467 | $(38,198)$ | (0.76) | 14.8 | $(22,954)$ <br> $(2,581)$ |
| 1110R | AUXILIARY STATION PROCESSES | 1,377,014 | 239,152 | 448,852 | $(209,700)$ | (0.88) | 18.5 | $(2,581)$ $(11,335)$ |
| 1110X | SUPPORT BUILDINGS | 2,616,290 | 666,189 | 1,324,449 | $(658,260)$ |  | 20.5 | $(32,110) * / * *$ |
| 1110W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  | 20.5 | $(32,110)$ |
| 1111D | SPILLWAY - NEW |  |  |  |  |  |  |  |
|  | TOTAL POINTE DU BOIS | 59,683,956 | 8,570,863 | 17,062,765 | (8,491,902) |  |  | $(464,193)$ |
| 11150 | SEVEN SISTERS |  |  |  |  |  |  |  |
| 1115A | DAMS, DYKES AND WEIRS | 31,497,995 | 10,903,236 | 15,406,970 | $(4,503,734)$ | (0.41) | 59.1 |  |
| 1115B | POWERHOUSE | 13,653,945 | 5,953,556 | 8,292,614 | (2,339,058) | (0.39) | 57.5 | $(40,679)$ |
| 1115 C | POWERHOUSE RENOVATIONS |  |  |  | (2,39, 0 | (0.39) | 57.5 | $(40,679)$ */** |
| 1115D | SPILLWAY | 2,841,355 | 1,432,825 | 1,607,456 | $(174,631)$ | (0.12) | 50.1 | $(3,486)$ |
| 1115E | WATER CONTROL SYSTEMS | 4,296,891 | 2,019,990 | 2,839,823 | $(819,833)$ | (0.41) | 34.6 | $(23,695)$ |
| 1115F | ROADS AND SITE IMPROVEMENTS | 201,701 | 102,573 | 142,642 | $(40,069)$ | (0.39) | 33.8 | $(1,185)$ |
| 1115G | TURBINES AND GENERATORS | 41,208,963 | 9,885,456 | 13,488,286 | $(3,602,830)$ | (0.36) | 47.7 | $(75,531)$ |
| 1115 H | GOVERNORS AND EXCITATION SYSTEM | 6,860 | 5,805 | -8,062 | $(2,257)$ | (0.36) | 5.0 | (451) |
| 1115L | LICENCE RENEWAL |  |  |  | $(2,257)$ |  | 5.0 | (451) ./.* |
| 1115P | A/C ELECTRICAL POWER SYSTEMS | 10,648,619 | 3,796,763 | 4,966,536 | $(1,169,773)$ |  |  |  |
| 1115Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 3,821,416 | 2,049,090 | 2,386,760 | $(337,670)$ | (0.31) (0.16) | 32.4 11.4 | $(36,104)$ $(29,620)$ |
| 1115R | AUXILIARY STATION PROCESSES | 5,224,958 | 2,217,975 | 2,809,589 | $(591,614)$ | (0.27) | 23.3 | $(29,620)$ $(25,391)$ |
| 1115X | SUPPORT BUILDINGS | 608,294 | 105,899 | 137,334 | $(31,435)$ | (0.30) | 46.5 | $(25,391)$ $(676)$ |
| 1115W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | (676) ./.** |
|  | TOTAL SEVEN SISTERS | 114,010,998 | 38,473,168 | 52,086,073 | $(13,612,905)$ |  |  | $(313,025)$ |

SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DESCRIPTION | $\qquad$ | $\begin{aligned} & \text { CALCULATED } \\ & \text { ACCRUED } \\ & \text { DEPRECIATION } \\ & (3) \end{aligned}$ | BOOK accumulated DEPRECIATION <br> (4) | ACCUMULATED DEPRECIATIONVARIANCE |  | PROBABLE REMAINING LIFE | $\begin{aligned} & \text { ANNUAL } \\ & \text { PROVISION } \\ & \text { FOR TRUE-UP } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) |  |  |  | $(5)=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 11200 | SLAVE FALLS |  |  |  |  |  |  |  |
| 1120A | DAMS, DYKES AND WEIRS | 954,684 | 44,764 | 54,185 | $(9,421)$ | (0.21) | 61.4 | (153) |
| 1120B | POWERHOUSE | 45,692,194 | 4,903,168 | 5,952,681 | (1,049,513) | (0.21) | 61.5 | $(17,065)$ |
| 1120 C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  | */** |
| 1120 D | SPILLWAY | 760,201 | 49,695 | 58,657 | $(8,962)$ | (0.18) | 57.4 | (156) |
| 1120 E | WATER CONTROL SYSTEMS | 318,933 | 24,068 | 28,347 | $(4,279)$ | (0.18) | 44.7 | (96) |
| 1120F | ROADS AND SITE IMPROVEMENTS | 769,506 | 78,949 | 83,156 | $(4,207)$ | (0.05) | 39.4 | (107) |
| 1120G | TURBINES AND GENERATORS | 11,630,909 | 1,490,317 | 1,739,984 | $(249,667)$ | (0.17) | 50.7 | $(4,924)$ |
| 1120 H | GOVERNORS AND EXCITATION SYSTEM |  |  |  |  |  |  |  |
| 1120L | LICENCE RENEWAL |  |  |  |  |  |  | *** |
| 1120P | A/C ELECTRICAL POWER SYSTEMS | 21,815,741 | 1,944,102 | 2,060,897 | $(116,795)$ | (0.06) | 39.3 | $(2,972)$ |
| 1120Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 786,382 | 108,358 | 104,882 | 3,476 | 0.03 | 16.0 | 217 |
| 1120R | AUXILIARY STATION PROCESSES | 2,201,466 | 179,198 | 171,468 | 7,730 | 0.04 | 29.5 | 262 |
| 1120X | SUPPORT BUILDINGS | 3,724,095 | 507,079 | 552,458 | $(45,379)$ | (0.09) | 47.5 | (955) |
| 1120W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | *** |
|  | TOTAL SLAVE FALLS | 88,654,109 | 9,329,698 | 10,806,713 | (1,477,015) |  |  | $(25,950)$ |
| 11250 | PINE FALLS |  |  |  |  |  |  |  |
| 1125A | DAMS, DYKES AND WEIRS | 14,110,589 | 2,084,324 | 2,573,116 | $(488,792)$ | (0.23) | 77.3 | $(6,323)$ |
| 1125B | POWERHOUSE | 10,060,843 | 4,528,984 | 5,542,973 | $(1,013,989)$ | (0.22) | 63.5 | $(15,968)$ |
| 1125C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  | *** |
| 1125D | SPILLWAY | 93,376 | 2,671 | 3,149 | (478) | (0.18) | 67.2 | (7) |
| 1125E | WATER CONTROL SYSTEMS | 3,564,106 | 1,925,975 | 2,388,172 | $(462,197)$ | (0.24) | 30.8 | $(15,006)$ |
| 1125 F | ROADS AND SITE IMPROVEMENTS | 1,178,575 | 932,226 | 1,130,898 | $(198,672)$ | (0.21) | 10.5 | $(18,921)$ |
| 1125G | TURBINES AND GENERATORS | 9,464,220 | 4,932,555 | 5,889,287 | $(956,732)$ | (0.19) | 38.0 | $(25,177)$ |
| 1125 H | GOVERNORS AND EXCITATION SYSTEM |  |  |  |  |  |  |  |
| 1125L | LICENCE RENEWAL |  |  |  |  |  |  | *** |
| 1125P | A/C ELECTRICAL POWER SYSTEMS | 5,071,108 | 1,827,772 | 2,169,610 | $(341,838)$ | (0.19) | 36.1 | $(9,469)$ |
| 1125Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2,156,586 | 1,110,121 | 1,145,153 | $(35,032)$ | (0.03) | 10.6 | $(3,305)$ |
| 1125R | AUXILIARY STATION PROCESSES | 3,790,230 | 1,523,378 | 1,704,847 | $(181,469)$ | (0.12) | 24.1 | $(7,530)$ |
| 1125X | SUPPORT BUILDINGS | 336,412 | 88,521 | 99,028 | $(10,507)$ | (0.12) | 43.6 | (241) |
| 1125W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | *** |
| $1125 Z$ | COMMUNITY DEVELOPMENT COSTS | 4,425,543 | 533,832 | 710,240 | $(176,408)$ | (0.33) | 71.4 | $(2,471)$ ** |
|  | TOTAL PINE FALLS | 54,251,587 | 19,490,359 | 23,356,474 | $(3,866,115)$ |  |  | $(104,419)$ |
| 11300 | MCARTHUR FALLS |  |  |  |  |  |  |  |
| 1130A | DAMS, DYKES AND WEIRS | 3,578,068 | 1,327,762 | 1,583,088 | $(255,326)$ | (0.19) | 69.1 | $(3,695)$ |
| 1130B | POWERHOUSE | 9,523,798 | 4,217,087 | 5,018,727 | $(801,640)$ | (0.19) | 64.3 | $(12,467)$ |
| 1130C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  | */** |
| 1130D | SPILLWAY | 2,351,438 | 1,696,563 | 1,703,092 | $(6,529)$ | (0.00) | 21.4 | (305) |
| 1130E | WATER CONTROL SYSTEMS | 11,703,203 | 4,138,832 | 5,007,819 | $(868,987)$ | (0.21) | 33.3 | $(26,096)$ |
| 1130F | ROADS AND SITE IMPROVEMENTS | 234,820 | 111,788 | 127,773 | $(15,985)$ | (0.14) | 29.0 | (551) |
| 1130G | TURBINES AND GENERATORS | 5,096,367 | 3,966,488 | 4,670,712 | $(704,224)$ | (0.18) | 15.7 | $(44,855)$ |
| 1130 H | GOVERNORS AND EXCITATION SYSTEM | 119,315 | 32,237 | 38,021 | $(5,784)$ | (0.18) | 34.9 | (166) |
| 1130L | LICENCE RENEWAL |  |  |  |  |  |  | *** |
| 1130P | A/C ELECTRICAL POWER SYSTEMS | 2,480,539 | 1,548,716 | 1,818,844 | $(270,128)$ | (0.17) | 29.3 | $(9,219)$ |
| 1130Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 1,245,885 | 697,673 | 747,884 | $(50,211)$ | (0.07) | 12.3 | $(4,082)$ |
| 1130R | AUXILIARY STATION PROCESSES | 3,440,197 | 1,347,401 | 1,483,474 | $(136,073)$ | (0.10) | 25.0 | $(5,443)$ |
| 1130X | SUPPORT BUILDINGS | 227,212 | 59,529 | 65,327 | $(5,798)$ | (0.10) | 43.7 | (133) |
| 1130W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | $* / *$ |
|  | TOTAL MCARTHUR FALLS | 40,000,842 | 19,144,076 | 22,264,760 | (3,120,684) |  |  | $(107,012)$ |

SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 <br> (2) | CALCULATED ACCRUED DEPRECIATION | BOOKACCUMULATEDDEPRECIATION | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) |  | (3) | (4) | $(5)=(3)-(4)$ | $(6)=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 11350 | KELSEY |  |  |  |  |  |  |  |
| 1135A | DAMS, DYKES AND WEIRS | 11,066,409 | 2,091,406 | 2,388,154 | $(296,748)$ | (0.14) | 81.9 | $(3,623)$ |
| 1135B | POWERHOUSE | 27,569,817 | 10,369,448 | 11,797,459 | $(1,428,011)$ | (0.14) | 71.8 | $(19,889)$ |
| 1135 C | POWERHOUSE RENOVATIONS |  | 1,360,4 | 1,79,4 | (1,428,01) |  |  | (19,889) */** |
| 1135 D | SPILLWAY | 5,331,929 | 3,510,542 | 3,337,776 | 172,766 | 0.05 | 25.7 | 6,722 |
| 1135 E | WATER CONTROL SYSTEMS | 11,792,566 | 5,095,822 | 5,858,592 | $(762,770)$ | (0.15) | 37.6 | $(20,286)$ |
| 1135 F | ROADS AND SITE IMPROVEMENTS | 6,442,928 | 3,327,136 | 3,675,535 | $(348,399)$ | (0.10) | 28.5 | $(12,225)$ |
| 1135G | TURBINES AND GENERATORS | 130,323,693 | 9,810,603 | 10,889,594 | $(1,078,991)$ | (0.11) | 56.8 | $(18,996)$ |
| 1135 H | GOVERNORS AND EXCITATION SYSTEM | 88,651 | 25,248 | 28,203 | $(2,955)$ | (0.12) | 33.9 | (18,996) |
| 1135L | LICENCE RENEWAL |  |  |  |  |  | 33.9 | ${ }^{\text {(87) }}$ *** |
| 1135 P | A/C ELECTRICAL POWER SYSTEMS | 5,751,610 | 3,144,625 | 3,442,084 | $(297,459)$ | (0.09) | 24.5 | $(12,141)$ |
| 1135 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 3,595,490 | 1,573,603 | 1,535,475 | 38,128 | 0.02 | 12.3 | 3,100 |
| 1135 R | AUXILIARY STATION PROCESSES | 7,788,815 | 3,256,761 | 3,361,853 | $(105,092)$ | (0.03) | 22.6 | $(4,650)$ |
| 1135X | SUPPORT BUILDINGS | 9,953,977 | 1,934,994 | 2,030,173 | $(95,179)$ | (0.05) | 47.1 | $(2,021)$ |
| 1135W | SUPPORT BUILDING RENOVATIONS |  | 1,0э4,094 | 2,030,173 | ( 5 ,179) |  |  | (2,021)*** |
|  | TOTAL KELSEY | 219,705,886 | 44,140,188 | 48,344,899 | (4,204,711) |  |  | $(84,096)$ |
| 11400 | GRAND RAPIDS |  |  |  |  |  |  |  |
| 1140A | DAMS, DYKES AND WEIRS | 53,468,974 | 16,904,945 | 20,241,182 | $(3,336,237)$ | (0.20) | 71.3 | $(46,792)$ |
| 1140 B | POWERHOUSE | 24,506,522 | 9,074,278 | 10,870,236 | $(1,795,958)$ | (0.20) | 69.2 | $(25,953)$ |
| 1140 C | POWERHOUSE RENOVATIONS |  |  |  | (1,7os, |  |  | (25,0ヶ3) */** |
| 1140 D | SPILLWAY | 5,308,334 | 3,141,881 | 3,127,598 | 14,283 | 0.00 | 30.2 | 473 |
| 1140 E | WATER CONTROL SYSTEMS | 15,982,492 | 10,781,268 | 12,935,293 | $(2,154,025)$ | (0.20) | 35.0 | $(61,544)$ |
| 1140 F | ROADS AND SITE IMPROVEMENTS | 2,581,475 | 1,853,663 | 2,151,076 | $(297,413)$ | (0.16) | 18.7 | $(15,904)$ |
| ${ }^{1140 G}$ | TURBINES AND GENERATORS | 113,066,160 | 24,914,070 | 28,837,308 | $(3,923,238)$ | (0.16) | 48.1 | $(81,564)$ |
| 1140 H | GOVERNORS AND EXCITATION SYSTEM | 42,718 | 9,742 | 11,420 | $(1,678)$ | (0.17) | 37.8 | (44) |
| 1140 L | LICENCE RENEWAL |  |  |  |  |  |  | */** |
| 1140P | A/C ELECTRICAL POWER SYSTEMS | 8,240,545 | 2,996,076 | 3,393,467 | $(397,391)$ | (0.13) | 32.2 | $(12,341)$ |
| 1140Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 4,674,247 | 3,162,334 | 3,344,181 | $(181,847)$ | (0.06) | 10.2 | $(17,828)$ |
| 1140 R | AUXILIARY STATION PROCESSES | 5,600,506 | 1,772,923 | 1,867,556 | $(94,633)$ | (0.05) | 25.0 | $(3,785)$ |
| 1140X | SUPPORT BUILDINGS | 6,190,376 | 1,167,718 | 1,266,627 | $(98,909)$ | (0.08) | 47.1 | $(2,100)$ |
| 1140W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | \%/* |
| $1140 Z$ | COMMUNITY DEVELOPMENT COSTS | 101,442,997 | 11,399,379 | 17,852,104 | $(6,452,725)$ | (0.57) | 71.2 | $(90,628)$ |
|  | TOTAL GRAND RAPIDS | 341,105,346 | 87,178,277 | 105,898,046 | $(18,719,769)$ |  |  | $(358,011)$ |
| 11450 | KETtLE |  |  |  |  |  |  |  |
| 1145A | DAMS, DYKES AND WEIRS | 45,280,663 | 14,457,365 | 17,156,728 | $(2,699,363)$ | (0.19) | 79.0 | $(34,169)$ |
| 1145B | POWERHOUSE | 146,207,420 | 46,205,345 | 54,832,267 | (8,626,922) | (0.19) | 79.3 | $(108,788)$ |
| 1145 C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  | (10, *** |
| 1145D | SPILLWAY | 25,406,960 | 13,054,096 | 13,102,475 | $(48,379)$ | (0.00) | 35.5 | $(1,363)$ |
| 1145 E | WATER CONTROL SYSTEMS | 17,834,945 | 12,943,500 | 15,570,815 | $(2,627,315)$ | (0.20) | 15.1 | $(173,994)$ |
| 1145 F | ROADS AND SITE IMPROVEMENTS | 10,591 | 2,234 | 2,424 | (190) | (0.08) | 35.5 | (5) |
| 1145G | TURBINES AND GENERATORS | 70,740,028 | 38,119,760 | 44,332,641 | $(6,212,881)$ | (0.16) | 29.8 | $(208,486)$ |
| 1145 H | GOVERNORS AND EXCITATION SYSTEM | 3,304,326 | 2,291,949 | 2,718,363 | $(426,414)$ | (0.19) | 16.3 | $(26,160)$ |
| 1145L | LICENCE RENEWAL |  |  |  |  |  |  | (26,160) */** |
| 1145 P | AC ELECTRICAL POWER SYSTEMS | 6,771,761 | 2,715,301 | 3,063,216 | $(347,915)$ | (0.13) | 29.9 | $(11,636)$ |
| 1145Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 12,001,279 | 7,812,908 | 8,161,591 | $(348,683)$ | (0.04) | 10.2 | $(34,185)$ |
| 1145R | AUXILIARY STATION PROCESSES | 15,361,985 | 8,293,267 | 9,355,269 | $(1,062,002)$ | (0.13) | 21.2 | $(50,094)$ |
| 1145X | SUPPORT BUILDINGS | 3,908,404 | 2,242,225 | 2,527,081 | $(284,856)$ | (0.13) | 27.7 | $(10,284)$ |
| 1145W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | */** |
|  | TOTAL KETTLE | 346,828,362 | 148,137,950 | 170,822,869 | (22,684,919) |  |  | $(659,165)$ |

SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 <br> (2) | CALCULATED accrued DEPRECIATION | BOOK ACCUMULATED DEPRECIATION (4) | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) |  | (3) |  | $(5)=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | $(8)=(5) /(7)$ |
| 11500 | LAURIE RIVER |  |  |  |  |  |  |  |
| 1150A | DAMS, DYKES AND WEIRS | 355,538 | 177,539 | 119,594 | 57,945 | 0.33 | 22.0 | 2,634 |
| 1150B | POWERHOUSE | 7,664,146 | 1,880,047 | 1,265,197 | 614,850 | 0.33 | 22.0 | 27,948 |
| 1150 C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  | 27,948*** |
| 1150 D | SPILLWAY | 870,000 | 361,398 | 240,118 | 121,280 | 0.34 | 21.8 | 5,563 |
| 1150 E | WATER CONTROL SYSTEMS | 458,033 | 180,347 | 121,277 | 59,070 | 0.33 | 21.7 | 2,722 |
| 1150F | ROADS AND SITE IMPROVEMENTS | 1,441,914 | 607,104 | 394,599 | 212,505 | 0.35 | 19.9 | 10,679 |
| 1150G | TURBINES AND GENERATORS | 4,603,136 | 777,293 | 522,394 | 254,899 | 0.33 | 21.9 | 11,639 |
| 1150 H | GOVERNORS AND EXCITATION SYSTEM | 882,653 | 94,232 | 63,131 | 31,101 | 0.33 | 21.8 | 1,427 |
| 1150L | LICENCE RENEWAL |  |  |  |  |  |  | *, *** |
| 1150P | A/C ELECTRICAL POWER SYSTEMS | 1,441,945 | 532,317 | 347,758 | 184,559 | 0.35 | 20.5 | 9,003 |
| 1150Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 1,220,047 | 769,647 | 436,660 | 332,987 | 0.43 | 8.4 | 39,641 |
| 1150R | AUXILIARY STATION PROCESSES | 308,504 | 130,042 | 80,696 | 49,346 | 0.38 | 18.3 | 2,697 |
| 1150X | SUPPORT BUILDINGS | 355,919 | 161,943 | 106,876 | 55,067 | 0.34 | 21.0 | 2,622 |
| 1150W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | 2,622 */** |
|  | TOTAL LAURIE RIVER | 19,601,835 | 5,671,909 | 3,698,298 | 1,984,399 |  |  | 116,575 |
| 11550 | JENPEG |  |  |  |  |  |  |  |
| 1155A | DAMS, DYKES AND WEIRS | 15,295,318 | 3,325,195 | 3,661,242 | $(336,047)$ | (0.10) | 88.4 | $(3,801)$ |
| 1155 B | POWERHOUSE | 76,905,294 | 21,018,339 | 23,110,365 | $(2,092,026)$ | (0.10) | 84.3 | $(24,816)$ |
| 1155 C | POWERHOUSE RENOVATIONS |  |  |  | (2,002,026) |  |  | (24,816)*** |
| 1155 D | SPILLWAY | 14,942,733 | 6,703,048 | 6,251,622 | 451,426 | 0.07 | 39.7 | 11,371 |
| 1155 E | WATER CONTROL SYSTEMS | 16,762,099 | 10,865,384 | 12,126,362 | $(1,260,978)$ | (0.12) | 17.4 | $(72,470)$ |
| 1155 F | ROADS AND SITE IMPROVEMENTS | 1,563,205 | 735,898 | 769,243 | $(33,345)$ | (0.05) | 25.8 | $(1,292)$ |
| 1155 G | TURBINES AND GENERATORS | 79,641,550 | 36,965,814 | 39,906,553 | $(2,940,739)$ | (0.08) | 33.4 | $(88,046)$ |
| 1155 H | GOVERNORS AND EXCITATION SYSTEM |  |  |  |  |  |  | (8,06) |
| 1155 L | LICENCE RENEWAL |  |  |  |  |  |  | *** |
| 1155 P | A/C ELECTRICAL POWER SYSTEMS | 19,308,049 | 12,128,595 | 12,814,770 | $(686,175)$ | (0.06) | 19.1 | $(35,925)$ |
| 1155 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 3,343,800 | 2,154,070 | 2,014,895 | 139,175 | 0.06 | 9.0 | 15,464 |
| 1155 R | AUXILIARY STATION PROCESSES | 9,796,258 | 4,363,099 | 4,457,960 | $(94,861)$ | (0.02) | 21.6 | $(4,392)$ |
| 1155X | SUPPORT BUILDINGS | 7,885,397 | 2,301,830 | 2,365,167 | $(63,337)$ | (0.03) | 42.5 | $(1,490)$ |
| 1155W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | */* |
|  | TOTAL JENPEG | 245,443,703 | 100,561,272 | 107,478,180 | (6,916,908) |  |  | $(205,399)$ |
| 11600 | LAKE WINNIPEG REGULATION |  |  |  |  |  |  |  |
| 1160A | DAMS, DYKES AND WEIRS | 96,807,065 | 26,325,352 | 33,231,067 | (6,905,715) | (0.26) | 86.7 | $(79,651)$ |
| 1160L | LICENCE RENEWAL |  |  |  |  |  |  | $\% * *$ |
| 11602 | COMMUNITY DEVELOPMENT COSTS | 387,802,871 | 54,108,862 | 73,448,592 | (19,339,730) | (0.36) | 86.6 | $(223,323)$ ** |
|  | TOTAL LAKE WINNIPEG REGULATION | 484,609,937 | 80,434,214 | 106,679,659 | $(26,245,445)$ |  |  | $(302,973)$ |
| 11650 | CHURCHILL RIVER DIVERSION |  |  |  |  |  |  |  |
| 1165A | DAMS, DYKES AND WEIRS | 114,718,213 | 30,724,065 | 31,921,746 | $(1,197,681)$ | (0.04) | 87.1 | $(13,751)$ |
| 1165 D | SPILLWAY | 56,442,246 | 25,500,607 | 22,609,467 | 2,891,140 | 0.11 | 39.4 | 73,379 |
| 1165E | WATER CONTROL SYSTEMS | 17,583,551 | 11,612,927 | 12,324,199 | $(711,272)$ | (0.06) | 16.7 | $(42,591)$ |
| 1165F | ROADS AND SITE IMPROVEMENTS | 6,799,023 | 4,272,805 | 4,291,935 | $(19,130)$ | (0.00) | 19.0 | $(1,007)$ |
| 1165L | LICENCE RENEWAL |  |  |  |  |  |  | */** |
| 1165P | A/C ELECTRICAL POWER SYSTEMS | 1,596,593 | 1,005,012 | 1,009,712 | $(4,700)$ | (0.00) | 19.0 | (247) |
| 1165Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 1,417,862 | 1,197,658 | 1,107,794 | 89,864 | 0.08 | 6.0 | 14,977 |
| 1165R | AUXILIARY STATION PROCESSES | 1,799,312 | 498,971 | 462,083 | 36,888 | 0.07 | 25.7 | 1,435 |
| 1165X | SUPPORT BUILDINGS | 28,361 | 4,169 | 3,968 | 201 | 0.05 | 49.3 | 4 |
| 1165W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | *** |
| $1165 Z$ | COMMUNITY DEVELOPMENT COSTS | 305,036,524 | 55,319,169 | 74,130,320 | $(18,811,151)$ | (0.34) | 82.5 | $(228,014)$ ** |
|  | TOTAL CHURCHILL RIVER DIVERSION | 505,421,684 | 130,135,383 | 147,861,224 | (17,725,841) |  |  | $(195,814)$ |


| ACCOUNT | DESCRIPTION | surviving ORIGINAL COST $\frac{\text { AS OF MARCH 31, } 2010}{(2)}$(2) | $\begin{aligned} & \text { CALCULATED } \\ & \text { ACCRUED } \\ & \text { DEPRECIATION } \end{aligned}$ | BOOK <br> accumulated DEPRECIATION | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) |  |  | (4) | $(5)=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 11700 | LONG SPRUCE |  |  |  |  |  |  |  |
| 1170A | DAMS, DYKES AND WEIRS | 64,744,494 | 17,136,124 | 18,797,519 | $(1,661,395)$ | (0.10) | 85.2 | $(19,500)$ |
| 1170B | POWERHOUSE | 143,780,355 | 38,092,455 | 41,787,059 | $(3,694,604)$ | (0.10) | 85.2 | $(43,364)$ |
| 1170 C | POWERHOUSE RENOVATIONS | 13,700,355 | ॐ,05,4 | 41,787,059 | (3,644,604) | (0.10) | 85.2 | (43,364) */.* |
| 1170 D | SFILLWAY | 42,273,617 | 18,416,714 | 17,142,264 | 1,274,450 | 0.07 | 41.0 | 31,084 |
| 1170 E | WATER CONTROL SYSTEMS | 57,946,281 | 37,207,115 | 41,449,762 | $(4,242,647)$ | (0.11) | 17.5 | $(242,437)$ |
| 1170F | ROADS AND SITE IMPROVEMENTS | 1,172,867 | 657,177 | 687,609 | $(30,432)$ | (0.05) | 22.0 | $(1,383)$ |
| 1170G | TURBINES AND GENERATORS | 143,328,643 | 72,028,075 | 77,103,787 | $(5,075,712)$ | (0.07) | 30.7 | $(165,333)$ |
| 1170 H | GOVERNORS AND EXCITATION SYSTEM | 145,844 | 20,097 | 21,732 | $(1,635)$ | (0.08) | 40.7 | (40) |
| 1170L | LICENCE RENEWAL |  |  |  |  |  |  | **** |
| 1170 P | A/C ELECTRICAL POWER SYSTEMS | 30,503,528 | 17,655,095 | 18,542,547 | $(887,452)$ | (0.05) | 21.3 | $(41,664)$ |
| 1170Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 4,409,200 | 3,518,156 | 3,373,611 | 144,545 | 0.04 | 6.9 | 20,949 |
| 1170R | AUXILIARY STATION PROCESSES | 12,199,119 | 6,909,582 | 7,135,875 | $(226,293)$ | (0.03) | 17.9 | $(12,642)$ |
| 1170X | SUPPORT BUILDINGS | 160,484 | 18,662 | 18,618 | 44 | 0.00 | 50.4 | (1) |
| 1170W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | */** |
|  | TOTAL LONG SPRUCE | 500,664,431 | 211,659,252 | 226,060,384 | (14,401, 132) |  |  | $(474,330)$ |
| 11750 | LImestone |  |  |  |  |  |  |  |
| 1175A | DAMS, DYKES AND WEIRS | 33,258,073 | 5,378,081 | 5,756,238 | $(378,157)$ | (0.07) | 96.8 | $(3,907)$ |
| 1175B | POWERHOUSE | 461,430,334 | 74,262,785 | 79,485,351 | $(5,222,566)$ | (0.07) | 96.9 | $(53,896)$ |
| 1175 C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  | ( |
| 1175D | SPILLWAY | 201,240,773 | 53,026,515 | 49,241,598 | 3,784,917 | 0.07 | 47.6 | 79,515 |
| 1175E | WATER CONTROL SYSTEMS | 116,224,392 | 44,988,138 | 48,919,806 | $(3,931,668)$ | (0.09) | 29.6 | $(132,827)$ |
| 1175F | ROADS AND SITE IMPROVEMENTS | 17,164,432 | 6,795,781 | 6,832,303 | $(36,522)$ | (0.01) | 28.5 | $(1,281)$ |
| 1175G | TURBINES AND GENERATORS | 403,825,745 | 124,076,655 | 130,029,479 | $(5,952,824)$ | (0.05) | 42.0 | $(141,734)$ |
| 1175 H | GOVERNORS AND EXCITATION SYSTEM | 16,584,271 | 6,439,021 | 6,847,507 | $(408,486)$ | (0.06) | 29.2 | $(13,989)$ |
| 1175L | LICENCE RENEWAL |  |  |  |  |  |  | **** |
| 1175P | A/C ELECTRICAL POWER SYSTEMS | 144,317,307 | 57,149,653 | 57,457,004 | $(307,351)$ | (0.01) | 28.5 | $(10,784)$ |
| 1175Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 8,333,373 | 5,237,449 | 4,778,396 | 459,053 | 0.09 | 9.1 | 50,445 |
| 1175R | AUXILIARY STATION PROCESSES | 36,054,205 | 16,111,470 | 15,631,104 | 480,366 | 0.03 | 21.2 | 22,659 |
| 1175X | SUPPORT BUILDINGS | 5,703,494 | 1,625,607 | 1,616,130 | 9,477 | 0.01 | 42.6 | 222 |
| 1175W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | *** |
|  | total limestone | 1,444,136,399 | 395,091,155 | 406,594,917 | (11,503,762) |  |  | $(205,577)$ |
| 11800 | WUSKWATIM |  |  |  |  |  |  |  |
| 1180A | DAMS, DYKES AND WEIRS |  |  |  |  |  |  | * |
| 1180B | POWERHOUSE |  |  |  |  |  |  | * |
| 1180C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  | */** |
| 1180D | SPILLWAY |  |  |  |  |  |  | * |
| 1180E | WATER CONTROL SYSTEMS |  |  |  |  |  |  | * |
| 1180F | ROADS AND SITE IMPROVEMENTS |  |  |  |  |  |  | * |
| 1180G | TURBINES AND GENERATORS |  |  |  |  |  |  | * |
| 1180 H | GOVERNORS AND EXCITATION SYSTEM |  |  |  |  |  |  | * |
| 1180P | A/C ELECTRICAL POWER SYSTEMS |  |  |  |  |  |  | * |
| 1180Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |  |  |  |  |  |  | * |
| 1180R | AUXILIARY STATION PROCESSES |  |  |  |  |  |  | * |
| 1180X | SUPPORT BUILDINGS |  |  |  |  |  |  | * |
| 1180W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | */** |
|  | TOTAL WUSKWATIM | 0 | 0 | 0 | 0 |  |  | 0 |
| 11990 | INFRASTRUCTURE SUPPORTING GENERATION |  |  |  |  |  |  |  |
| 1199F | PROVINCIAL ROADS | 25,380,938 | 14,256,798 | 13,691,986 | 564,812 | 0.04 | 21.8 | 25,909 |
| 1199V | TOWN SITE BUILDINGS | 63,280,714 | 21,821,338 | 18,850,678 | 2,970,660 | 0.14 | 38.2 | 77,766 |
| 1199W | TOWN SITE BUILDINGS RENOVATIONS | 13,502,581 | 2,082,369 | 809,439 | 1,272,930 | 0.61 | 16.0 | 79,558 ** |
| 1199Y | TOWN SITE OTHER INFRASTRUCTURE | 26,527,464 | 6,785,574 | 6,187,988 | 597,586 | 0.09 | 30.3 | 19,722 |
|  | TOTAL INFRASTRUCTURE SUPPORTING GENERATION | 128,691,696 | 44,946,079 | 39,540,091 | 5,405,988 | 0.12 |  | 202,955 |
|  | TOTAL HYDRAULIC GENERATION | 4,716,467,183 | 1,384,896,073 | 1,536,957,059 | (152,050,198) |  |  | $(3,346,698)$ |

SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP FOR THE TWELVE MONTHS ENDED MARCH 31, 2010

| ACCOUNT DESCRIPTION |  | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 | CALCULATED accrued DEPRECIATION | воок <br> aCCuMULATED DEPRECIATION | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | AMOUNT |  |  | PERCENT |  |  |
|  | (1) |  | (2) | (3) | (4) | $(5)=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |

The account has no balance as of March 31,2010 and rate will be used on a go-forward basis for future additions

- On amortized account any true-up of less than $10 \%$ is not considered significant.
*** True-up was deemed as not significant or has been limited to the annual depreciation expenses.

| ACCOUNT | DEPRECIABLE WORK | LIFE <br> SPAN <br> DATE | SURVIVOR CURVE <br> (2) | $\begin{gathered} \begin{array}{c} \text { NET } \\ \text { SALVAGE } \end{array} \\ \hline(3) \end{gathered}$ | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 (4) | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | TOTAL DEPRECIATION |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  |  |  |  | (5) | (6) $=(5) /(4)$ | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 10000 | GENERATION |  |  |  |  |  |  |  |  |  |
| 11000 | HYDRAULIC GENERATION |  |  |  |  |  |  |  |  |  |
| 11050 | GREAT FALLS |  |  |  |  |  |  |  |  |  |
| 1105A | DAMS, DYKES AND WEIRS | 2063 | 125-R4 | (10) | 17,302,772 | 238,985 | 1.38 | $(16,829)$ | 222,156 | 1.28 |
| 1105 B | POWERHOUSE | 2063 | 125-R4 | (10) | 7,990,993 | 109,555 | 1.37 | $(8,305)$ | 101,250 | 1.27 |
| 1105C | POWERHOUSE RENOVATIONS | 2063 | 25-SQ | (10) |  |  |  |  |  | $4.00 \%$ |
| 1105D | SPILLWAY | 2063 | 75-R4 | (10) | 9,676,327 | 151,176 | 1.56 | $(6,672)$ | 144,504 | 1.49 |
| 1105E | WATER CONTROL SYSTEMS | 2063 | 50-S4 | (10) | 24,245,253 | 535,198 | 2.21 | $(33,000)$ | 502,198 | 2.07 |
| 1105 F | ROADS AND SITE IMPROVEMENTS | 2063 | 50-R3 | (10) | 213,964 | 5,020 | 2.35 | (29) | 4,991 | 2.33 |
| 1105G | TURBINES AND GENERATORS | 2063 | 65-S3 | (10) | 25,128,789 | 476,981 | 1.90 | $(20,626)$ | 456,355 | 1.82 |
| ${ }^{1105 H}$ | GOVERNORS AND EXCITATION SYSTEM | 2063 | 50-R4 | (10) | 492,218 | 10,949 | 2.22 | (548) | 10,401 | 2.11 |
| 1105L | LICENCE RENEWAL | 2063 | 50-SQ | 0 |  |  |  |  |  | 2.00 \%** |
| 1105P | A/C ELECTRICAL POWER SYSTEMS | 2063 | 50-R3 | (10) | 9,493,088 | 211,271 | 2.23 | $(12,083)$ | 199,188 | 2.10 |
| 1105Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2063 | 23-L2 | (10) | 19,271,956 | 899,389 | 4.67 | $(45,393)$ | 853,996 | 4.43 |
| 1105 R | AUXILIARY STATION PROCESSES | 2063 | 40-R2.5 | (10) | 8,345,798 | 228,986 | 2.74 | $(13,147)$ | 215,839 | 2.59 |
| 1105X | SUPPORT BUILDINGS | 2063 | 65-R3 | (10) | 1,495,253 | 27,670 | 1.85 | $(1,875)$ | 25,795 | 1.73 |
| 1105W | SUPPORT BUILDING RENOVATIONS | 2063 | 20-SQ | (10) |  |  |  |  |  | 5.00 \%** |
|  | TOTAL GREAT FALLS |  |  |  | 123,656,412 | 2,895,180 | 2.34 | $(158,507)$ | 2,736,673 | 2.21 |
| 11100 | POINTE dU BOIS |  |  |  |  |  |  |  |  |  |
| 1110A | DAMS, DYKES AND WEIRS | 2031 | 125-R4 | (10) | 11,263,332 | 491,508 | 4.36 | $(82,462)$ | 409,046 | 3.63 |
| 1110 B | POWERHOUSE | 2031 | 125-R4 | (10) | 6,242,749 | 298,076 | 4.77 | $(24,130)$ | 273,946 | 4.39 |
| 1110 C | POWERHOUSE RENOVATIONS | 2031 | 25-SQ | (10) |  |  |  |  |  | $4.84 \%$ |
| 1110 D | SPILLWAY - ORIGINAL | 2017 | 75-R4 | 0 | 3,104,842 | 341,875 | 11.01 | $(84,776)$ | 257,099 | 8.28 |
| 1110 E | WATER CONTROL SYSTEMS | 2031 | 50-S4 | (10) | 4,027,603 | 168,173 | 4.18 | $(35,621)$ | 132,552 | 3.29 |
| 1110 F | ROADS AND SITE IMPROVEMENTS | 2031 | 50-R3 | (10) | 28,533 | 1,208 | 4.23 | (266) | 942 | 3.30 |
| 1110 G | TURBINES AND GENERATORS | 2031 | 65-S3 | (10) | 24,610,324 | 1,123,496 | 4.57 | $(138,078)$ | 985,418 | 4.00 * |
| 1110 H | GOVERNORS AND EXCITATION SYSTEM | 2031 | 50-R4 | (10) |  |  |  |  |  | $5.24 \% *$ |
| 1110 L | LICENCE RENEWAL | 2031 | 50-SQ | - |  |  |  |  |  | 4.76 |
| 1110P | A/C ELECTRICAL POWER SYSTEMS | 2031 | 50-R3 | (10) | 6,057,709 | 296,661 | 4.90 | $(20,819)$ | 275,842 | 4.55 |
| 1110 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2031 | 23-L2 | (10) | 355,559 | 20,419 | 5.74 | $(2,381)$ | 18,038 | 5.07 |
| 1110 R | AUXILIARY STATION PROCESSES | 2031 | 40-R2.5 | (10) | 1,377,014 | 65,027 | 4.72 | $(10,107)$ | 54,920 | 3.99 |
| 1110x | SUPPORT BUILDINGS | 2031 | 65-R3 | (10) | 2,616,290 | 103,919 | 3.97 | $(29,103)$ | 74,816 | 2.86 |
| 1110W | SUPPORT BUILDING RENOVATIONS | 2031 | 20-SQ | (10) |  |  |  |  |  | $5.00 \%$ \% |
| 1111D | SPILLWAY - NEW |  | 75-R2 | (10) |  |  |  |  |  | 1.33 * |
|  | TOTAL POINTE DU BOIS |  |  |  | 59,683,956 | 2,910,362 | 4.88 | (427,744) | 2,482,618 | 4.16 |
| 11150 | SEVEN SISters |  |  |  |  |  |  |  |  |  |
| 1115A | DAMS, DYKES AND WEIRS | 2072 | 125-84 | (10) | 31,497,995 | 386,490 | 1.23 | $(60,803)$ | 325,687 | 1.03 |
| 1115B | POWERHOUSE | 2072 | 125-84 | (10) | 13,653,945 | 157,769 | 1.16 | $(34,219)$ | 123,550 | 0.90 |
| 1115 C | POWERHOUSE RENOVATIONS | 2072 | 25-SQ | (10) |  |  |  |  |  | $4.00 \%$ |
| 1115D | SPILLWAY | 2072 | 75-R4 | (10) | 2,841,355 | 39,214 | 1.38 | $(4,124)$ | 35,090 | 1.23 |
| 1115E | WATER CONTROL SYSTEMS | 2072 | 50-S4 | (10) | 4,296,891 | 94,567 | 2.20 | $(17,127)$ | 77,440 | 1.80 |
| 1115 F | ROADS AND SITE IMPROVEMENTS | 2072 | 50-R3 | (10) | 201,701 | 4,456 | 2.21 | (744) | 3,712 | 1.84 |
| 1115 G | TURBINES AND GENERATORS | 2072 | 65-53 | (10) | 41,208,963 | 737,500 | 1.79 | $(62,085)$ | 675,415 | 1.64 |
| 1115 H | GOVERNORS AND EXCITATION SYSTEM | 2072 | 50-R4 | (10) | 6,860 | 151 | 2.20 | (379) | (228) | (3.33) |
| 1115L | LICENCE RENEWAL | 2072 | 50-SQ | 0 |  |  |  |  |  | $2.00 \%$ |
| 1115P | A/C ELECTRICAL POWER SYSTEMS | 2072 | 50-R3 | (10) | 10,648,619 | 234,601 | 2.20 | $(31,151)$ | 203,450 | 1.91 |
| 1115Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2072 | 23-L2 | (10) | 3,821,416 | 182,855 | 4.79 | $(40,388)$ | 142,467 | 3.73 |
| 1115R | AUXILIARY STATION PROCESSES | 2072 | 40-R2.5 | (10) | 5,224,958 | 134,972 | 2.58 | $(23,517)$ | 111,455 | 2.13 |
| 1115X | SUPPORT BUILDINGS | 2072 | 65-R3 | (10) | 608,294 | 11,185 | 1.84 | (628) | 10,557 | 1.74 |
| 1115W | SUPPORT BUILDING RENOVATIONS | 2072 | 20-SQ | (10) |  |  |  |  |  | $5.00 \%$ |
|  | TOTAL SEVEN SISTERS |  |  |  | 114,010,998 | 1,983,760 | 1.74 | $(275,167)$ | 1,708,593 | 1.50 |


| ACCOUNT | DEPRECIABLE WORK | LIFE <br> SPAN <br> DATE | SURVIVOR CURVE (2) | $\begin{gathered} \text { NET } \\ \text { SALVAGE } \\ \hline \end{gathered}$ | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 (4) | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | TOTAL DEPRECIATION |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  |  |  |  | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9) $=(8) /(4)$ |
| 11200 | SLAVE FALLS |  |  |  |  |  |  |  |  |  |
| 1120A | DAMS, DYKES AND WEIRS | 2072 | 125-R4 | (10) | 954,684 | 16,233 | 1.70 | (84) |  |  |
| 1120 B | POWERHOUSE | 2072 | 125-84 | (10) | 45,692,194 | 729,914 | 1.60 | $(9,268)$ | 720,646 | 1.58 |
| 1120 C | POWERHOUSE RENOVATIONS | 2072 | 25-SQ | (10) |  |  |  |  |  | 4.00 */** |
| 1120 D | SPILLWAY | 2072 | 75-R4 | (10) | 760,201 | 13,291 | 1.75 | (93) | 13,198 | 1.74 |
| 1120 E | WATER CONTROL SYSTEMS | 2072 | 50-S4 | (10) | 318,933 | 7,022 | 2.20 | (59) | 6,963 | 2.18 |
| 1120 F | ROADS AND SITE IMPROVEMENTS | 2072 | 50-R3 | (10) | 769,506 | 17,098 | 2.22 | (177) | 16,921 | 2.20 |
| 1120 G | TURBINES AND GENERATORS | 2072 | 65-83 | (10) | 11,630,909 | 211,168 | 1.82 | $(3,143)$ | 208,025 | 1.79 |
| 1120 H | GOVERNORS AND EXCITATION SYSTEM | 2072 | 50-R4 | (10) | 1,630,00 | 21,68 |  | (3,14) | 20,025 | 2.00 * |
| 1120 L | LICENCE RENEWAL | 2072 | 50-SQ | 0 |  |  |  |  |  | 2.00 \%** |
| 1120 P | A/C ELECTRICAL POWER SYSTEMS | 2072 | 50-R3 | (10) | 21,815,741 | 485,981 | 2.23 | $(4,334)$ | 481,647 | 2.21 |
| 1120 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2072 | 23-L2 | (10) | 786,382 | 37,628 | 4.78 | (491) | 37,137 | 4.72 |
| 1120 R | AUXILIARY STATION PROCESSES | 2072 | 40-R2.5 | (10) | 2,201,466 | 60,540 | 2.75 | (440) | 60,100 | 2.73 |
| 1120x | SUPPORT BUILDINGS | 2072 | 65-R3 | (10) | 3,724,095 | 68,422 | 1.84 | $(1,005)$ | 67,417 | 1.81 |
| 1120w | SUPPORT BUILDING RENOVATIONS | 2072 | 20-SQ | (10) | 3,24,09 |  |  | $(1,005)$ | 67,417 | $5.00 * / *$ |
|  | TOTAL SLAVE FALLS |  |  |  | 88,654,109 | 1,647,297 | 1.86 | $(19,093)$ | 1,628,204 | 1.84 |
| 11250 | PINE FALLS |  |  |  |  |  |  |  |  |  |
| 1125 A | DAMS, DYKES AND WEIRS | 2092 | 125-84 | (10) | 14,110,589 | 170,023 | 1.20 | $(4,444)$ | 165,579 | 1.17 |
| 1125B | POWERHOUSE | 2092 | 125-R4 | (10) | 10,060,843 | 94,485 | 0.94 | $(11,302)$ | 83,183 | 0.83 |
| 1125 C | POWERHOUSE RENOVATIONS | 2092 | 25-SQ | (10) |  |  |  | $(1,302)$ | 83,183 | $4.00 \% * *$ |
| 1125D | SPILLWAY | 2092 | 75-R4 | (10) | 93,376 | 1,413 | 1.51 | (5) | 1,407 | 1.51 |
| 1125 E | WATER CONTROL SYSTEMS | 2092 | 50-S4 | (10) | 3,564,106 | 78,410 | 2.20 | $(9,007)$ | 69,403 | 1.95 |
| 1125 F | ROADS AND SITE IMPROVEMENTS | 2092 | 50-R3 | (10) | 1,178,575 | 25,929 | 2.20 | $(4,557)$ | 21,372 | 1.81 |
| 1125G | TURBINES AND GENERATORS | 2092 | 65-S3 | (10) | 9,464,220 | 160,333 | 1.69 | $(21,435)$ | 138,898 | 1.47 |
| ${ }^{1125 H}$ | GOVERNORS AND EXCITATION SYSTEM | 2092 | 50-R4 | (10) | 9,464,220 | 16,333 | 1.6 | $(21,435)$ | 138,898 | 2.00 * |
| 1125L | LICENCE RENEWAL | 2092 | 50-SQ | 0 |  |  |  |  |  | $2.00 \%$ |
| 1125 P | AC ELECTRICAL POWER SYSTEMS | 2092 | 50-R3 | (10) | 5,071,108 | 111,564 | 2.20 | $(6,896)$ | 104,668 | 2.06 |
| 1125Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2092 | 23-L2 | (10) | 2,156,586 | 103,193 | 4.79 | $(11,485)$ | 91,708 | 4.25 |
| 1125R | AUXILIARY STATION PROCESSES | 2092 | 40-R2.5 | (10) | 3,790,230 | 104,231 | 2.75 | $(7,987)$ | 96,244 | 2.54 |
| 1125X | SUPPORT BUILDINGS | 2092 | 65-R3 | (10) | 336,412 | 5,699 | 1.69 | (269) | 5,430 | 1.61 |
| 1125 W | SUPPORT BUILDING RENOVATIONS | 2092 | 20-SQ | (10) |  |  |  |  |  | 5.00 * $/{ }^{*}$ |
| $1125 Z$ | COMMUNITY DEVELOPMENT COSTS | 2092 | 81-SQ | 0 | 4,425,543 | 54,434 | 1.23 | $(2,471)$ | 51,963 | 1.17 |
|  | total pine falls |  |  |  | 54,251,587 | 909,714 | 1.68 | $(79,857)$ | 829,857 | 1.53 |
| 11300 | MCARTHUR FALLS |  |  |  |  |  |  |  |  |  |
| 1130 A | DAMS, DYKES AND WEIRS | 2095 | 125-R4 | (10) | 3,578,068 | 35,150 | 0.98 | $(2,609)$ | 32,541 | 0.91 |
| 1130 B | POWERHOUSE | 2095 | 125-84 | (10) | 9,523,798 | 88,239 | 0.93 | $(8,742)$ | 79,497 |  |
| 1130 C | POWERHOUSE RENOVATIONS | 2095 | 25-SQ | (10) |  |  |  |  |  |  |
| 1130D | SPILLWAY | 2095 | 75-R4 | (10) | 2,351,438 | 34,402 | 1.46 | 3,332 | 37,734 | 1.60 |
| 1130 E | WATER CONTROL SYSTEMS | 2095 | 50-S4 | (10) | 11,703,203 | 257,470 | 2.20 | $(16,879)$ | 240,591 | 2.06 |
| 1130 F | ROADS AND SITE IMPROVEMENTS | 2095 | 50-R3 | (10) | 234,820 | 5,166 | 2.20 | (489) | 4,677 | 1.99 |
| ${ }^{1130 G}$ | TURBINES AND GENERATORS | 2095 | 65-53 | (10) | 5,096,367 | 86,332 | 1.69 | $(32,214)$ | 54,118 | 1.06 |
| 1130 H | GOVERNORS AND EXCITATION SYSTEM | 2095 | 50-R4 | (10) | 119,315 | 2,625 | 2.20 | (121) | 2,504 | 2.10 |
| 1130 L | LICENCE RENEWAL | 2095 | 50-SQ | 0 |  |  |  |  |  | 2.00 *** |
| 1130P | A/C ELECTRICAL POWER SYSTEMS | 2095 | 50-R3 | (10) | 2,480,539 | 54,572 | 2.20 | $(7,535)$ | 47,037 | 1.90 |
| 11300 | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2095 | 23-L2 | (10) | 1,245,885 | 59,616 | 4.79 | $(6,197)$ | 53,419 | 4.29 |
| 1130 R | AUXILIARY STATION PROCESSES | 2095 | 40-R2.5 | (10) | 3,440,197 | 94,605 | 2.75 | $(5,940)$ | 88,665 | 2.58 |
| 1130X | SUPPORT BUILDINGS | 2095 | 65-R3 | (10) | 227,212 | 3,849 | 1.69 | (156) | 3,693 | 1.63 |
| 1130W | SUPPORT BUILDING RENOVATIONS | 2095 | 20-SQ | (10) |  |  |  |  |  | 5.00 \%** |
|  | TOTAL MCARTHUR FALLS |  |  |  | 40,000,842 | 722,026 | 1.81 | $(77,549)$ | 644,476 | 1.61 |


| ACCOUNT | DEPRECIABLE WORK | LIFE <br> SPAN <br> DATE | SURVIVOR CURVE <br> (2) | $\begin{gathered} \begin{array}{c} \text { NET } \\ \text { SALVAGE } \end{array} \\ \hline(3) \end{gathered}$ | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | TOTAL DEPRECIATION |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  |  |  |  |  |  | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | $\frac{(9)=(8) /(4)}{\text { ( }}$ |
| 11350 | kelsey |  |  |  |  |  |  |  |  |  |
| 1135A | DAMS, DYKES AND WEIRS | 2101 | 125-R4 | (10) |  |  |  |  |  |  |
| 1135B | POWERHOUSE | 2101 | 125-R4 | (10) | $11,066,409$ $27,569,817$ | 118,604 | 1.07 | $(2,046)$ | 116,558 | 1.05 |
| 1135 C | POWERHOUSE RENOVATIONS | 2101 | 25-SQ | (10) | 27,569,817 | 256,025 | 0.93 | $(11,217)$ | 244,808 | 0.89 |
| 1135 D | SPILLWAY | 2101 | 75-R4 | (10) | 5,331,929 |  |  |  |  | 4.00 */** |
| 1135 E 1135 F | WATER CONTROL SYSTEMS | 2101 | 50-54 | (10) | 11,792,566 | 259,436 | 1.46 2.20 | 11,931 $(1285)$ | 89,937 | 1.69 |
| 1135 F | ROADS AND SITE IMPROVEMENTS | 2101 | 50-R3 | (10) | $11,792,566$ $6,442,928$ | 259,436 141,744 | 2.20 2.20 | $(12,855)$ $(9,348)$ | 246,581 | 2.09 |
| 1135G | TURBINES AND GENERATORS | 2101 | 65-S3 | (10) | 130,323,693 | 141,744 2,207,683 | 2.20 1.69 | (12,348) | 132,396 | 2.05 |
| ${ }^{1135 H}$ | GOVERNORS AND EXCITATION SYSTEM | 2101 | 50-R4 | (10) | -88,651 | 2,207,683 1,950 | 1.69 2.20 | $(12,933)$ | 2,194,750 | 1.68 |
| 1135 L | LICENCE RENEWAL | 2101 | 50-SQ | (1) |  | 1,950 | 2.20 | (55) | 1,895 | 2.14 |
| 1135 P | A/C ELECTRICAL POWER SYSTEMS | 2101 | 50-R3 | (10) | 5,751,610 | 126,535 | 2.20 |  |  |  |
| $1135 Q$ 1135 R | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2101 | 23-L2 | (10) | 3,595,490 | 172,044 | 4.78 | $(9,565)$ $(7,271)$ | 164,773 | 2.03 4.58 |
| 1135 R 1135 X | AUXILIARY STATION PROCESSES | 2101 | 40-R2.5 | (10) | 7,788,815 |  | 2.75 | $(7,271)$ $(9,235)$ | 164,773 | 4.58 2.63 |
| 1135X | SUPPORT BUILDINGS | 2101 | 65-R3 | (10) | 9,953,977 | 168,620 | 2.75 1.69 | $(9,235)$ $(2,711)$ | 204,957 165,909 | $\begin{aligned} & 2.63 \\ & 167 \end{aligned}$ |
| 1135W | SUPPORT BUILDING RENOVATIONS | 2101 | $20-S Q$ | (10) |  |  | 1.69 |  |  | $\begin{aligned} & 1.67 \\ & 5.00 * * * \end{aligned}$ |
|  | TOTAL KELSEY |  |  |  | 219,705,886 | 3,744,839 | 1.70 | $(65,305)$ | 3,679,534 | 1.67 |
| 11400 | GRAND RAPIDS |  |  |  |  |  |  |  |  |  |
| 1140A | DAMS, DYKES AND WEIRS | 2091 | 125-R4 |  |  |  |  |  |  |  |
| 1140 B | POWERHOUSE | 2091 | 125-84 | (10) | 23,468,974 | 255,421 | 1.04 0.98 | $(30,489)$ | 524,932 | 0.98 |
| 1140C | POWERHOUSE RENOVATIONS | 2091 | 25-SQ | (10) | 24,506,522 | 240,399 | 0.98 | $(16,737)$ | 223,662 | 0.91 |
| 1140D | SPILLWAY | 2091 | 75-R4 | (10) | 5,308,334 | 77,661 |  |  |  | 4.00 */* |
| 1140 E | WATER CONTROL SYSTEMS | 2091 | 50-54 | (10) | 15,982,492 | 351,615 | 1.46 2.20 | 4,694 $(65570)$ | 82,355 | 1.55 |
| 1140 F | ROADS AND SITE IMPROVEMENTS | 2091 | 50-R3 | (10) | 2,581,475 | 36,6192 | 2.20 | $\left(\begin{array}{l}(13,591)\end{array}\right.$ | 286,045 43,301 | 1.79 |
| ${ }^{1140 G}$ | TURBINES AND GENERATORS | 2091 | 65-53 | (10) | 113,066,160 | 1,920,457 | 1.70 | $(13,491)$ | 43,301 | 1.68 |
| 1140 H | GOVERNORS AND EXCITATION SYSTEM | 2091 | 50-R4 | (10) | 42,718 | - 940 | 2.20 | (61,682) | 1,858,775 | 1.64 |
| 1140 L | LICENCE RENEWAL | 2091 | 50-SQ | 0 |  |  |  | (3) | 908 | 2.13 |
| 1140P | A/C ELECTRICAL POWER SYSTEMS | 2091 | 50-R3 | (10) | 8,240,545 | 181,292 | 2.20 |  |  | 2.00 */** |
| 1140Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2091 | 23-L2 | (10) | 4,674,247 | 181,292 | 4.79 |  | 170,590 190809 | 2.07 |
| 1140R | AUXILIARY STATION PROCESSES | 2091 | 40-R2. 5 | (10) | 5,600,506 | 154,014 | 4.79 2.75 | $(32,854)$ $(7,004)$ | 190,809 147,010 | 4.08 |
| 1140X | SUPPORT BUILDINGS | 2091 | 65-R3 | (10) | 6,190,376 | 105,161 | 2.75 1.70 | $(7,004)$ $(2,599)$ | 147,010 102,562 | 2.62 1.66 |
| 1140w | SUPPORT BUILDING RENOVATIONS | 2091 | 20-SQ | (10) | 6,100,376 |  | 1.70 | $(2,599)$ | 102,562 | 1.66 \% ${ }^{\text {c/** }}$ |
| 11402 | COMMUNITY DEVELOPMENT COSTS | 2091 | 80-SQ | 0 | 101,442,997 | 1,268,037 | 1.25 | $(90,628)$ | 1,177,409 | $\begin{aligned} & 5.00 * / * * * \\ & 1.16 \end{aligned}$ |
|  | TOTAL GRAND RAPIDS |  |  |  | 341,105,346 | 5,135,452 | 1.51 | $(327,094)$ | 4,808,358 | 1.41 |
| 11450 | KEttle |  |  |  |  |  |  |  |  |  |
| 1145A | DAMS, DYKES AND WEIRS | 2111 | 125-84 | (10) | 45,280,663 |  |  |  |  |  |
| 1145B | POWERHOUSE | 2111 | 125-R4 | (10) | 146,207,420 | -1,340,586 | 0.91 | $(23,299)$ | 390,902 | 0.86 |
| 1145 C | POWERHOUSE RENOVATIONS | 2111 | 25-SQ | (10) | 146,207,420 | 1,340,586 | 0.92 | $(74,373)$ | 1,266,213 | 0.87 |
| 1145D | SPILLWAY | 2111 | 75-R4 | (10) | 25,406,960 | 371,704 | 1.46 |  |  | $4.00 \%{ }^{1.52}$ |
| 1145 E | WATER CONTROL SYSTEMS | 2111 | 50-54 | (10) | 17,834,945 | 392,369 | 2.20 | (115,814) | 385,662 | 1.52 |
| 1145 F | ROADS AND SITE IMPROVEMENTS | 2111 | 50-R3 | (10) | 17,83,591 | 233 | 2.20 | (15,814) | 276,555 | 1.55 |
| 1145G | TURBINES AND GENERATORS | 2111 | 65-83 | (10) | 70,740,028 | 1,198,336 | 1.69 | $(154,283)$ | 226 $1,044,053$ | 2.14 |
| 1145 H | GOVERNORS AND EXCITATION SYSTEM | 2111 | 50-R4 | (10) | 3,304,326 | 1, 72,695 | 2.20 | $(154,283)$ | 1,044,053 | 1.48 |
| 1145 L | LICENCE RENEWAL | 2111 | 50-SQ | 0 | 3,304,326 | 72,695 | 2.20 | $(17,985)$ | 54,710 | 1.66 **** |
| 1145P | A/C ELECTRICAL POWER SYSTEMS | 2111 | 50-R3 | (10) | 6,771,761 | 148,979 | 2.20 |  |  | 2.00 \% ${ }^{2}$ |
| 1145Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2111 | 23-L2 | (10) | 12,001,279 | 574,261 | 4.78 | $(81,473)$ | 492,788 | 2.04 4.11 |
| 1145R | AUXILIARY STATION PROCESSES | 2111 | 40-R2.5 | (10) | 15,361,985 | 422,455 | 2.75 | $(47,108)$ | 475,347 | 4.11 |
| 1145X | SUPPORT BUILDINGS | 2111 | 65-R3 | (10) | 3,908,404 | -66,208 | 1.69 | $\left(\begin{array}{l}(9,217)\end{array}\right.$ | 375,347 56,991 |  |
| 1145W | SUPPORT BUILDING RENOVATIONS | 2111 | 20-SQ | (10) |  |  |  |  | 56,991 | $5.00 \% * *$ |
|  | total kettle |  |  |  | 346,828,362 | 5,002,027 | 1.44 | $(520,165)$ | 4,481,862 | 1.29 |


| ACCOUNT | DEPRECIABLE WORK | LIFE <br> SPAN <br> DATE | $\begin{gathered} \begin{array}{c} \text { SURVIVOR } \\ \text { CURVE } \end{array} \\ \hline(2) \end{gathered}$ | $\begin{gathered} \text { NET } \\ \text { SALVAGE } \end{gathered}$ | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 <br> (4) | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | TOTAL DEPRECIATION |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  |  |  |  | (5) | (6) $=(5) /(4)$ | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 11500 | LAURIE RIVER |  |  |  |  |  |  |  |  |  |
| 1150A | DAMS, DYKES AND WEIRS | 2032 | 125-R4 | (10) | 355,538 | 8,898 | 2.50 | 3,446 | 12,344 | 3.47 |
| 1150B | POWERHOUSE | 2032 | 125-R4 | (10) | 7,664,146 | 289,315 | 3.77 | 36,456 | 325,771 | 4.25 |
| 1150 C | POWERHOUSE RENOVATIONS | 2032 | 25-SQ | (10) |  |  |  |  |  | 4.55 \%** |
| 1150D | SPILLWAY | 2032 | 75-R4 | (10) | 870,000 | 25,648 | 2.95 | 7,157 | 32,804 | 3.77 |
| 1150 E | WATER CONTROL SYSTEMS | 2032 | 50-S4 | (10) | 458,033 | 14,062 | 3.07 | 3,543 | 17,605 | 3.84 |
| 1150F | ROADS AND SITE IMPROVEMENTS | 2032 | 50-R3 | (10) | 1,441,914 | 45,615 | 3.16 | 12,143 | 57,758 | 4.01 |
| 1150G | TURBINES AND GENERATORS | 2032 | 65-53 | (10) | 4,603,136 | 191,600 | 4.16 | 15,121 | 206,721 | 4.49 |
| 1150 H | GOVERNORS AND EXCITATION SYSTEM | 2032 | 50-R4 | (10) | 882,653 | 39,660 | 4.49 | 1,827 | 41,487 | 4.70 |
| 1150L | LICENCE RENEWAL | 2032 | 50-SQ | 0 |  |  |  |  |  | $4.55 \% \times$ |
| 1150P | A/C ELECTRICAL POWER SYSTEMS | 2032 | 50-R3 | (10) | 1,441,945 | 48,391 | 3.36 | 10,498 | 58,889 | 4.08 |
| 1150Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2032 | 23-L2 | (10) | 1,220,047 | 60,217 | 4.94 | 27,960 | 88,177 | 7.23 |
| 1150R | AUXILIARY STATION PROCESSES | 2032 | 40-H2.5 | (10) | 308,504 | 10,635 | 3.45 | 2,623 | 13,258 | 4.30 |
| 1150X | SUPPORT BUILDINGS | 2032 | 65-R3 | (10) | 355,919 | 10,179 | 2.86 | 3,181 | 13,360 |  |
| 1150W | SUPPORT BUILDING RENOVATIONS | 2032 | 20-SQ | (10) |  |  |  |  |  | $5.00 \%$ |
|  | total laurie river |  |  |  | 19,601,835 | 744,220 | 3.80 | 123,955 | 868,174 | 4.43 |
| 11550 | JENPEG |  |  |  |  |  |  |  |  |  |
| 1155A | DAMS, DYKES AND WEIRS | 2118 | 125-R4 | (10) | 15,295,318 | 142,827 | 0.93 | $(1,830)$ | 140,997 | 0.92 |
| 1155B | POWERHOUSE | 2118 | 125-84 | (10) | 76,905,294 | 696,306 | 0.91 | $(12,006)$ | 684,300 | 0.89 |
| 1155 C | POWERHOUSE RENOVATIONS | 2118 | 25-SQ | (10) |  |  |  |  |  | $4.00 \% \times$ |
| 1155D | SPILLWAY | 2118 | 75-R4 | (10) | 14,942,733 | 218,612 | 1.46 | 16,241 | 234,853 | 1.57 |
| ${ }^{1155 E}$ | WATER CONTROL SYSTEMS | 2118 | 50-S4 | (10) | 16,762,099 | 368,766 | 2.20 | $(30,152)$ | 338,614 | 2.02 |
| 1155 F | ROADS AND SITE IMPROVEMENTS | 2118 | 50-R3 | (10) | 1,563,205 | 34,391 | 2.20 | $(1,238)$ | 33,153 | 2.12 |
| 1155G | TURBINES AND GENERATORS | 2118 | 65-S3 | (10) | 79,641,550 | 1,349,128 | 1.69 | $(50,285)$ | 1,298,843 | 1.63 |
| 1155 H | GOVERNORS AND EXCITATION SYSTEM | 2118 | 50-R4 | (10) |  |  |  |  |  | 2.00 * |
| 1155L | LICENCE RENEWAL | 2118 | 50-SQ | 0 |  |  |  |  |  | 2.00 *** |
| 1155 P | A/C ELECTRICAL POWER SYSTEMS | 2118 | 50-R3 | (10) | 19,308,049 | 424,777 | 2.20 | $(28,106)$ | 396,671 | 2.05 |
| 1155 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2118 | 23-L2 | (10) | 3,343,800 | 160,001 | 4.79 | $(8,517)$ | 151,484 | 4.53 |
| 1155R | AUXILIARY STATION PROCESSES | 2118 | 40-R2.5 | (10) | 9,796,258 | 269,397 | 2.75 | $(8,392)$ | 261,005 | 2.66 |
| 1155X | SUPPORT BUILDINGS | 2118 | 65-R3 | (10) | 7,885,397 | 133,579 | 1.69 | $(2,282)$ | 131,297 | 1.67 |
| 1155W | SUPPORT BUILDING RENOVATIONS | 2118 | 20-SQ | (10) |  |  |  |  |  | 5.00 \%** |
|  | TOTAL JENPEG |  |  |  | 245,443,703 | 3,797,784 | 1.55 | $(126,566)$ | 3,671,218 | 1.50 |
| 11600 | LAKE WINNIPEG REGULATION |  |  |  |  |  |  |  |  |  |
| 1160A | DAMS, DYKES AND WEIRS |  | 125-84 | (10) | 96,807,065 | 851,902 | 0.88 | $(62,478)$ | 789,424 | 0.82 |
| 1160L | LICENCE RENEWAL |  | 50-SQ | 0 |  |  |  |  |  | 2.00 *** |
| $1160 Z$ | COMMUNITY DEVELOPMENT COSTS |  | 100-SQ | 0 | 387,802,871 | 3,878,029 | 1.00 | $(223,323)$ | 3,654,706 | 0.94 |
|  | TOTAL LAKE WINNIPEG REGULATION |  |  |  | 484,609,937 | 4,729,931 | 0.98 | $(285,800)$ | 4,444,131 | 0.92 |
| 11650 | CHURCHILL RIVER DIVERSION |  |  |  |  |  |  |  |  |  |
| 1165A | DAMS, DYKES AND WEIRS |  | 125-84 | (10) | 114,718,213 | 1,009,520 | 0.88 | 976 | 1,010,496 | 0.88 |
| 1165D | SPILLWAY |  | 75-R4 | (10) | 56,442,246 | 825,750 | 1.46 | 89,392 | 915,142 | 1.62 |
| 1165E | WATER CONTROL SYSTEMS |  | 50-S4 | (10) | 17,583,551 | 386,838 | 2.20 | 1,954 | 388,792 | 2.21 |
| 1165F | ROADS AND SITE IMPROVEMENTS |  | 50-R3 | (10) | 6,799,023 | 149,578 | 2.20 | 578 | 150,156 | 2.21 |
| 1165L | LICENCE RENEWAL |  | 50-SQ | 0 |  |  |  |  |  | 2.00 \%** |
| 1165P | A/C ELECTRICAL POWER SYSTEMS |  | 50-R3 | (10) | 1,596,593 | 35,125 | 2.20 | 136 | 35,261 | 2.21 |
| 1165Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |  | 23-L2 | (10) | 1,417,862 | 67,845 | 4.79 | 479 | 68,324 | 4.82 |
| 1165R | AUXILIARY STATION PROCESSES |  | 40-R2.5 | (10) | 1,799,312 | 49,481 | 2.75 | 43 | 49,524 | 2.75 |
| 1165X | SUPPORT BUILDINGS |  | 65-R3 | (10) | 28,361 | 480 | 1.69 | - | 480 | 1.69 |
| 1165W | SUPPORT BUILDING RENOVATIONS |  | 20-SQ | (10) |  |  |  |  |  | $5.00 \% *$ |
| $1165 Z$ | COMMUNITY DEVELOPMENT COSTS |  | 100-SQ | 0 | 305,036,524 | 3,050,365 | 1.00 | $(228,014)$ | 2,822,351 | 0.93 |
|  | TOTAL CHURCHILL RIVER DIVERSION |  |  |  | 505,421,684 | 5,574,982 | 1.10 | $(134,456)$ | 5,440,526 | 1.08 |


| ACCOUNT | DEPRECIABLE WORK | LIFE <br> SPAN <br> DATE | SURVIVOR | NET SALVAGE | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | TOTAL DEPRECIATION |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | (3) | (4) | (5) | (6) $=(5) /(4)$ | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 11700 | LONG SPRUCE |  |  |  |  |  |  |  |  |  |
| 1170A | DAMS, DYKES AND WEIRS | 2118 | 125-R4 | (10) | 64,744,494 | 592,929 | 0.92 | $(8,709)$ | 584,220 | 0.90 |
| 1170B | POWERHOUSE | 2118 | 125-R4 | (10) | 143,780,355 | 1,317,441 | 0.92 | $(19,381)$ | 1,298,060 | 0.90 |
| 1170 C | POWERHOUSE RENOVATIONS | 2118 | 25-SQ | (10) |  |  |  | ( | 1,20,060 | $4.00 \%$ * |
| 1170 D | SPILLWAY | 2118 | 75-R4 | (10) | 42,273,617 | 618,463 | 1.46 | 45,227 | 663,690 | 1.57 |
| 1170 E | WATER CONTROL SYSTEMS | 2118 | 50-S4 | (10) | 57,946,281 | 1,274,818 | 2.20 | $(92,134)$ | 1,182,684 | 2.04 |
| 1170 F | ROADS AND SITE IMPROVEMENTS | 2118 | 50-R3 | (10) | 1,172,867 | 25,803 | 2.20 | $(1,173)$ | 24,630 | 2.10 |
| ${ }^{1170 G}$ | TURBINES AND GENERATORS | 2118 | 65-S3 | (10) | 143,328,643 | 2,427,987 | 1.69 | $(93,123)$ | 2,334,864 | 1.63 |
| 1170 H | GOVERNORS AND EXCITATION SYSTEM | 2118 | 50-R4 | (10) | 145,844 | 3,209 | 2.20 | (21) | 3,188 | 2.19 |
| 1170 L | LICENCE RENEWAL | 2118 | 50-SQ | 0 |  |  |  |  |  | $2.00 \%$ |
| 1170 P | A/C ELECTRICAL POWER SYSTEMS | 2118 | 50-R3 | (10) | 30,503,528 | 671,078 | 2.20 | $(32,833)$ | 638,245 | 2.09 |
| 1170Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2118 | 23-L2 | (10) | 4,409,200 | 210,980 | 4.78 | $(18,309)$ | 192,671 | 4.37 |
| 1170 R | AUXILIARY STATION PROCESSES | 2118 | 40-R2. 5 | (10) | 12,199,119 | 335,476 | 2.75 | $(14,985)$ | 320,491 | 2.63 |
| 1170X | SUPPORT BUILDINGS | 2118 | 65-R3 | (10) | 160,484 | 2,719 | 1.69 | (13) | 2,706 | 1.69 |
| 1170w | SUPPORT BUILDING RENOVATIONS | 2118 | 20-SQ | (10) |  |  |  |  |  | $5.00 \% *$ |
|  | TOTAL LONG SPRUCE |  |  |  | 500,664,431 | 7,480,903 | 1.49 | $(235,454)$ | 7,245,449 | 1.45 |
| 11750 | LIMESTONE |  |  |  |  |  |  |  |  |  |
| 1175A | DAMS, DYKES AND WEIRS | 2131 | 125-R4 | (10) | 33,258,073 | 302,205 | 0.91 | $(1,269)$ | 300,936 | 0.90 |
| 1175B | POWERHOUSE | 2131 | 125-R4 | (10) | 461,430,334 | 4,194,354 | 0.91 | $(17,501)$ | 4,176,853 | 0.91 |
| 1175 C | POWERHOUSE RENOVATIONS | 2131 | 25-SQ | (10) |  |  |  |  |  | 4.00 \%** |
| 1175D | SPILLWAY | 2131 | 75-R4 | (10) | 201,240,773 | 2,944,153 | 1.46 | 86,818 | 3,030,971 | 1.51 |
| 1175E | WATER CONTROL SYSTEMS | 2131 | 50-S4 | (10) | 116,224,392 | 2,556,937 | 2.20 | $(35,306)$ | 2,521,631 | 2.17 |
| 1175F | ROADS AND SITE IMPROVEMENTS | 2131 | 50-R3 | (10) | 17,164,432 | 377,618 | 2.20 | $(4,778)$ | 372,840 | 2.17 |
| ${ }^{1175 G}$ | TURBINES AND GENERATORS | 2131 | 65-S3 | (10) | 403,825,745 | 6,840,808 | 1.69 | $(63,305)$ | 6,777,503 | 1.68 |
| ${ }^{1175 H}$ | GOVERNORS AND EXCITATION SYSTEM | 2131 | 50-R4 | (10) | 16,584,271 | 364,854 | 2.20 | $(4,880)$ | 359,974 | 2.17 |
| 1175L | LICENCE RENEWAL | 2131 | 50-SQ | 0 |  |  |  |  |  | 2.00 \%** |
| 1175P | A/C ELECTRICAL POWER SYSTEMS | 2131 | 50-R3 | (10) | 144,317,307 | 3,174,981 | 2.20 | $(40,184)$ | 3,134,797 | 2.17 |
| 1175Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2131 | 23-L2 | (10) | 8,333,373 | 398,752 | 4.79 | $(9,553)$ | 389,199 | 4.67 |
| 1175R | AUXILIARY STATION PROCESSES | 2131 | 40-R2. 5 | (10) | 36,054,205 | 991,491 | 2.75 | $(14,354)$ | 977,137 | 2.71 |
| 1175X | SUPPORT BUILDINGS | 2131 | 65-R3 | (10) | 5,703,494 | 96,617 | 1.69 | (751) | 95,866 | 1.68 |
| 1175W | SUPPORT BUILDING RENOVATIONS | 2131 | 20-SQ | (10) |  |  |  |  |  | 5.00 * |
|  | TOTAL LIMESTONE |  |  |  | 1,444,136,399 | 22,242,770 | 1.54 | $(105,063)$ | 22,137,707 | 1.53 |
| 11800 | WUSKWATIM |  |  |  |  |  |  |  |  |  |
| 1180A | DAMS, DYKES AND WEIRS | 2152 | 125-R4 | (10) |  |  |  |  |  | 0.80 * |
| 1180B | POWERHOUSE | 2152 | 125-R4 | (10) |  |  |  |  |  | 0.80 * |
| 1180C | POWERHOUSE RENOVATIONS | 2152 | 25-SQ | (10) |  |  |  |  |  | 4.00 *** |
| 1180 D | SPILLWAY | 2152 | 75-R2 | (10) |  |  |  |  |  | 1.33 * |
| 1180 E | WATER CONTROL SYSTEMS | 2152 | 50-S4 | (10) |  |  |  |  |  | 2.00 * |
| 1180 F | ROADS AND SITE IMPROVEMENTS | 2152 | 50-R3 | (10) |  |  |  |  |  | 2.00 * |
| 1180 G | TURBINES AND GENERATORS | 2152 | 65-S3 | (10) |  |  |  |  |  | 1.54 * |
| 1180 H | GOVERNORS AND EXCITATION SYSTEM | 2152 | 50-R4 | (10) |  |  |  |  |  | 2.00 * |
| 1180P | A/C ELECTRICAL POWER SYSTEMS | 2152 | 50-R3 | (10) |  |  |  |  |  | 2.00 * |
| 1180Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2152 | 23-L2 | (10) |  |  |  |  |  | 4.35 * |
| 1180 R | AUXILIARY STATION PROCESSES | 2152 | 40-R2.5 | (10) |  |  |  |  |  | 2.50 * |
| 1180w | SUPPORT BUILDINGS | 2152 | 65-R3 | (10) |  |  |  |  |  | 1.54 * |
|  | SUPPORT BUILDING RENOVATIONS | 2152 | 20-SQ | (10) |  |  |  |  |  | $5.00 \% *$ |
|  | TOTAL WUSKWATIM |  |  |  | 0 | 0 |  | 0 | 0 |  |
| 11990 | INFRASTRUCTURE SUPPORTING GENERATION |  |  |  |  |  |  |  |  |  |
| 1199F | PROVINCIAL ROADS |  | 50-R3 | (10) | 25,380,938 | 558,381 | 2.20 | 24,833 | 583,214 | 2.30 |
| 1199 V | TOWN SITE BUILDING |  | 65-L3 | (7) | 63,280,714 | 1,042,740 | 1.65 | 41,341 | 1,084,081 | 1.71 |
| 1199W | TOWN SITE BUILDINGS RENOVATIONS |  | 20-SQ | (6) | 13,502,581 | 715,319 | 5.30 | 87,367 | 802,686 | 5.94 |
| 1199 Y | TOWN SITE OTHER INFRASTRUCTURE |  | 45-R3 | (10) | 26,527,464 | 646,258 | 2.44 | 14,107 | 660,365 | 2.49 |
|  | TOTAL INFRASTRUCTURE SUPPORTING GENERATION |  |  |  | 128,691,696 | 2,962,698 | 2.30 | 167,648 | 3,130,346 | 2.43 |
|  | TOTAL HYDRAULIC GENERATION |  |  |  | 4,716,467,183 | 72,483,944 | 1.54 | (2,546,218) | 69,937,726 | 1.48 |
| MIPUG Pre- | ask 8 (e) - Attachment 1 |  |  |  | Page 5 of 6 |  |  |  |  |  |

SCHEDULE 1 RESPONSE TO ADDITIONAL UNDERTAKING REQUEST
VIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010
(USE OF THE ASL PROCEDURE)

| ACCOUNT | DEPRECIABLE WORK | LIFE SPAN DATE | SURVIVORCURVE | NET SALVAGE | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION | TOTAL DEPRECIATION |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) | FOR TRUE-UP | EXPENSE | RATE (\%) |
|  | (1) |  | ${ }^{(2)}$ | (3) | (4) | (5) | (6) $=(5) /(4)$ | (7) | (8)=(5)+(7) | (9)=(8)/(4) |

*The account has no balance as of March 31, 2010 and rate will be used on a go-forward basis for future additions.

* On amortized accounts any true-up of less than $10 \%$ is not considered significant.
.. True-up was deemed as not significant.

| ACCOUNT | DESCRIPTION | $\qquad$ | CALCULATED accrued DEPRECIATION (3) | BOOK ACCUMULATED DEPRECIATION (4) | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
| 10000 | GENERATION |  |  |  | (5) $=(3) \cdot(4)$ | $(6)=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 11000 | HYDRAULIC GENERATION |  |  |  |  |  |  |  |
| 11050 | GREAT FALLS |  |  |  |  |  |  |  |
| 1105A | DAMS, DYKES AND WEIRS | 17,302,772 |  |  |  |  |  |  |
| 1105B | POWERHOUSE | 7,990,993 | 3,277,346 | 7,613,124 | (866,708) | (12.85) | 51.5 | $(16,829)$ |
| 1105C | POWERHOUSE RENOVATIONS |  |  | 3,698,385 | $(421,039)$ | (12.85) | 50.7 | $(8,305)$ |
| 1105D | SPILLWAY | 9,676,327 | 3,693,357 |  | (306.445) |  |  | *** |
| 1105E | WATER CONTROL SYSTEMS | 24,245,253 | 8,836,375 | 3,999,802 | $(306,445)$ | (8.30) | 45.9 | $(6,672)$ |
| 1105F | ROADS AND SITE IMPROVEMENTS | 24,213,964 | $8,836,375$ 10,071 | 9,971,579 | $(1,135,204)$ | (12.85) | 34.4 | $(33,000)$ |
| 1105G | TURBINES AND GENERATORS | 25,128,789 | 7,465,771 | 11,365 | $(1,294)$ | (12.85) | 44.8 | (29) |
| 1105H | GOVERNORS AND EXCITATION SYSTEM | 492,218 | 7,465,420 | 8,424,895 | $(959,124)$ | (12.85) | 46.5 | $(20,626)$ |
| 1105L | LICENCE RENEWAL | 492,218 | 171,420 | 193,442 | $(22,022)$ | (12.85) | 40.2 | (548) |
| 1105P | A/C ELECTRICAL POWER SYSTEMS | 9,493,088 | 3,291,887 |  | (422, ${ }^{0}$ |  |  | */** |
| 1105Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 19,271,956 | 6,006,763 | 3,714,794 | $(422,907)$ | (12.85) | 35.0 | $(12,083)$ |
| 1105R | AUXILIARY STATION PROCESSES | 8,345,798 | 2,875,553 | 6,778,449 | $(771,686)$ | (12.85) | 17.0 | $(45,393)$ |
| 1105X | SUPPORT BUILDINGS | 1,495,253 |  | 3,244,974 | $(369,421)$ | (12.85) | 28.1 | $(13,147)$ |
| 1105W | SUPPORT BUILDING RENOVATIONS | 1,495,253 | 665,413 | 750,898 | $(85,485)$ | (12.85) | 45.6 | ${ }^{(1,875)}$ */** |
|  | TOTAL GREAT FALLS | 123,656,412 | 43,040,372 | 48,401,707 | (5,361,335) | (12.46) |  | $(158,507)$ |
| 11100 | POINTE DU BOIS |  |  |  |  |  |  |  |
| 1110A | DAMS, DYKES AND WEIRS | 11,263,332 | 2,075,429 | 3,807,139 |  |  |  |  |
| 1110 B | POWERHOUSE | 6,242,749 | 607,310 | 1,114,041 | $(506,731)$ | $\begin{aligned} & (83.44) \\ & (83.44) \end{aligned}$ | 21.0 21.0 | $\begin{aligned} & (82,462) \\ & (24,130) \end{aligned}$ |
| 1110 C | POWERHOUSE RENOVATIONS SPILLWAY - ORIGINAL |  |  |  | 0 |  |  | (24,130) */* |
| 1110E | WATER CONTROL SYSTEMS | 3,104,842 | 710,911 | 1,300,951 | $(590,040)$ | (83.00) | 7.0 | $(84,776)$ |
| 1110F | ROADS AND SITE IMPROVEMENTS | 4,027,603 28,533 | 896,510 6,567 | 1,644,546 | $(748,036)$ | (83.44) | 21.0 | $(35,621)$ |
| 1110G | TURBINES AND GENERATORS |  | - $\begin{array}{r}\text { 6,567 } \\ \text { 3, }\end{array}$ | 12,046 | $(5,479)$ | (83.44) | 20.6 | (266) |
| 1110 H | GOVERNORS AND EXCITATION SYSTEM | 24,610,324 | 3,475,181 | 6,374,825 | (2,899,644) | (83.44) | 21.0 | $(138,078)$ * |
| 1110L | LICENCE RENEWAL |  |  |  | 0 |  |  | *** |
| 1110P | A/C ELECTRICAL POWER SYSTEMS | 6,057,709 | 516,493 | 947,448 | $(430,955)$ |  |  |  |
| 1110Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 355,559 | 48,227 | 88,467 | $(430,955)$ $(40,240)$ | (83.44) | 20.7 | $(20,819)$ |
| 1110R | AUXILIARY STATION PROCESSES | 1,377,014 | 244,688 | -848,852 | (204,164) | $(83.44)$ $(83.44)$ | 16.9 | $(2,381)$ |
| 1110X | SUPPORT BUILDINGS | 2,616,290 | 722,012 | 1,324,449 | $(602,437)$ | (83.44) | 20.2 | $(10,107)$ |
| 1110W | SUPPORT BUILDING RENOVATIONS |  |  |  | $(602,437)$ | (83.44) | 20.7 | $(29,103) * / *$ |
| 1111D | SPILLWAY - NEW |  |  |  |  |  |  |  |
|  | TOTAL POINTE DU BOIS | 59,683,956 | 9,303,328 | 17,062,765 | $(7,759,437)$ | (83.40) |  | $(427,744)$ |
| 11150 | SEVEN SISTERS |  |  |  |  |  |  |  |
| 1115A | DAMS, DYKES AND WEIRS | 31,497,995 | 11,783,110 |  |  |  |  |  |
| 1115B | POWERHOUSE | 13,653,945 | 6,342,115 | $15,406,97$ $8,292,614$ | $(1,950,499)$ | (30.75) | 59.6 | $(60,803)$ |
| 1115 C | POWERHOUSE RENOVATIONS | 1,653,945 | 6,342,115 | 8,292,614 | $(1,950,499)$ 0 | (30.75) | 57.0 | $(34,219)$ |
| 1115D | SPILLWAY | 2,841,355 | 1,389,283 | 1,607,456 | $(218,173)$ |  |  | $\because$ |
| 1115E | WATER CONTROL SYSTEMS | 4,296,891 | 2,171,871 | 2,839,823 | $(667,952)$ | (15.70) | 52.9 | $(4,124)$ |
| 1115F | ROADS AND SITE IMPROVEMENTS | 201,701 | 109,091 | +142,642 | (667,952) | (30.75) | 39.0 | $(17,127)$ |
| 1115G | TURBINES AND GENERATORS | 41,208,963 | 10,315,718 | 13,488,286 | (3,172,568) | (30.75) $(30.75)$ | 45.1 | (744) |
| 1115 H | GOVERNORS AND EXCITATION SYSTEM | 6,860 | 6,166 | 8,062 | $(1,896)$ | (30.75) $(30.75)$ | 51.1 | $(62,085)$ |
| 1115L | LICENCE RENEWAL |  |  |  | (1,896) | (30.75) | 5.0 | (379) |
| 1115P | A/C ELECTRICAL POWER SYSTEMS | 10,648,619 | 3,798,361 |  |  |  |  | */* |
| 1115Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 3,821,416 | 1,825,372 | 2,386,760 | $(561,388)$ | (30.75) | 37.5 | $(31,151)$ |
| 1115R | AUXILIARY STATION PROCESSES | 5,224,958 | 2,148,748 | 2,809,589 | (660,841) | (30.75) $(30.75)$ | 13.9 | $(40,388)$ |
| 1115X | SUPPORT BUILDINGS | 608,294 | 105,032 | 137,334 | $(362,802)$ | (30.75) | 28.1 | $(23,517)$ |
| 1115W | SUPPORT BUILDING RENOVATIONS |  | 105,032 | 137,334 |  | (30.75) | 51.4 | ${ }^{(628)}$ \%** |
|  | TOTAL SEVEN SISTERS | 114,010,998 | 39,994,867 | 52,086,073 | (12,091,206) | (30.23) |  | (275,167) |

(USE OF THE ASL PROCEDURE)

| ACCOUNT | DESCRIPTION | $\qquad$ | CALCULATED accrued DEPRECIATION (3) | $\qquad$ <br> BOOK bimulated (4) | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | $\begin{aligned} & \text { ANNUAL } \\ & \text { PROVISION } \\ & \text { FOR TRUE-UP } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  |  |  |  |  | $(5)=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 11200 | SLAVE FALLS |  |  |  |  |  |  |  |
| 1120A | DAMS, DYKES AND WEIRS | 954,684 |  |  |  |  |  |  |
| 1120 B | POWERHOUSE | 45,692,194 | 5,381,783 | 54,185 $5,952,681$ | $(5,197)$ | (10.61) | 61.7 | (84) |
| 1120 C | POWERHOUSE RENOVATIONS | 45,692,194 |  | 5,952,681 | $(570,898)$ | (10.61) | 61.6 | $(9,268)$ |
| 1120 D | SPILLWAY | 760,201 |  |  | 0 |  |  | */** |
| ${ }^{1120 E}$ | WATER CONTROL SYSTEMS | 318,933 | 53,185 | 58,657 28,347 | $(5,472)$ | (10.29) | 59.0 | (93) |
| 1120 F 1120 G | ROADS AND SITE IMPROVEMENTS | 769,506 | 25,628 75,181 | 28,347 83,156 | $(2,719)$ | (10.61) | 46.2 | (59) |
| 1120 G 1120 H | TURBINES AND GENERATORS |  | 75,181 1,573,109 | 83,156 $1,739,984$ | $(7,975)$ | (10.61) | 45.1 | (177) |
| 1120 H | GOVERNORS AND EXCITATION SYSTEM | 11,630,909 | 1,573,109 | 1,739,984 | $(166,875)$ | (10.61) | 53.1 | $(3,143)$ |
| 1120 L | LICENCE RENEWAL |  |  |  | 0 |  |  | . |
| 1120P | A/C ELECTRICAL POWER SYSTEMS | 21,815,741 |  |  | - 0 |  |  | /** |
| 11200 | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | $21,815,741$ 786,382 | $1,863,245$ 94.823 | 2,060,897 | $(197,652)$ | (10.61) | 45.6 | $(4,334)$ |
| 1120R | AUXILIARY STATION PROCESSES | 2,201,466 | 94,823 | 104,882 | $(10,059)$ | (10.61) | 20.5 | (491) |
| 1120X | SUPPORT BUILDINGS | 3,724,095 | 155,023 | 171,468 | $(16,445)$ | (10.61) | 37.4 | (440) |
| 1120W | SUPPORT BUILDING RENOVATIONS | 3,724,095 |  | 552,458 | $(52,984)$ | (10.61) | 52.7 | $(1,005)$ |
|  |  |  |  |  |  |  |  | *** |
|  | TOTAL SLAVE FALLS | 88,654,109 | 9,770,439 | 10,806,713 | (1,036,274) | (10.61) |  |  |
| 11250 | PINE FALLS |  |  |  | (1,036,274) | (10.61) |  | $(19,093)$ |
| 1125A | DAMS, DYKES AND WEIRS |  |  |  |  |  |  |  |
| 1125B | POWERHOUSE | 10,060,843 | 2,224,733 | 2,573,116 | $(348,383)$ | (15.66) | 78.4 | $(4,444)$ |
| 1125 C | POWERHOUSE RENOVATIONS |  | 4,792,490 | 5,542,973 | $(750,483)$ | (15.66) | 66.4 | $(11,302)$ |
| 1125D | SPILLWAY | 93,376 |  |  | 0 |  |  | *** |
| 1125 E | WATER CONTROL SYSTEMS | 3,564,106 | 2,064,889 | 3,149 | (363) | (13.04) | 70.8 | (5) |
| 1125 F | ROADS AND SITE IMPROVEMENTS | $3,564,106$ $1,178,575$ | $2,064,829$ 977782 | 2,388,172 | $(325,343)$ | (15.66) | 35.9 | $(9,007)$ |
| 1125G | TURBINES AND GENERATORS | $1,178,575$ $9,464,220$ | 977,782 | 1,130,898 | $(153,116)$ | (15.66) | 33.6 | $(4,557)$ |
| 1125H | GOVERNORS AND EXCITATION SYSTEM | 9,464,220 | 5,091,915 | 5,889,287 | $(797,372)$ | (15.66) | 37.2 | $(21,435)$ |
| 1125L | LICENCE RENEWAL |  |  |  | 0 |  |  |  |
| 1125P | A/C ELECTRICAL POWER SYSTEMS |  |  |  | - |  |  | *** |
| 1125Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 5,071,108 | $1,875,859$ 990,107 | $2,169,610$ $1,145,153$ | $(293,751)$ | (15.66) | 42.6 | $(6,896)$ |
| 1125R | AUXILIARY STATION PROCESSES | 2,156,586 $3,790,230$ | $1,890,107$ $1,474,022$ | 1,145,153 | $(155,046)$ | (15.66) | 13.5 | $(11,485)$ |
| 1125X | SUPPORT BUILDINGS | $3,790,230$ 336,412 | 1,474,022 | 1,704,847 | $(230,825)$ | (15.66) | 28.9 | $(7,987)$ |
| 1125 W | SUPPORT BUILDING RENOVATIONS | 336,412 | 85,620 | 99,028 | $(13,408)$ | (15.66) | 49.9 | (269) |
| $1125 Z$ | COMMUNITY DEVELOPMENT COSTS | 4,425,543 | 533,832 | 710,240 | $\begin{array}{r} 0 \\ (176,408) \end{array}$ | (33.05) | 71.4 | $(2,471) * *$ |
|  | TOTAL PINE FALLS | 54,251,587 | 20,113,975 | 23,356,474 | $(3,242,499)$ |  |  |  |
| 11300 | MCARTHUR FALLS |  |  |  |  | (16.12) |  | $(79,857)$ |
| 1130A | DAMS, DYKES AND WEIRS | 3,578,068 |  |  |  |  |  |  |
| 1130B | POWERHOUSE | 9,523,798 | $1,394,196$ $4,419,899$ | $1,583,088$ $5,018,727$ | $(188,892)$ | (13.55) | 72.4 | $(2,609)$ |
| 1130 C | POWERHOUSE RENOVATIONS | 9,523,798 |  | 5,018,727 | $(598,828)$ | (13.55) | 68.5 | $(8,742)$ |
| 1130 D | SPILLWAY | 2,351,438 |  |  | 0 |  |  | *** |
| 1130E | WATER CONTROL SYSTEMS | 11,703,203 | 1,780,939 | 1,703,092 | 77,847 | 4.37 | 23.4 | 3,332 |
| 1130F | ROADS AND SITE IMPROVEMENTS | $11,703,203$ 234,820 | 4,410,292 | 5,007,819 | $(597,527)$ | (13.55) | 35.4 | $(16,879)$ |
| 1130G | TURBINES AND GENERATORS |  | 112,527 | 127,773 | $(15,246)$ | (13.55) | 31.2 | (489) |
| 1130 H | GOVERNORS AND EXCITATION SYSTEM | 5,096,367 | 4,113,408 | 4,670,712 | $(557,304)$ | (13.55) | 17.3 | $(32,214)$ |
| 1130L | LICENCE RENEWAL |  | 33,484 | 38,021 | $(4,537)$ | (13.55) | 37.6 | (121) |
| 1130P | A/C ELECTRICAL POWER SYSTEMS | 2,480,539 |  |  | 0 |  |  | *** |
| 1130Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 1,245,885 | 1,601,822 | 1,818,844 | $(217,022)$ | (13.55) | 28.8 | $(7,535)$ |
| 1130R | AUXILIARY STATION PROCESSES | $1,245,885$ $3,440,197$ | 658,647 | 747,884 | $(89,237)$ | (13.55) | 14.4 | $(6,197)$ |
| 1130X | SUPPORT BUILDINGS | 3,440,197 | 1,306,468 | 1,483,474 | $(177,006)$ | (13.55) | 29.8 | $(5,940)$ |
| 1130W | SUPPORT BUILDING RENOVATIONS | 227,212 | 57,532 | 65,327 | $(7,795)$ | (13.55) | 50.0 | (156) |
|  |  |  |  |  |  |  |  | *** |
|  | TOTAL MCARTHUR FALLS | 40,000,842 | 19,889,214 | 22,264,760 | $(2,375,546)$ | (11.94) |  | $(77,549)$ |


| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 <br> (2) | $\begin{aligned} & \text { CALCULATED } \\ & \text { ACCRUED } \\ & \text { DEPRECIATION } \end{aligned}$ | BOOK ACCUMULATED DEPRECIATION | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
| 11350 | KELSEY |  | (3) | (4) | (5) $=(3)-(4)$ | $(6)=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 1135A | DAMS, DYKES AND WEIRS |  |  |  |  |  |  |  |
| 1135B | POWERHOUSE | 11,066,409 | 2,216,272 | 2,388,154 | $(171,882)$ | (7.76) | 84.0 | $(2,046)$ |
| 1135 C | POWERHOUSE RENOVATIONS | 27,569,817 | 10,948,363 | 11,797,459 | $(849,096)$ | (7.76) | 75.7 | $(11,217)$ |
| 1135 D | SPILLWAY | 5,331,929 |  |  | 334,553 |  |  | **** |
| 1135 E 1135 F | WATER CONTROL SYSTEMS | 11,792,566 | 3,672,329 | 3,337,776 5,858,592 | 334,553 $(421,659)$ | 9.11 | 28.0 | 11,931 |
| 1135 F 1135 G | ROADS AND SITE IMPROVEMENTS TURBINES AND GENERATORS | 6,442,928 | 3,436,933 3,410,997 | 5,858,592 $3,675,535$ | $(421,659)$ $(264,538)$ | (7.76) $(7.76)$ | 32.8 28.3 | $(12,855)$ |
| 1135H | GOVERNORS AND EXCITATION SYSTEM | 130,323,693 | 10,105,840 | 10,889,594 | $(783,754)$ | (7.76) | 28.3 60.6 | $(12,348)$ $(12,933)$ |
| 1135L | LICENCE RENEWAL | 88,651 | 26,173 | 28,203 | $(2,030)$ | (7.76) | 36.6 | (55) |
| 1135P | A/C ELECTRICAL POWER SYSTEMS |  |  |  | 0 |  |  | */* |
| 1135Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | $5,751,610$ $3,595,490$ | 3,194,348 | 3,442,084 | $(247,736)$ | (7.76) | 25.9 | $(9,565)$ |
| 1135R | AUXILIARY STATION PROCESSES | 3,595,490 $7,788,815$ | 1,424,963 | 1,535,475 | $(110,512)$ | (7.76) | 15.2 | $(7,271)$ |
| 1135X | SUPPORT BUILDINGS | 7,788,815 | 3,119,891 | 3,361,853 | $(241,962)$ | (7.76) | 26.2 | $(9,235)$ |
| 1135W | SUPPORT BUILDING RENOVATIONS |  | 1,884,056 | 2,030,173 | $(146,117)$ | (7.76) | 53.9 | $(2,711)$ |
|  |  |  |  |  |  |  |  | */* |
|  | total kelsey | 219,705,886 | 45,440,165 | 48,344,899 | (2,904,734) | (6.39) |  | (65,305) |
| 11400 | GRAND RAPIDS |  |  |  |  |  |  | $(65,305)$ |
| 1140A | DAMS, DYKES AND WEIRS | 53,468,974 |  |  |  |  |  |  |
| ${ }_{1140 \mathrm{C}}^{1140}$ | POWERHOUSE | 24,506,522 | $17,994,155$ $9,663,502$ | 20,241,182 | $(2,247,027)$ | (12.49) | 73.7 | $(30,489)$ |
| 1140 C | POWERHOUSE RENOVATIONS | 24,506,522 | 9,663,502 | 10,870,236 | $(1,206,734)$ | (12.49) | 72.1 | $(16,737)$ |
| 1140D | SPILLWAY | 5,308,334 | 3,281,808 |  | 0 |  |  | *** |
| 1140 E 1140 F | WATER CONTROL SYSTEMS | 15,982,492 | 11,499,312 | 3,127,598 | 154,210 | 4.70 | 32.9 | 4,694 |
| 1140 F 1140 G | ROADS AND SITE IMPROVEMENTS | 2,581,475 | $11,499,312$ $1,912,279$ | $12,935,293$ $\mathbf{2 , 1 5 1 , 0 7 6}$ | $(1,435,981)$ | (12.49) | 21.9 | $(65,570)$ |
| 1140 G 1140 H | TURBINES AND GENERATORS | 113,066,160 | 25,636,002 | 2,151,076 | $(238,797)$ | (12.49) | 17.7 | $(13,491)$ |
| 1140 H 1140 L | GOVERNORS AND EXCITATION SYSTEM | 42,718 | -10,152 | 28,837,308 | $(3,201,306)$ | (12.49) | 51.9 | $(61,682)$ |
| 1140L | LICENCE RENEWAL |  |  | 11,420 | $(1,268)$ | (12.49) | 39.9 | (32) |
| 1140P 1140 Q | A/C ELECTRICAL POWER SYSTEMS | 8,240,545 | 3,016,749 |  | 0 |  |  | *** |
| 1140 Q 1140 R | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 4,674,247 | 2,972,935 | $3,393,467$ $3,344,181$ | $(376,718)$ | (12.49) | 35.2 | $(10,702)$ |
| 1140R 1140 X | AUXILIARY STATION PROCESSES | 5,600,506 | 2,96,935 $1,660,234$ | $3,344,181$ $1,867,556$ | $(371,246)$ | (12.49) | 11.3 | $(32,854)$ |
| 1140X | SUPPORT BUILDINGS | 6,190,376 | -1,126,015 | $1,867,556$ $1,266,627$ | $(207,322)$ | (12.49) | 29.6 | $(7,004)$ |
| 1140W | SUPPORT BUILDING RENOVATIONS | 6,190,376 |  | 1,266,627 | $(140,612)$ | (12.49) | 54.1 | $(2,599)$ |
| 1140Z | COMMUNITY DEVELOPMENT COSTS | 101,442,997 | 11,399,379 | 17,852,104 | $\begin{array}{r} 0 \\ (6,452,725) \end{array}$ | (56.61) | 71.2 | ${ }_{(90,628)}{ }^{\text {r/**}}$ |
|  | TOTAL GRAND RAPIDS | 341,105,346 | 90,172,522 | 105,898,046 | (15,725,524) | (17.44) |  |  |
| 11450 | KETtLE |  |  |  | (15,72,524) | (17.44) |  | $(327,094)$ |
| 1145A | DAMS, DYKES AND WEIRS |  |  |  |  |  |  |  |
| 1145B | POWERHOUSE | 146,207,420 | $15,204,290$ $48,592,348$ | 17,156,728 | $(1,952,438)$ | (12.84) | 83.8 | $(23,299)$ |
| 1145C | POWERHOUSE RENOVATIONS | 146,207,420 | 48,592,348 | 54,832,267 | $(6,239,919)$ | (12.84) | 83.9 | $(74,373)$ |
| 1145 D | SPILLWAY | 25,406,960 |  |  | 535,981 |  |  | *** |
| 1145E | WATER CONTROL SYSTEMS | 17,834,945 | 13,638,456 | 13,102,475 | 535,981 | 3.93 | 38.4 | 13,958 |
| 1145F | ROADS AND SITE IMPROVEMENTS | $17,834,945$ 10,591 | $13,798,854$ 2,148 | 15,570,815 | $(1,771,961)$ | (12.84) | 15.3 | $(115,814)$ |
| 1145G | TURBINES AND GENERATORS | 70,740,028 | 2,148 $39,287,581$ | 2,424 | (276) | (12.84) | 40.8 | (7) |
| 1145 H | GOVERNORS AND EXCITATION SYSTEM | $70,740,028$ $3,304,326$ | 39,287,581 | 44,332,641 | $(5,045,060)$ | (12.84) | 32.7 | $(154,283)$ |
| 1145L | LICENCE RENEWAL |  | 2,409,013 | 2,718,363 | $(309,350)$ | (12.84) | 17.2 | $(17,985)$ |
| 1145P | A/C ELECTRICAL POWER SYSTEMS |  |  |  | 0 |  |  | *** |
| 1145Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 12,001,279 | 2,714,622 | 3,063,216 | $(348,594)$ | (12.84) | 33.0 | $(10,563)$ |
| 1145R | AUXILIARY STATION PROCESSES | $12,001,279$ $15,361,985$ | 7,232,801 | 8,161,591 | $(928,790)$ | (12.84) | 11.4 | $(81,473)$ |
| 1145X | SUPPORT BUILDINGS | $15,361,985$ $3,908,404$ | 8,290,638 | 9,355,269 | $(1,064,631)$ | (12.84) | 22.6 | $(47,108)$ |
| 1145W | SUPPORT BUILDING RENOVATIONS | 3,908,404 | 2,239,499 | 2,527,081 | $(287,582)$ | (12.84) | 31.2 | $(9,217)$ |
|  |  |  |  |  |  |  |  | */** |
|  | total kettle | 346,828,362 | 153,410,250 | 170,822,869 | (17,412,619) | (11.35) |  | (520,165) |


| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 (2) | CALCULATED accrued DEPRECIATION (3) | $\begin{gathered} \text { BOOK } \\ \text { ACCUMULATED } \\ \text { DEPRECIATION } \\ \hline(4) \end{gathered}$ | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | $\begin{gathered} \text { ANNUAL } \\ \text { PROVISION } \\ \text { FOR TRUE-UP } \\ \hline(8)=(5) /(7) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) |  |  |  | $(5)=(3)-(4)$ | (6) $=(5) /(3)$ | (7) |  |
| 11500 | LAURIE RIVER |  |  |  |  |  |  |  |
| 1150 A | DAMS, DYKES AND WEIRS | 355,538 | 195,406 | 119,594 | 75,812 | 38.80 |  |  |
| 1150 B | POWERHOUSE | 7,664,146 | 2,067,225 | 1,265,197 | 802,028 | 38.80 | 22.0 | 3,446 36,456 |
| 1150 C | POWERHOUSE RENOVATIONS |  | 2,067,225 | 1,265,197 | 802,028 | 38.80 | 22.0 | 36,456 */** |
| 1150 D | SPILLWAY | 870,000 | 396,638 | 240,118 | 156,520 | 39.46 | 21.9 | 7,157 |
| 1150E | WATER CONTROL SYSTEMS | 458,033 | 198,157 | 121,277 | 76,880 | 38.80 | 21.7 | 3,543 |
| 1150 F 1150 G | ROADS AND SITE IMPROVEMENTS | 1,441,914 | 644,741 | 394,599 | 250,142 | 38.80 | 20.6 | 12,143 |
| 1150 G 1150 H | TURBINES AND GENERATORS | 4,603,136 | 853,547 | 522,394 | 331,153 | 38.80 | 21.9 | 15,121 |
| 1150 H 1150 L | GOVERNORS AND EXCITATION SYSTEM | 882,653 | 103,151 | 63,131 | 40,020 | 38.80 | 21.9 | 1,827 |
| 1150L | LICENCE RENEWAL |  |  |  | 0 |  |  | *,827 */* |
| 1150P | A/C ELECTRICAL POWER SYSTEMS | 1,441,945 | 568,207 | 347,758 | 220,449 | 38.80 | 21.0 | 10,498 |
| 1150Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 1,220,047 | 713,465 | 436,660 | 276,805 | 38.80 | 9.9 | 27,960 |
| 1150R $1150 X$ | AUXILIARY STATION PROCESSES | 308,504 | 131,850 | 80,696 | 51,154 | 38.80 | 19.5 | 2,623 |
| 1150W | SUPPORT BUILDINGS | 355,919 | 174,626 | 106,876 | 67,750 | 38.80 | 21.3 | 3,181 |
|  | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | */** |
|  | TOTAL LAURIE RIVER | 19,601,835 | 6,047,013 | 3,698,298 | 2,348,715 | 38.84 |  | 123,955 |
| 11550 | JENPEG |  |  |  |  |  |  |  |
| 1155A | DAMS, DYKES AND WEIRS | 15,295,318 | 3,491,006 | 3,661,242 | $(170,236)$ | (4.88) | 93.0 | $(1,830)$ |
| 1155 B | POWERHOUSE | 76,905,294 | 22,035,810 | 23,110,365 | $(1,074,555)$ | (4.88) | 89.5 | $(12,006)$ |
| 1155C | POWERHOUSE RENOVATIONS |  |  |  | (1,0) |  |  | (12,006) */** |
| 1155D | SPILLWAY | 14,942,733 | 6,954,367 | 6,251,622 | 702,745 | 10.11 | 43.3 | 16,241 |
| 1155E | WATER CONTROL SYSTEMS | 16,762,099 | 11,562,526 | 12,126,362 | $(563,836)$ | (4.88) | 18.7 | $(30,152)$ |
| 1155 F | ROADS AND SITE IMPROVEMENTS | 1,563,205 | 733,476 | 769,243 | $(35,767)$ | (4.88) | 28.9 | $(1,238)$ |
| 1155G | TURBINES AND GENERATORS | 79,641,550 | 38,051,031 | 39,906,553 | $(1,855,522)$ | (4.88) | 36.9 | $(50,285)$ |
| 1155H | GOVERNORS AND EXCITATION SYSTEM |  |  |  | 0 |  |  | (50,28) |
| 1155L | LICENCE RENEWAL |  |  |  | 0 |  |  | */** |
| 1155P | A/C ELECTRICAL POWER SYSTEMS | 19,308,049 | 12,218,926 | 12,814,770 | $(595,844)$ | (4.88) | 21.2 | $(28,106)$ |
| 1155Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 3,343,800 | 1,921,209 | 2,014,895 | $(93,686)$ | (4.88) | 11.0 | $(8,517)$ |
| 1155R | AUXILIARY STATION PROCESSES | 9,796,258 | 4,250,680 | 4,457,960 | $(207,280)$ | (4.88) | 24.7 | $(8,392)$ |
| 1155X | SUPPORT BUILDINGS | 7,885,397 | 2,255,195 | 2,365,167 | $(109,972)$ | (4.88) | 48.2 | $(2,282)$ |
| 1155W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | \% *** |
|  | TOTAL JENPEG | 245,443,703 | 103,474,226 | 107,478,180 | $(4,003,954)$ | (3.87) |  | $(126,566)$ |
| 11600 | LAKE WINNIPEG REGULATION |  |  |  |  |  |  |  |
| 1160A | DAMS, DYKES AND WEIRS | 96,807,065 | 27,433,119 | 33,231,067 | $(5,797,948)$ | (21.13) | 92.8 | $(62,478)$ |
| 1160 L | LICENCE RENEWAL |  |  |  | ( 0 |  |  | *, */** |
| 11602 | COMMUNITY DEVELOPMENT COSTS | 387,802,871 | 54,108,862 | 73,448,592 | $(19,339,730)$ | (35.74) | 86.6 | $(223,323){ }^{* *}$ |
|  | TOTAL LAKE WINNIPEG REGULATION | 484,609,937 | 81,541,981 | 106,679,659 | (25,137,678) | (30.83) |  | $(285,800)$ |
| 11650 | CHURCHILL RIVER DIVERSION |  |  |  |  |  |  |  |
| 1165A | DAMS, DYKES AND WEIRS | 114,718,213 | 32,012,829 | 31,921,746 | 91,083 | 0.28 | 93.3 | 976 |
| 1165D | SPILLWAY | 56,442,246 | 26,456,908 | 22,609,467 | 3,847,441 | 14.54 | 43.0 | 89,392 |
| 1165 E | WATER CONTROL SYSTEMS | 17,583,551 | 12,359,364 | 12,324,199 | 35,165 | 0.28 | 18.0 | 1,954 |
| 1165 F | ROADS AND SITE IMPROVEMENTS | 6,799,023 | 4,304,181 | 4,291,935 | 12,246 | 0.28 | 21.2 | 578 |
| 1165 L | LICENCE RENEWAL |  |  |  | 0 |  |  | */* |
| 1165 P | AC ELECTRICAL POWER SYSTEMS | 1,596,593 | 1,012,593 | 1,009,712 | 2,881 | 0.28 | 21.2 | 136 |
| 1165 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 1,417,862 | 1,110,955 | 1,107,794 | 3,161 | 0.28 | 6.6 | 479 |
| 1165R | AUXILIARY STATION PROCESSES | 1,799,312 | 463,401 | 462,083 | 1,318 | 0.28 | 30.6 | 43 |
| 1165X | SUPPORT BUILDINGS | 28,361 | 3,979 | 3,968 | 11 | 0.28 | 56.7 | 0 |
| 1165W | SUPPORT BUILDING RENOVATIONS |  |  |  | 0 |  |  | */** |
| $1165 Z$ | COMMUNITY DEVELOPMENT COSTS | 305,036,524 | 55,319,169 | 74,130,320 | $(18,811,151)$ | (34.00) | 82.5 | $(228,014)$ ** |
|  | TOTAL CHURCHILL RIVER DIVERSION | 505,421,684 | 133,043,379 | 147,861,224 | (14,817,845) | (11.14) |  | $(134,456)$ |


| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 | CALCULATED accrued DEPRECIATION | BOOKACCUMULATEDDEPRECIATION | aCCuMuLated depreciation VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |  |
|  | (1) | (2) | (3) | (4) | $(5)=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |  |
| 11700 | LONG SPRUCE |  |  |  |  |  |  |  |  |
| 1170A | DAMS, DYKES AND WEIRS | 64,744,494 |  |  |  |  |  |  |  |
| ${ }^{1170 B}$ | POWERHOUSE | 143,780,355 | 40,040,841 | 41,787,059 | $(1,746,218)$ | (4.36) | 90.2 90.1 | $\begin{array}{r} (8,709) \\ (19,381) \end{array}$ |  |
| 1170 C | POWERHOUSE RENOVATIONS | 143,70,355 | 40,040,841 | 41,787,059 | $(1,746,218)$ 0 | (4.36) | 90.1 | $(19,381)$ | */** |
| 1170 D | SPILLWAY | 42,273,617 | 19,138,111 | 17,142,264 | 1,995,847 | 10.43 | 44.1 | 45,227 |  |
| 1170 E 1170 F | WATER CONTROL SYSTEMS ROADS AND SITE IMPROVEMENTS | 57,946,281 | 39,717,639 | 41,449,762 | $(1,732,123)$ | (4.36) | 18.8 | $(92,134)$ |  |
| 1170G | TURBINES AND GENERATORS | $1,172,867$ $143,328,643$ | 658,875 | 687,609 | $(28,734)$ | (4.36) | 24.5 | $(1,173)$ |  |
| 1170 H | GOVERNORS AND EXCITATION SYSTEM | $143,328,643$ 145,844 | 73,881,737 | 77,103,787 | (3,222,050) | (4.36) | 34.6 | $(93,123)$ |  |
| 1170L | LICENCE RENEWAL | 145,844 | 20,824 | 21,732 | (908) | (4.36) | 43.5 | (21) |  |
| 1170P | A/C ELECTRICAL POWER SYSTEMS | 30,503,528 | 17,767,682 | 18,542,547 | $(774,865)$ |  |  |  | */** |
| 1170Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 4,409,200 | 3,232,633 | 3,373,611 | $(140,978)$ | (4.36) | 23.6 7.7 | $(32,833)$ $(18,309)$ |  |
| 1170R | AUXILIARY STATION PROCESSES | 12,199,119 | 6,837,678 | 7,135,875 | $(298,197)$ | (4.36) | 19.9 | $(18,309)$ |  |
| 1170X | SUPPORT BUILDINGS | 160,484 | 17,840 | 18,618 |  |  | 19.9 | $(14,985)$ |  |
| 1170W | SUPPORT BUILDING RENOVATIONS | 160,484 | 17,840 | 18,618 | (778) | (4.36) | 58.4 | (13) | *** |
|  | TOTAL LONG SPRUCE | 500,664,431 | 219,325,859 | 226,060,384 | (6,734,525) | (3.07) |  | $(235,454)$ |  |
| 11750 | LIMESTONE |  |  |  |  |  |  |  |  |
| 1175A | DAMS, DYKES AND WEIRS | 33,258,073 | 5,626,205 | 5,756,238 | $(130,033)$ | (2.31) | 102.5 | $(1,269)$ |  |
| 1175B | POWERHOUSE | 461,430,334 | 77,689,788 | 79,485,351 | $(1,795,563)$ | (2.31) | 102.6 | $(17,501)$ |  |
| 1175 C | POWERHOUSE RENOVATIONS |  |  |  | 0 |  |  |  | */** |
| 1175D | SPILLWAY | 201,240,773 | 54,138,111 | 49,241,598 | 4,896,513 | 9.04 | 56.4 | 86,818 |  |
| 1175 E 1175 F | WATER CONTROL SYSTEMS | 116,224,392 | 47,814,715 | 48,919,806 | $(1,105,091)$ | (2.31) | 31.3 | $(35,306)$ |  |
| 1175 F 1175 G | ROADS AND SITE IMPROVEMENTS | 17,164,432 | 6,677,962 | 6,832,303 | $(154,341)$ | (2.31) | 32.3 | $(4,778)$ |  |
| 1175 G 1175 H | TURBINES AND GENERATORS | 403,825,745 | 127,092,132 | 130,029,479 | $(2,937,347)$ | (2.31) | 46.4 | $(63,305)$ |  |
| ${ }^{1175 H}$ | GOVERNORS AND EXCITATION SYSTEM | 16,584,271 | 6,692,823 | 6,847,507 | $(154,684)$ | (2.31) | 31.7 | $(4,880)$ |  |
| 1175L | LICENCE RENEWAL |  |  |  | 0 |  |  |  | */** |
| 1175Q | AC ELECTRICAL POWER SYSTEMS | 144,317,307 | 56,159,059 | 57,457,004 | $(1,297,945)$ | (2.31) | 32.3 | $(40,184)$ |  |
| 1175R | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 8,333,373 | 4,670,453 | 4,778,396 | $(107,943)$ | (2.31) | 11.3 | $(9,553)$ |  |
| 1175X | AUXILIARY STATIIN PROCESSES SUPPORT BUILDINGS | 36,054,205 | 15,278,000 | 15,631,104 | $(353,104)$ | (2.31) | 24.6 | $(14,354)$ |  |
| 1175W | SUPPORT BUILDING RENOVATIONS | 5,703,494 | 1,579,622 | 1,616,130 | $(36,508)$ | (2.31) | 48.6 | (751) |  |
|  | TOTAL LIMESTONE | 1,444,136,399 | 403,418,870 | 406,594,917 | $(3,176,047)$ | (0.79) |  | $(105,063)$ |  |
| 11800 | WUSKWATIM |  |  |  |  |  |  |  |  |
| 1180A | DAMS, DYKES AND WEIRS |  |  |  |  |  |  |  |  |
| 1180B | POWERHOUSE |  |  |  |  |  |  |  |  |
| 1180 C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  |  |  |
| 1180D | SPILLWAY |  |  |  |  |  |  |  |  |
| 1180E | WATER CONTROL SYSTEMS |  |  |  |  |  |  |  |  |
| 1180F | ROADS AND SITE IMPROVEMENTS |  |  |  |  |  |  |  |  |
| 1180G | TURBINES AND GENERATORS |  |  |  |  |  |  |  |  |
| 1180 H | GOVERNORS AND EXCITATION SYSTEM |  |  |  |  |  |  |  |  |
| 1180P | A/C ELECTRICAL POWER SYSTEMS |  |  |  |  |  |  |  |  |
| 1180Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |  |  |  |  |  |  |  |  |
| 1180R | AUXILIARY STATION PROCESSES |  |  |  |  |  |  |  |  |
| 1180X | SUPPORT BUILDINGS |  |  |  |  |  |  |  | ** |
| 1180W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  |  |  |
|  | TOTAL WUSKWATIM | 0 | 0 | 0 | 0 |  |  | 0 |  |
| 11990 | INFRASTRUCTURE SUPPORTING GENERATION |  |  |  |  |  |  |  |  |
| 1199 F | PROVINCIAL ROADS | 25,380,938 | 14,295,429 | 13,691,986 | 603,443 | 4.22 | 24.3 | 24,833 |  |
| 1199 V | TOWN SITE BUILDINGS | 63,280,714 | 20,698,637 | 18,850,678 | 1,847,959 | 8.93 | 44.7 | 41,341 |  |
| 1199W | TOWN SITE BUILDINGS RENOVATIONS | 13,502,581 | 2,207,310 | 809,439 | 1,397,871 | 63.33 | 16.0 | 87,367 * |  |
| 1199 Y | TOWN SITE OTHER INFRASTRUCTURE | 26,527,464 | 6,674,666 | 6,187,988 | 486,678 | 7.29 | 34.5 | 14,107 |  |
|  | TOTAL INFRASTRUCTURE SUPPORTING GENERATION | 128,691,696 | 43,876,042 | 39,540,091 | 4,335,951 | 9.88 |  | 167,648 |  |
|  | TOTAL HYDRAULIC GENERATION | 4,716,467,183 | 1,421,862,502 | 1,536,957,059 | $(115,094,557)$ | (8.09) |  | $(2,546,218)$ |  |

SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP FOR THE TWELVE MONTHS ENDED MARCH 31, 2010
(USE OF THE ASL PROCEDURE)

| ACCOUNT DESCRIPTION |  | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 | CALCULATED accrued DEPRECIATION | BOOK <br> ACCUMULATED DEPRECIATION | accumulated depreciation VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | AMOUNT |  |  | PERCENT |  |  |
|  | (1) |  | (2) | (3) | (4) | $(5)=(3)-(4)$ | $(6)=(5) /(3)$ | (7) | (8)=(5)/(7) |

*The account has no balance as of March 31,2010 and rate will be used on a go-forward basis for future additions.
"* On amortized account any true-up of less than $10 \%$ is not considered significant.
*** True-up was deemed as not significant or has been limited to the annual depreciation expenses.

RESPONSE TO ADDITIONAL UNDERTAKING REQUEST
SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010
(USE OF THE ASL PROCEDURE) NO NEGATIVE SALVAGE


| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \\ & \text { DATE } \\ & \hline \end{aligned}$ | SURVIVOR <br> CURVE(2) | $\begin{gathered} \text { NET } \\ \text { SALVAGE } \end{gathered}$ | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 (4) | CALCULATED ANNUAL ACCRUAL |  |  | TOTAL DEPRECIATION |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  |  |  |  | (5) | (6) $=(5) /(4)$ |  | (8)=(5)+(7) | (9)=(8)/(4) |
| 11200 | SLAVE falls |  |  |  |  |  |  |  |  |  |
| 1120A | DAMS, DYKES AND WEIRS | 2072 | 125-R4 | 0 | 954,684 | 16,233 | 1.70 | (84) | 16,149 | 1.69 |
| 1120B | POWERHOUSE | 2072 | 125-84 | 0 | 45,692,194 | 729,914 | 1.60 | $(9,268)$ | 720,646 | 1.58 |
| 1120 C | POWERHOUSE RENOVATIONS | 2072 | 25-SQ | 0 |  |  |  |  |  | $4.00 \%$ * |
| 1120 D | SPILLWAY | 2072 | 75-R4 | 0 | 760,201 | 12,083 | 1.59 | (175) | 11,908 | 1.57 |
| 1120 E | WATER CONTROL SYSTEMS | 2072 | 50-S4 | 0 | 318,933 | 7,022 | 2.20 | (59) | 6,963 | 2.18 |
| 1120F | ROADS AND SITE IMPROVEMENTS | 2072 | 50-R3 | 0 | 769,506 | 17,098 | 2.22 | (177) | 16,921 | 2.20 |
| 1120G | TURBINES AND GENERATORS | 2072 | 65-S3 | 0 | 11,630,909 | 211,168 | 1.82 | $(3,143)$ | 208,025 | 1.79 |
| 1120 H | GOVERNORS AND EXCITATION SYSTEM | 2072 | 50-R4 | 0 |  |  |  |  |  | 2.00 * |
| 1120 L | LICENCE RENEWAL | 2072 | 50-SQ | 0 |  |  |  |  |  | 2.00 \%** |
| 1120 P | A/C ELECTRICAL POWER SYSTEMS | 2072 | 50-R3 | 0 | 21,815,741 | 485,981 | 2.23 | $(4,334)$ | 481,647 | 2.21 |
| 1120Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2072 | 23-L2 | 0 | 786,382 | 37,628 | 4.78 | (491) | 37,137 | 4.72 |
| 1120 R | AUXILIARY STATION PROCESSES | 2072 | 40-R2. 5 | 0 | 2,201,466 | 60,540 | 2.75 | (440) | 60,100 | 2.73 |
| 1120x | SUPPORT BUILDINGS | 2072 | 65-R3 | 0 | 3,724,095 | 68,422 | 1.84 | $(1,005)$ | 67,417 | 1.81 |
| 1120W | SUPPORT BUILDING RENOVATIONS | 2072 | 20-SQ | 0 |  |  |  |  |  | $5.00 \%$ |
|  | TOTAL SLAVE FALLS |  |  |  | 88,654,109 | 1,646,089 | 1.86 | $(19,175)$ | 1,626,914 | 1.84 |
| 11250 | PINE FALLS |  |  |  |  |  |  |  |  |  |
| 1125A | DAMS, DYKES AND WEIRS | 2092 | 125-R4 | 0 | 14,110,589 | 170,023 | 1.20 | $(4,444)$ | 165,579 | 1.17 |
| 1125B | POWERHOUSE | 2092 | 125-84 | 0 | 10,060,843 | 94,485 | 0.94 | $(11,302)$ | 83,183 | 0.83 |
| ${ }^{1125 C}$ | POWERHOUSE RENOVATIONS | 2092 | 25-SQ | 0 |  |  |  |  |  | 4.00 *** |
| 1125 D | SPILLWAY | 2092 | 75-R4 | 0 | 93,376 | 1,284 | 1.38 | (9) | 1,275 | 1.37 |
| 1125 E | WATER CONTROL SYSTEMS | 2092 | 50-S4 | 0 | 3,564,106 | 78,410 | 2.20 | $(9,007)$ | 69,403 | 1.95 |
| 1125 F | ROADS AND SITE IMPROVEMENTS | 2092 | 50-R3 | 0 | 1,178,575 | 25,929 | 2.20 | $(4,557)$ | 21,372 | 1.81 |
| 1125G | TURBINES AND GENERATORS | 2092 | 65-S3 | 0 | 9,464,220 | 160,333 | 1.69 | $(21,435)$ | 138,898 | 1.47 |
| 1125 H | GOVERNORS AND EXCITATION SYSTEM | 2092 | 50-R4 | 0 |  |  |  |  |  | 2.00 * |
| 1125 L | LICENCE RENEWAL | 2092 | 50-SQ | 0 |  |  |  |  |  | 2.00 \%** |
| 1125 P | A/C ELECTRICAL POWER SYSTEMS | 2092 | 50-R3 | 0 | 5,071,108 | 111,564 | 2.20 | $(6,896)$ | 104,668 | 2.06 |
| 1125Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2092 | 23-L2 | 0 | 2,156,586 | 103,193 | 4.79 | $(11,485)$ | 91,708 | 4.25 |
| 1125R | AUXILIARY STATION PROCESSES | 2092 | 40-R2.5 | 0 | 3,790,230 | 104,231 | 2.75 | $(7,987)$ | 96,244 | 2.54 |
| 1125X | SUPPORT BUILDINGS | 2092 | 65-R3 | 0 | 336,412 | 5,699 | 1.69 | (269) | 5,430 | 1.61 |
| 1125 W | SUPPORT BUILDING RENOVATIONS | 2092 | 20-SQ | 0 |  |  |  |  |  | 5.00 \%** |
| $1125 Z$ | COMMUNITY DEVELOPMENT COSTS | 2092 | 81-SQ | 0 | 4,425,543 | 54,434 | 1.23 | $(2,471)$ | 51,963 | 1.17 |
|  | TOTAL PINE FALLS |  |  |  | 54,251,587 | 909,585 | 1.68 | $(79,860)$ | 829,725 | 1.53 |
| 11300 | MCARTHUR FALLS |  |  |  |  |  |  |  |  |  |
| 1130A | DAMS, DYKES AND WEIRS | 2095 | 125-R4 | 0 | 3,578,068 | 35,150 | 0.98 | $(2,609)$ | 32,541 | 0.91 |
| 1130B | POWERHOUSE | 2095 | 125-R4 | 0 | 9,523,798 | 88,239 | 0.93 | $(8,742)$ | 79,497 | 0.83 |
| 1130 C | POWERHOUSE RENOVATIONS | 2095 | 25-SQ | 0 |  |  |  |  |  | 4.00 \%** |
| 1130 D | SPILLWAY | 2095 | 75-R4 | 0 | 2,351,438 | 31,274 | 1.33 | $(3,592)$ | 27,682 | 1.18 |
| 1130 E | WATER CONTROL SYSTEMS | 2095 | 50-S4 | 0 | 11,703,203 | 257,470 | 2.20 | $(16,879)$ | 240,591 | 2.06 |
| 1130F | ROADS AND SITE IMPROVEMENTS | 2095 | 50-R3 | 0 | 234,820 | 5,166 | 2.20 | (489) | 4,677 | 1.99 |
| 1130G | TURBINES AND GENERATORS | 2095 | 65-83 | 0 | 5,096,367 | 86,332 | 1.69 | $(32,214)$ | 54,118 | 1.06 |
| 1130 H | GOVERNORS AND EXCITATION SYSTEM | 2095 | 50-R4 | 0 | 119,315 | 2,625 | 2.20 | (121) | 2,504 | 2.10 |
| 1130 L | LICENCE RENEWAL | 2095 | 50-SQ | 0 |  |  |  |  |  | 2.00 \%** |
| 1130P | A/C ELECTRICAL POWER SYSTEMS | 2095 | 50-R3 | 0 | 2,480,539 | 54,572 | 2.20 | $(7,535)$ | 47,037 | 1.90 |
| 1130Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2095 | 23-L2 | 0 | 1,245,885 | 59,616 | 4.79 | $(6,197)$ | 53,419 | 4.29 |
| 1130R | AUXILIARY STATION PROCESSES | 2095 | 40-R2. 5 | 0 | 3,440,197 | 94,605 | 2.75 | $(5,940)$ | 88,665 | 2.58 |
| 1130X | SUPPORT BUILDINGS | 2095 | 65-R3 | 0 | 227,212 | 3,849 | 1.69 | (156) | 3,693 | 1.63 |
| 1130w | SUPPORT BUILDING RENOVATIONS | 2095 | 20-SQ | 0 |  |  |  |  |  | $5.00 \% *$ |
|  | TOTAL MCARTHUR FALLS |  |  |  | 40,000,842 | 718,898 | 1.80 | $(84,474)$ | 634,424 | 1.59 |


| ACCOUNT | DEPRECIABLE WORK | $\begin{aligned} & \text { LIFE } \\ & \text { SPAN } \\ & \text { DATE } \\ & \hline \end{aligned}$ | $\begin{array}{c}\text { SURVIVOR } \\ \text { CURVE }\end{array}$ <br> $(2)$ | NETSALVAGE | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 (4) | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | TOTAL DEPRECIATION |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  |  |  |  | (5) | (6) $=(5) /(4)$ | (7) | (8)=(5)+(7) | (9)=(8)/(4) |
| 11350 | KELSEY |  |  |  |  |  |  |  |  |  |
| 1135A | DAMS, DYKES AND WEIRS | 2101 | 125-R4 |  |  |  |  |  |  |  |
| 1135B | POWERHOUSE | 2101 | 125-84 | 0 | 27,569,817 | 118,604 | 1.07 | $(2,046)$ | 116,558 | 1.05 |
| 1135 C | POWERHOUSE RENOVATIONS | 2101 | 25-SQ | 0 | 27,569,817 | 256,025 | 0.93 | $(11,217)$ | 244,808 | 0.89 |
| 1135 D | SPILLWAY | 2101 | 75-R4 | 0 | 5,331,929 |  |  |  |  | $4.00 \% *$ |
| 1135 E | WATER CONTROL SYSTEMS | 2101 | 50-54 | 0 | 11,792,566 | 70,915 | 1.33 | 25 | 70,940 | 1.33 |
| 1135 F | ROADS AND SITE IMPROVEMENTS | 2101 | 50-R3 | 0 | $11,792,566$ $6,442,928$ | 259,436 141,744 | 2.20 | $(12,855)$ | 246,581 | 2.09 |
| 1135 G | TURBINES AND GENERATORS | 2101 | 65-S3 | 0 | 130,323,693 | 141,744 2,207,683 | 2.20 1.69 | $(9,348)$ | 132,396 | 2.05 |
| 1135 H | GOVERNORS AND EXCITATION SYSTEM | 2101 | 50-R4 | 0 | -30, 88,651 | 2,207,683 1,950 | 1.69 2.20 | $(12,933)$ | 2,194,750 | 1.68 |
| 1135L | LICENCE RENEWAL | 2101 | 50-SQ | 0 | 88,651 | 1,950 | 2.20 | (55) | 1,895 | 2.14 |
| 1135 P | A/C ELECTRICAL POWER SYSTEMS | 2101 | 50-R3 | 0 | 5,751,610 |  |  |  |  | 2.00 \% $/ *$ |
| 1135Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2101 | 23-L2 | 0 | 3,595,490 | 172,044 | 2.20 4.78 | $(9,565)$ $(7,271)$ | 116,970 | 2.03 |
| 1135R | AUXILIARY STATION PROCESSES | 2101 | 40-R2.5 | 0 | 7,788,815 | 214,192 | 4.78 2.75 | (7,271) | 164,773 | 4.58 |
| 1135X | SUPPORT BUILDINGS | 2101 | 65-R3 | 0 | 9,953,977 | 168,620 |  | (9,235) | 204,957 | 2.63 |
| 1135W | SUPPORT BUILDING RENOVATIONS | 2101 | 20-SQ | 0 | 9,953,977 | 168,620 | 1.69 | $(2,711)$ | 165,909 | $\begin{aligned} & 1.67 \\ & 5.00 * / * * \end{aligned}$ |
|  | TOTAL KELSEY |  |  |  | 219,705,886 | 3,737,748 | 1.70 | $(77,211)$ | 3,660,536 | 1.67 |
| 11400 | GRAND RAPIDS |  |  |  |  |  |  |  |  |  |
| 1140A | DAMS, DYKES AND WEIRS | 2091 | 125-R4 | 0 |  |  |  |  |  |  |
| 1140B | POWERHOUSE | 2091 | 125-R4 | 0 | 53,468,974 $24,506,522$ | 555,421 | 1.04 0.98 | $(30,489)$ | 524,932 | 0.98 |
| 1140 C | POWERHOUSE RENOVATIONS | 2091 | 25-SQ | 0 | 24,506,522 | 240,399 | 0.98 | $(16,737)$ | 223,662 | 0.91 |
| 1140 D | SPILLWAY | 2091 | 75-R4 | 0 | 5,308,334 | 70,601 | 1.33 |  |  | 4.00 *** |
| 1140 E | WATER CONTROL SYSTEMS | 2091 | 50-S4 | 0 | 15,982,492 | 351,615 | 1.33 2.20 | $(4,381)$ $(65,570)$ | 66,220 | 1.25 |
| 1140 F | ROADS AND SITE IMPROVEMENTS | 2091 | 50-R3 | 0 | $1,982,49$ $2,581,475$ | 351,615 56,792 | 2.20 2.20 | $(65,570)$ $(13,491)$ | 286,045 43,301 | 1.79 |
| 1140 G | TURBINES AND GENERATORS | 2091 | 65-S3 | 0 | 113,066,160 | 1,920,457 | 1.70 | $(131,491)$ | 43,301 $1,858,775$ | 1.68 |
| 1140 H | GOVERNORS AND EXCITATION SYSTEM | 2091 | 50-R4 | 0 | 42,718 | -940 |  | (61,682) | 1,858,775 | 1.64 |
| 1140 L | LICENCE RENEWAL | 2091 | 50-SQ | 0 | 42,718 | 940 | 2.20 | (32) | 908 | 2.13 |
| 1140 P | A/C ELECTRICAL POWER SYSTEMS | 2091 | 50-R3 | 0 | 8,240,545 | 181,292 | 2.20 |  |  | 2.00 */** |
| 1140Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2091 | 23-L2 | 0 | 4,674,247 | 223,663 | 4.79 | $(10,702)$ $(32,854)$ | 170,590 190,809 | 2.07 4.08 |
| 1140R | AUXILIARY STATION PROCESSES | 2091 | 40-R2.5 | 0 | 5,600,506 | 154,014 | 2.75 | $(7,004)$ | 190,809 147,010 | 4.08 |
| 1140X | SUPPORT BUILDINGS | 2091 | 65-R3 | 0 | 6,190,376 | 105,161 | 1.70 | $(2,599)$ |  | 2.62 |
| 1140W | SUPPORT BUILDING RENOVATIONS | 2091 | 20-SQ | 0 |  | 105,161 |  | $(2,599)$ | 102,562 | ${ }^{1.66} 500 \times *$ |
| $1140 Z$ | COMMUNITY DEVELOPMENT COSTS | 2091 | 80-SQ | 0 | 101,442,997 | 1,268,037 | 1.25 | $(90,628)$ | 1,177,409 | 1.16 |
|  | TOTAL GRAND RAPIDS |  |  |  | 341,105,346 | 5,128,392 | 1.50 | $(336,169)$ | 4,792,223 | 1.40 |
| 11450 | KETtLE |  |  |  |  |  |  |  |  |  |
| 1145A | DAMS, DYKES AND WEIRS | 2111 | 125-84 | 0 | 45,280,663 |  |  |  |  |  |
| 11458 | POWERHOUSE | 2111 | 125-R4 | 0 | 146,207,420 | 1,340,586 | 0.91 0.92 | $(23,299)$ | 390,902 | 0.86 |
| 1145 C | POWERHOUSE RENOVATIONS | 2111 | 25-SQ | 0 | 146,207,420 | 1,340,586 | 0.92 | $(74,373)$ | 1,266,213 | 0.87 |
| 1145D | SPILLWAY | 2111 | 75-R4 | 0 | 25,406,960 |  |  |  |  | 4.00 \%** |
| 1145 E | WATER CONTROL SYSTEMS | 2111 | 50-S4 | 0 | 17,834,945 | 337,913 392,369 | 1.33 2.20 | (115,380) | 319,582 276,555 | 1.26 1.55 |
| 1145 F | ROADS AND SITE IMPROVEMENTS | 2111 | 50-83 | 0 | 10,591 | -233 | 2.20 | $(115,814)$ (7) | 276,555 | 1.55 |
| 1145 G | TURBINES AND GENERATORS | 2111 | 65-S3 | 0 | 70,740,028 | 1,198,336 | 1.69 | $(154,283)$ | 226 $1,044,053$ | 2.14 |
| 1145 H | GOVERNORS AND EXCITATION SYSTEM | 2111 | 50-R4 | 0 | 3,304,326 | 72,695 | 2.20 | (17,985) | 1,044,053 | 1.48 |
| 1145 L | LICENCE RENEWAL | 2111 | 50-SQ |  | 3,304,326 | 72,695 | 2.20 | $(17,985)$ | 54,710 | 1.66 |
| 1145P | A/C ELECTRICAL POWER SYSTEMS | 2111 | 50-R3 | 0 | 6,771,761 | 148,979 | 2.20 |  |  | 2.00 **** |
| 1145Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2111 | 23-L2 | 0 | 12,001,279 | 574,261 | 4.78 | $(81,473)$ | 138,416 492788 | 2.04 4.11 |
| 1145R | AUXILIARY STATION PROCESSES | 2111 | 40-R2.5 | 0 | 15,361,985 | 422,455 | 2.75 | $(47,108)$ | 492,788 |  |
| 1145X | SUPPORT BUILDINGS | 2111 | 65-R3 | 0 | 3,908,404 | 66,208 | 1.69 | $(47,217)$ | 375,347 |  |
| 1145W | SUPPORT BUILDING RENOVATIONS | 2111 | 20-SQ | 0 |  |  |  |  | 56,991 |  |
|  | TOTAL KETTLE |  |  |  | 346,828,362 | 4,968,236 | 1.43 | $(552,453)$ | 4,415,782 | 1.27 |

RESPONSE TO ADDITIONAL UNDERTAKING REQUEST
SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010
(USE OF THE ASL PROCEDURE) NO NEGATIVE SALVAGE

| ACCOUNT | DEPRECIABLE WORK | LIFE SPAN DATE | SURVIVOR CURVE | NET SALVAGE | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 (4) | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION FOR TRUE-UP | TOTAL DEPRECIATION |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AMOUNT | RATE (\%) |  | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | (3) |  | (5) | (6)=(5)/(4) | (7) | (8)=(5) $+(7)$ | (9) $=(8) /(4)$ |
| 11500 | Laurie river |  |  |  |  |  |  |  |  |  |
| 1150A | DAMS, DYKES AND WEIRS | 2032 | 125-R4 | 0 | 355,538 | 8,898 | 2.50 | 3,446 | 12,344 | 3.47 |
| 1150B | POWERHOUSE | 2032 | 125-84 | 0 | 7,664,146 | 289,315 | 3.77 | 36,456 | 325,771 | 4.25 |
| 1150C | POWERHOUSE RENOVATIONS | 2032 | 25-SQ | 0 |  | - |  |  |  | 4.55 *** |
| 1150D | SPILLWAY | 2032 | 75-R4 | 0 | 870,000 | 23,316 | 2.68 | 5,501 | 28,817 | 3.31 |
| 1150E | WATER CONTROL SYSTEMS | 2032 | 50-S4 | 0 | 458,033 | 14,062 | 3.07 | 3,543 | 17,605 | 3.84 |
| 1150F | ROADS AND SITE IMPROVEMENTS | 2032 | 50-R3 | 0 | 1,441,914 | 45,615 | 3.16 | 12,143 | 57,758 | 4.01 |
| 1150G | TURBINES AND GENERATORS | 2032 | 65-S3 | 0 | 4,603,136 | 191,600 | 4.16 | 15,121 | 206,721 | 4.49 |
| 1150 H | GOVERNORS AND EXCITATION SYSTEM | 2032 | 50-R4 | 0 | 882,653 | 39,660 | 4.49 | 1,827 | 41,487 | 4.70 |
| 1150L | LICENCE RENEWAL | 2032 | 50-SQ | 0 |  |  |  |  |  | 4.55 \% $/ *$ |
| 1150P | A/C ELECTRICAL POWER SYSTEMS | 2032 | 50-R3 | 0 | 1,441,945 | 48,391 | 3.36 | 10,498 | 58,889 | 4.08 |
| 1150Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2032 | 23-L.2 | 0 | 1,220,047 | 60,217 | 4.94 | 27,960 | 88,177 | 7.23 |
| 1150 R | AUXILIARY STATION PROCESSES | 2032 | 40-R2. 5 | 0 | 308,504 | 10,635 | 3.45 | 2,623 | 13,258 | 4.30 |
| 1150x | SUPPORT BUILDINGS | 2032 | 65-R3 | 0 | 355,919 | 10,179 | 2.86 | 3,181 | 13,360 | 3.75 |
| 1150W | SUPPORT BUILDING RENOVATIONS | 2032 | 20-SQ | 0 |  |  |  |  |  | 5.00 *** |
|  | TOTAL LAURIE RIVER |  |  |  | 19,601,835 | 741,888 | 3.78 | 122,298 | 864,186 | 4.41 |
| 11550 | JENPEG |  |  |  |  |  |  |  |  |  |
| 1155A | DAMS, DYKES AND WEIRS | 2118 | 125-R4 | 0 | 15,295,318 | 142,827 | 0.93 | $(1,830)$ | 140,997 | 0.92 |
| 1155B | POWERHOUSE | 2118 | 125-84 | 0 | 76,905,294 | 696,306 | 0.91 | $(12,006)$ | 684,300 | 0.89 |
| 1155 C | POWERHOUSE RENOVATIONS | 2118 | 25-SQ | 0 |  |  |  |  |  | 4.00 */* |
| 1155D | SPILLWAY | 2118 | 75-R4 | 0 | 14,942,733 | 198,738 | 1.33 | 1,629 | 200,367 | 1.34 |
| 1155E | WATER CONTROL SYSTEMS | 2118 | 50-S4 | 0 | 16,762,099 | 368,766 | 2.20 | $(30,152)$ | 338,614 | 2.02 |
| 1155F | ROADS AND SITE IMPROVEMENTS | 2118 | 50-R3 | 0 | 1,563,205 | 34,391 | 2.20 | $(1,238)$ | 33,153 | 2.12 |
| 1155G | TURBINES AND GENERATORS | 2118 | 65-S3 | 0 | 79,641,550 | 1,349,128 | 1.69 | $(50,285)$ | 1,298,843 | 1.63 |
| 1155 H | GOVERNORS AND EXCITATION SYSTEM | 2118 | 50-R4 | 0 |  |  |  |  |  | 2.00 * |
| 1155L | LICENCE RENEWAL | 2118 | 50-SQ | 0 |  |  |  |  |  | 2.00 *** |
| 1155P | A/C ELECTRICAL POWER SYSTEMS | 2118 | 50-R3 | 0 | 19,308,049 | 424,777 | 2.20 | $(28,106)$ | 396,671 | 2.05 |
| 1155Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2118 | 23-L.2 | 0 | 3,343,800 | 160,001 | 4.79 | $(8,517)$ | 151,484 | 4.53 |
| 1155R | AUXILIARY STATION PROCESSES | 2118 | 40-R2. 5 | 0 | 9,796,258 | 269,397 | 2.75 | $(8,392)$ | 261,005 | 2.66 |
| 1155X | SUPPORT BUILDINGS | 2118 | 65-R3 | 0 | 7,885,397 | 133,579 | 1.69 | $(2,282)$ | 131,297 | 1.67 |
| 1155W | SUPPORT BUILDING RENOVATIONS | 2118 | 20-SQ | 0 |  |  |  |  |  | 5.00 *** |
|  | TOTAL JENPEG |  |  |  | 245,443,703 | 3,777,910 | 1.54 | $(141,179)$ | 3,636,732 | 1.48 |
| 11600 | LAKE WINNIPEG REGULATION |  |  |  |  |  |  |  |  |  |
| 1160A | DAMS, DYKES AND WEIRS |  | 125-R4 | 0 | 96,807,065 | 851,902 | 0.88 | $(62,478)$ | 789,424 | 0.82 |
| 1160L | LICENCE RENEWAL |  | 50-SQ | 0 |  |  |  |  |  | 2.00 *** |
| 1160Z | COMMUNITY DEVELOPMENT COSTS |  | 100-SQ | 0 | 387,802,871 | 3,878,029 | 1.00 | $(223,323)$ | 3,654,706 | 0.94 |
|  | TOTAL LAKE WINNIPEG REGULATION |  |  |  | 484,609,937 | 4,729,931 | 0.98 | $(285,800)$ | 4,444,131 | 0.92 |
| 11650 | CHURCHILL RIVER DIVERSION |  |  |  |  |  |  |  |  |  |
| 1165A | DAMS, DYKES AND WEIRS |  | 125-R4 | 0 | 114,718,213 | 1,009,520 | 0.88 | 976 | 1,010,496 | 0.88 |
| 1165D | SPILLWAY |  | 75-R4 | 0 | 56,442,246 | 750,682 | 1.33 | 33,541 | 784,223 | 1.39 |
| 1165E | WATER CONTROL SYSTEMS |  | 50-S4 | 0 | 17,583,551 | 386,838 | 2.20 | 1,954 | 388,792 | 2.21 |
| 1165F | ROADS AND SITE IMPROVEMENTS |  | 50-R3 | 0 | 6,799,023 | 149,578 | 2.20 | 578 | 150,156 | 2.21 |
| 1165L | LICENCE RENEWAL |  | 50-SQ | 0 |  |  |  |  |  | 2.00 \%** |
| 1165P | A/C ELECTRICAL POWER SYSTEMS |  | 50-R3 | 0 | 1,596,593 | 35,125 | 2.20 | 136 | 35,261 | 2.21 |
| 1165Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |  | 23-L2 | 0 | 1,417,862 | 67,845 | 4.79 | 479 | 68,324 | 4.82 |
| 1165R | AUXILIARY STATION PROCESSES |  | 40-R2.5 | 0 | 1,799,312 | 49,481 | 2.75 | 43 | 49,524 | 2.75 |
| 1165X | SUPPORT BUILDINGS |  | 65-R3 | 0 | 28,361 | 480 | 1.69 | 0 | 480 | 1.69 |
| 1165W | SUPPORT BUILDING RENOVATIONS |  | 20-SQ | 0 |  |  |  |  |  | $5.00 \% *$ |
| $1165 Z$ | COMMUNITY DEVELOPMENT COSTS |  | 100-SQ | 0 | 305,036,524 | 3,050,365 | 1.00 | $(228,014)$ | 2,822,351 | 0.93 |
|  | TOTAL CHURCHILL RIVER DIVERSION |  |  |  | 505,421,684 | 5,499,914 | 1.09 | $(190,307)$ | 5,309,607 | 1.05 |



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MANITOBA HYDRO
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RESPONSE TO ADDITIONAL UNDERTAKING REQUEST
SCHEDULE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010
(USE OF THE ASL PROCEDURE) NO NEGATIVE SALVAGE

| ACCOUNT | DEPRECIABLE WORK |  | SURVIVOR CURVE | NETSALVAGE | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 | CALCULATED ANNUAL ACCRUAL |  | ANNUAL PROVISION | TOTAL DEPRECIATION |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | DATE |  |  |  | AMOUNT | RATE (\%) | FOR TRUE-UP | EXPENSE | RATE (\%) |
|  | (1) |  | (2) | ${ }^{(3)}$ | (4) | (5) | (6)=(5)/(4) | (7) | (8)=(5)+(7) | (9)=(8)/(4) |

The account has no balance as of March 31, 2010 and rate will be used on a go-forward basis for future additions.
On amorized accounts any true-up of less than $10 \%$ is not considered significant.
.. True-up was deemed as not significant.

# RCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOKSE TO ADDITIONAL UNDERTAKING REQUEST <br> ON, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP <br> FOR THE TWELVE MONTHS ENDED MARCH 31, 2010 

| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 (2) | CALCULATED ACCRUED DEPRECIATION <br> (3) | BOOK <br> ACCUMULATED DEPRECIATION <br> (4) | ACCUMULATED DEPRECIATION VARIANCE |  | Probable REMAINING LIFE | $\begin{aligned} & \text { ANNUAL } \\ & \text { PROVISION } \\ & \text { FOR TRUE-UP } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  | (1) |  |  |  | $(5)=(3)-(4)$ | (6) $=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 10000 | GENERATION |  |  |  |  |  |  |  |
| 11000 | HYDRAULIC GENERATION |  |  |  |  |  |  |  |
| 11050 | GREAT FALLS |  |  |  |  |  |  |  |
| 1105A | DAMS, DYKES AND WEIRS | 17,302,772 | 6,746,416 | 7,613,124 | $(866,708)$ | (12.85) | 51.5 | $(16,829)$ |
| 1105 B | POWERHOUSE | 7,990,993 | 3,277,346 | 3,698,385 | $(421,039)$ | (12.85) | 50.7 | $(8,305)$ |
| 1105C | POWERHOUSE RENOVATIONS |  | 3,277,346 | 3,698,3८5 | (421,039) | (2.85) | 50.7 | (8,305) */** |
| 1105 D | SPILLWAY | 9,676,327 | 3,357,599 | 3,999,802 | $(642,203)$ | (19.13) | 45.9 | $(13,991)$ |
| 1105E | WATER CONTROL SYSTEMS | 24,245,253 | 8,836,375 | 9,971,579 | $(1,135,204)$ | (12.85) | 34.4 | $(33,000)$ |
| 1105F | ROADS AND SITE IMPROVEMENTS | 213,964 | 10,071 | 11,365 | $(1,294)$ | (12.85) | 44.8 | (29) |
| 1105G | TURBINES AND GENERATORS | 25,128,789 | 7,465,771 | 8,424,895 | $(959,124)$ | (12.85) | 46.5 | $(20,626)$ |
| 1105 H | GOVERNORS AND EXCITATION SYSTEM | 492,218 | 171,420 | 193,442 | $(22,022)$ | (12.85) | 40.2 | (548) |
| 1105 L | LICENCE RENEWAL |  |  |  | 0 |  |  | (548)*** |
| 1105 P | A/C ELECTRICAL POWER SYSTEMS | 9,493,088 | 3,291,887 | 3,714,794 | $(422,907)$ | (12.85) | 35.0 | $(12,083)$ |
| 1105Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 19,271,956 | 6,006,763 | 6,778,449 | $(771,686)$ | (12.85) | 17.0 | $(45,393)$ |
| 1105R | AUXILIARY STATION PROCESSES | 8,345,798 | 2,875,553 | 3,244,974 | $(369,421)$ | (12.85) | 28.1 | $(13,147)$ |
| 1105X | SUPPORT BUILDINGS | 1,495,253 | 665,413 | 750,898 | $(85,485)$ | (12.85) | 45.6 | $(1,875)$ |
| 1105W | SUPPORT BUILDING RENOVATIONS |  |  |  | (8ь, |  |  | (1,875) */** |
|  | TOTAL GREAT FALLS | 123,656,412 | 42,704,614 | 48,401,707 | $(5,697,093)$ | (13.34) |  | $(165,826)$ |
| 11100 | POINTE dU BOIS |  |  |  |  |  |  |  |
| 1110A | DAMS, DYKES AND WEIRS | 11,263,332 | 2,075,429 | 3,807,139 | (1,731,710) | (83.44) | 21.0 | $(82,462)$ |
| 1110 B | POWERHOUSE | 6,242,749 | 607,310 | 1,114,041 | $(506,731)$ | (83.44) | 21.0 | $(24,130)$ |
| 1110 C | POWERHOUSE RENOVATIONS |  |  |  | (500, |  |  | (24,130) */** |
| 1110 D | SPILLWAY - ORIGINAL | 3,104,842 | 710,911 | 1,300,951 | $(590,040)$ | (83.00) | 7.0 | $(84,776)$ |
| 1110 E | WATER CONTROL SYSTEMS | 4,027,603 | 896,510 | 1,644,546 | $(748,036)$ | (83.44) | 21.0 | $(35,621)$ |
| 1110 F | ROADS AND SITE IMPROVEMENTS | 28,533 | 6,567 | 12,046 | $(5,479)$ | (83.44) | 20.6 | (266) |
| 1110G | TURBINES AND GENERATORS | 24,610,324 | 3,475,181 | 6,374,825 | $(2,899,644)$ | (83.44) | 21.0 | $(138,078)$ * |
| 1110 H | GOVERNORS AND EXCITATION SYSTEM |  |  |  | 0 |  |  | (*) */* |
| 1110L | LICENCE RENEWAL |  |  |  | 0 |  |  |  |
| 1110P | AC ELECTRICAL POWER SYSTEMS | 6,057,709 | 516,493 | 947,448 | $(430,955)$ | (83.44) | 20.7 | $(20,819)$ |
| 1110 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 355,559 | 48,227 | 88,467 | $(40,240)$ | (83.44) | 16.9 | $(2,381)$ |
| 1110R | AUXILIARY STATION PROCESSES | 1,377,014 | 244,688 | 448,852 | $(204,164)$ | (83.44) | 20.2 | $(10,107)$ |
| 1110X | SUPPORT BUILDINGS | 2,616,290 | 722,012 | 1,324,449 | $(602,437)$ | (83.44) | 20.7 | $(29,103) * * * *$ |
| 1110W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | (20) * |
| 1111D | SPILLWAY - NEW |  |  |  |  |  |  | * |
|  | TOTAL POINTE DU BOIS | 59,683,956 | 9,303,328 | 17,062,765 | $(7,759,437)$ | (83.40) |  | $(427,744)$ |
| 11150 | SEVEN SISTERS |  |  |  |  |  |  |  |
| 1115A | DAMS, DYKES AND WEIRS | 31,497,995 | 11,783,110 | 15,406,970 | $(3,623,860)$ | (30.75) | 59.6 | $(60,803)$ |
| 1115B | POWERHOUSE | 13,653,945 | 6,342,115 | 8,292,614 | $(1,950,499)$ | (30.75) | 57.0 | $(34,219)$ |
| 1115 C | POWERHOUSE RENOVATIONS |  |  |  | 0 |  |  | */** |
| 1115D | SPILLWAY | 2,841,355 | 1,389,283 | 1,607,456 | $(218,173)$ | (15.70) | 52.9 | $(4,124)$ |
| 1115 E | WATER CONTROL SYSTEMS | 4,296,891 | 2,171,871 | 2,839,823 | $(667,952)$ | (30.75) | 39.0 | $(17,127)$ |
| 1115 F | ROADS AND SITE IMPROVEMENTS | 201,701 | 109,091 | 142,642 | $(33,551)$ | (30.75) | 45.1 | (744) |
| 1115 G | TURBINES AND GENERATORS | 41,208,963 | 10,315,718 | 13,488,286 | $(3,172,568)$ | (30.75) | 51.1 | $(62,085)$ |
| 1115H | GOVERNORS AND EXCITATION SYSTEM | 6,860 | 6,166 | 8,062 | $(1,896)$ | (30.75) | 5.0 | (379) |
| 1115 L | LICENCE RENEWAL |  |  |  | 0 |  |  | *** |
| 1115 P | A/C ELECTRICAL POWER SYSTEMS | 10,648,619 | 3,798,361 | 4,966,536 | $(1,168,175)$ | (30.75) | 37.5 | $(31,151)$ |
| 1115 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 3,821,416 | 1,825,372 | 2,386,760 | $(561,388)$ | (30.75) | 13.9 | $(40,388)$ |
| 1115R | AUXILIARY STATION PROCESSES | 5,224,958 | 2,148,748 | 2,809,589 | $(660,841)$ | (30.75) | 28.1 | $(23,517)$ |
| 1115X | SUPPORT BUILDINGS | 608,294 | 105,032 | 137,334 | $(32,302)$ | (30.75) | 51.4 | (628) |
| 1115W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | *** |
|  | TOTAL SEVEN SISTERS | 114,010,998 | 39,994,867 | 52,086,073 | (12,091,206) | (30.23) |  | $(275,167)$ |


| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 (2) | CALCULATED ACCRUED DEPRECIATION (3) | BOOK <br> ACCUMULATED DEPRECIATION <br> (4) | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  |  |  |  |  | (5) $=(3) \cdot(4)$ | $(6)=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 11200 | SLAVE FALLS |  |  |  |  |  |  |  |
| 1120A | DAMS, DYKES AND WEIRS | 954,684 |  |  |  |  |  |  |
| 1120B | POWERHOUSE | 45,692,194 | 5,381,783 | 5,952,681 | (570, ${ }^{(97)}$ | (10.61) | 61.7 | (84) |
| 1120 C | POWERHOUSE RENOVATIONS | 45,692,194 | 5,381,783 | 5,952,681 | (570,898) | (10.61) | 61.6 | $(9,268)$ |
| 1120 D | SPILLWAY | 760,201 | 48,352 | 58,657 | $(10,305)$ |  |  | *** |
| 1120E | WATER CONTROL SYSTEMS | 318,933 | 25,628 | 28,657 | $(10,305)$ | (21.31) | 59.0 | (175) |
| 1120F | ROADS AND SITE IMPROVEMENTS | 769,506 | 75,181 | 28,347 | $(2,719)$ | (10.61) | 46.2 | (59) |
| 1120G | TURBINES AND GENERATORS | 11,630,909 |  | 1,739,984 | $(7,975)$ $(166,875)$ | (10.61) | 45.1 | (177) |
| 1120 H | GOVERNORS AND EXCITATION SYSTEM | 1,630,909 | 1,573,109 | 1,739,984 | $(166,875)$ 0 | (10.61) | 53.1 | $(3,143)$ |
| 1120L | LICENCE RENEWAL |  |  |  | 0 |  |  | */** |
| 1120P | A/C ELECTRICAL POWER SYSTEMS | 21,815,741 |  | 2,060,897 | (197,652) |  |  | $(4,334)^{* / * *}$ |
| 1120Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 786,382 | $1,863,245$ 94,823 | $2,060,897$ 104,882 | $(197,652)$ $(10,059)$ | (10.61) | 45.6 | $(4,334)$ |
| 1120R | AUXILIARY STATION PROCESSES | 2,201,466 | 155,023 | 171,468 | $(10,059)$ | (10.61) | 20.5 | (491) |
| 1120X | SUPPORT BUILDINGS | 3,724,095 |  |  | (16,445) | (10.61) | 37.4 | (440) |
| 1120W | SUPPORT BUILDING RENOVATIONS | 3,724,095 | 499,474 | 552,458 | $(52,984)$ | (10.61) | 52.7 | ${ }^{(1,005)}$ */** |
|  | TOTAL SLAVE FALLS | 88,654,109 | 9,765,606 | 10,806,713 | $(1,041,107)$ | (10.66) |  | $(19,175)$ |
| 11250 | PINE FALLS |  |  |  |  |  |  |  |
| 1125A | DAMS, DYKES AND WEIRS | 14,110,589 | 2,224,733 | 2,573,116 |  |  |  |  |
| 1125B | POWERHOUSE | 10,060,843 | 4,792,490 | 5,542,973 | $(750,483)$ | (15.66) | 66.4 | $(11,302)$ |
| 1125 C | POWERHOUSE RENOVATIONS |  |  |  | $(750,483)$ 0 |  | 6.4 | (11,302) */** |
| 1125D | SPILLINAY | 93,376 | 2,532 | 3,149 | (617) | (24.38) | 70.8 | (9) |
| 1125 E | WATER CONTROL SYSTEMS | 3,564,106 | 2,064,829 | 2,388,172 | $(323,343)$ | (15.66) | 35.9 | $(9,007)$ |
| 1125 F | ROADS AND SITE IMPROVEMENTS | 1,178,575 | 977,782 | 1,130,898 | $(153,116)$ | (15.66) | 33.6 | $(4,557)$ |
| 1125 G | TURBINES AND GENERATORS | 9,464,220 | 5,091,915 | 5,889,287 | $(797,372)$ | (15.66) | 37.2 | $(21,435)$ |
| 1125 H | GOVERNORS AND EXCITATION SYSTEM |  |  |  | 0 |  |  |  |
| 1125 L | LICENCE RENEWAL |  |  |  | 0 |  |  | *** |
| 1125P | AC ELECTRICAL POWER SYSTEMS | 5,071,108 | 1,875,859 | 2,169,610 | $(293,751)$ | (15.66) | 42.6 | $(6,896)$ |
| 1125 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 2,156,586 | 990,107 | 1,145,153 | $(155,046)$ | (15.66) | 13.5 | $(11,485)$ |
| 1125R | AUXILIARY STATION PROCESSES | 3,790,230 | 1,474,022 | 1,704,847 | $(230,825)$ | (15.66) | 28.9 | $(7,987)$ |
| 1125X | SUPPORT BUILDINGS | 336,412 | 85,620 | 99,028 | $(13,408)$ | (15.66) | 49.9 | (269) |
| 1125 Z | SUPPORT BUILDING RENOVATIONS |  |  |  | (176) |  |  | (26) $\quad / \times *$ |
|  | COMMUNITY DEVELOPMENT COSTS | 4,425,543 | 533,832 | 710,240 | $(176,408)$ | (33.05) | 71.4 | $(2,471)^{* *}$ |
|  | TOTAL PINE FALLS | 54,251,587 | 20,113,721 | 23,356,474 | $(3,242,753)$ | (16.12) |  | $(79,860)$ |
| 11300 | MCARTHUR FALLS |  |  |  |  |  |  |  |
| 1130A | DAMS, DYKES AND WEIRS | 3,578,068 | 1,394,196 | 1,583,088 | $(188,892)$ | (13.55) | 72.4 | $(2,609)$ |
| 1130 B | POWERHOUSE | 9,523,798 | 4,419,899 | 5,018,727 | $(598,828)$ | (13.55) | 68.5 | (8,742) |
| 1130 C | POWERHOUSE RENOVATIONS |  |  |  | (50, 0 |  |  | (8,742) */.* |
| 1130 D | SPILLWAY | 2,351,438 | 1,619,036 | 1,703,092 | $(84,056)$ | (5.19) | 23.4 | $(3,592)$ |
| 1130 E | WATER CONTROL SYSTEMS | 11,703,203 | 4,410,292 | 5,007,819 | $(597,527)$ | (13.55) | 35.4 | $(16,879)$ |
| 1130 F | ROADS AND SITE IMPROVEMENTS | 234,820 | 112,527 | 127,773 | $(15,246)$ | (13.55) | 31.2 | (489) |
| 1130G | TURBINES AND GENERATORS | 5,096,367 | 4,113,408 | 4,670,712 | $(557,304)$ | (13.55) | 17.3 | $(32,214)$ |
| 1130 H | GOVERNORS AND EXCITATION SYSTEM | 119,315 | 33,484 | 38,021 | $(4,537)$ | (13.55) | 37.6 | (121) |
| 1130 L | LICENCE RENEWAL |  |  |  | (170) |  |  | (121) */** |
| 1130 P | AC ELECTRICAL POWER SYSTEMS | 2,480,539 | 1,601,822 | 1,818,844 | $(217,022)$ | (13.55) | 28.8 | $(7,535)$ |
| 1130Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 1,245,885 | 658,647 | 747,884 | $(89,237)$ | (13.55) | 14.4 | $(6,197)$ |
| 1130R | AUXILIARY STATION PROCESSES | 3,440,197 | 1,306,468 | 1,483,474 | $(177,006)$ | (13.55) | 29.8 | $(5,940)$ |
| 1130X | SUPPORT BUILDINGS | 227,212 | 57,532 | 65,327 | $(7,795)$ | (13.55) | 50.0 | (156) |
| 1130W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | *** |
|  | TOTAL MCARTHUR FALLS | 40,000,842 | 19,727,311 | 22,264,760 | (2,537,449) | (12.86) |  | (84,474) |


| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 (2) | $\begin{aligned} & \text { CALCULATED } \\ & \text { ACCRUED } \\ & \text { DEPRECIATION } \end{aligned}$ | BOOK <br> ACCUMULATED DEPRECIATION | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) |  |  |  | AMOUNT | PERCENT |  |  |
| 11350 | KELSEY |  |  |  | $(5)=(3)-(4)$ | $(6)=(5) /(3)$ | (7) | (8) $=(5) /(7)$ |
| 1135A | DAMS, DYKES AND WEIRS |  |  |  |  |  |  |  |
| $1135 B$ | POWERHOUSE | 11,066,409 | 2,216,272 | 2,388,154 | $(171,882)$ | (7.76) | 84.0 | $(2,046)$ |
| 1135 C | POWERHOUSE RENOVATIONS |  | 10,948,363 | 11,797,459 | $(849,096)$ | (7.76) | 75.7 | $(11,217)$ |
| 1135D | SPILLWAY | 5,331,929 |  |  | 0 |  |  | */** |
| 1135 E | WATER CONTROL SYSTEMS | 11,792,566 | 5,338,481 | 3,337,776 | ${ }^{705}$ | 0.02 | 28.0 | 25 |
| 1135 F | ROADS AND SITE IMPROVEMENTS | 6,442,928 | 5,436,933 $\mathbf{3 , 4 1 0 , 9 9 7}$ | 5,858,592 $3,675,535$ | $(421,659)$ $(264,538)$ | (7.76) | 32.8 | $(12,855)$ |
| 1135 G 1135 H | TURBINES AND GENERATORS | 130,323,693 | r $10,405,840$ | $3,675,535$ $10,889,594$ | $(264,538)$ $(783,754)$ | (7.76) | 28.3 | $(9,348)$ |
| 1135 H 1135 L | GOVERNORS AND EXCITATION SYSTEM | 88,651 | 26,173 | 10,889,594 28,203 | (783,754) | (7.76) | 60.6 | $(12,933)$ |
| 1135 L 1135 P | LICENCE RENEWAL |  |  |  | $(2,030)$ | (7.76) | 36.6 | (55) |
| 1135 P 1135 Q | A/C ELECTRICAL POWER SYSTEMS INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 5,751,610 | 3,194,348 | 3,442,084 | (247, ${ }^{0}$ |  |  | *** |
| 1135R | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 3,595,490 | 1,424,963 | 1,535,475 | $(110,512)$ | (7.76) | 15.9 | $(9,565)$ |
| 1135X | AUXILIARY STATIIN PROCESSES | 7,788,815 | 3,119,891 | 3,361,853 | $(241,962)$ | (7.76) | 26.2 | $(9,235)$ |
| 1135W | SUPPORT BUILDING RENOVATIONS | 9,953,977 | 1,884,056 | 2,030,173 | $(146,117)$ | (7.76) | 53.9 | $(2,711)$ |
|  |  |  |  |  |  |  |  | *** |
|  | TOTAL KELSEY | 219,705,886 | 45,106,317 | 48,344,899 | $(3,238,582)$ |  |  |  |
| 11400 | GRAND RAPIDS |  | 6,106,317 | 46,344,699 | $(3,238,582)$ | (7.18) |  | $(77,211)$ |
| 1140A | DAMS, DYKES AND WEIRS |  |  |  |  |  |  |  |
| 1140B | POWERHOUSE | $53,468,974$ $24,506,522$ | 17,994,155 | 20,241,182 | $(2,247,027)$ | (12.49) | 73.7 | $(30,489)$ |
| 1140 C | POWERHOUSE RENOVATIONS | 24,506,522 | 9,663,502 | 10,870,236 | $(1,206,734)$ | (12.49) | 72.1 | $(16,737)$ |
| 1140D | SPILLWAY | 5,308,334 | 2,983,462 |  | 0 |  |  | *** |
| 1140E | WATER CONTROL SYSTEMS | 15,982,492 | 11,499,312 | 3,127,598 | $(144,136)$ | (4.83) | 32.9 | $(4,381)$ |
| 1140F | ROADS AND SITE IMPROVEMENTS | 2,581,475 | 1,912,279 | $12,935,293$ $2,151,076$ | (1,435,981) | (12.49) | 21.9 | $(65,570)$ |
| 1140G | TURBINES AND GENERATORS | 113,066,160 | 25,636,002 | 2,151,076 | (238,797) | (12.49) | 17.7 | $(13,491)$ |
| 1140 H | GOVERNORS AND EXCITATION SYSTEM | 42,718 | - 10,152 | 28,837,308 11,420 | $(3,201,306)$ | (12.49) | 51.9 | $(61,682)$ |
| 1140L | LICENCE RENEWAL |  |  | 11,420 | $(1,268)$ | (12.49) | 39.9 | (32) |
| 1140P | A/C ELECTRICAL POWER SYSTEMS | 8,240,545 | 3,016,749 |  | 0 |  |  | *** |
| 1140Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 4,674,247 | 3,972,935 | $3,393,467$ $3,344,181$ | $(376,718)$ | (12.49) | 35.2 | $(10,702)$ |
| 1140R | AUXILIARY STATION PROCESSES | 5,600,506 | 2,96,935 $1,660,234$ | $3,344,181$ $1,867,556$ | $(371,246)$ | (12.49) | 11.3 | $(32,854)$ |
| 1140X | SUPPORT BUILDINGS | 6,190,376 | $1,660,234$ $1,126,015$ | $1,867,556$ $1,266,627$ | $(207,322)$ | (12.49) | 29.6 | $(7,004)$ |
| 1140W | SUPPORT BUILDING RENOVATIONS | 6,190,376 | 1,126,015 | 1,266,627 | $(140,612)$ | (12.49) | 54.1 | $(2,599)$ |
| 11402 | COMMUNITY DEVELOPMENT COSTS | 101,442,997 | 11,399,379 | 17,852,104 | $\begin{gathered} 0 \\ (6,452,725) \end{gathered}$ | (56.61) | 71.2 | $(90,628)^{\text {*/** }}$ |
|  | TOTAL GRAND RAPIDS | 341,105,346 | 89,874,176 | 105,898,046 | $(16,023,870)$ | (17.83) |  | $(336,169)$ |
| 11450 | KETtLE |  |  |  |  |  |  | (336,169) |
| 1145A | DAMS, DYKES AND WEIRS | 45,280,663 | 15,204,290 |  |  |  |  |  |
| 1145 B | POWERHOUSE | 146,207,420 | 48,592,348 | 54,832,267 |  | (12.84) | 83.8 | $(23,299)$ |
| 1145 C | POWERHOUSE RENOVATIONS | 14,207,420 | 4,392,348 |  | (6,239,919) | (12.84) | 83.9 | $(74,373)$ |
| 1145D | SPILLWAY | 25,406,960 | 12,398,596 |  | 0 |  |  | *** |
| 1145E | WATER CONTROL SYSTEMS | 17,834,945 | 13,798,854 | 13,102,475 | $(703,879)$ | (5.68) | 38.4 | $(18,330)$ |
| 1145F | ROADS AND SITE IMPROVEMENTS | $17,834,945$ 10,591 | $13,798,854$ 2,148 | $15,570,815$ 2,424 | $(1,771,961)$ | (12.84) | 15.3 | $(115,814)$ |
| 1145G | TURBINES AND GENERATORS | 70,740,028 | 39,287,581 | 2,424 $44,332,641$ | ${ }_{(5,045060)}^{(276)}$ | (12.84) | 40.8 | (7) |
| 1145 H | GOVERNORS AND EXCITATION SYSTEM | 70,74, $3,304,326$ | $39,287,581$ $2,409,013$ | 44,332,641 | $(5,045,060)$ | (12.84) | 32.7 | $(154,283)$ |
| 1145L | LICENCE RENEWAL | 3,304,326 | 2,409,013 | 2,718,363 | $(309,350)$ | (12.84) | 17.2 | $(17,985)$ |
| 1145 P | A/C ELECTRICAL POWER SYSTEMS | 6,771,761 |  |  | (348,594) |  |  | */** |
| 1145Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 12,001,279 | 2,714,622 | $3,063,216$ $8,161,591$ | $(348,594)$ | (12.84) | 33.0 | $(10,563)$ |
| 1145R | AUXILIARY STATION PROCESSES | 15,361,985 | 8,232,801 | 8,161,591 | $(928,790)$ | (12.84) | 11.4 | $(81,473)$ |
| 1145X | SUPPORT BUILDINGS | $15,361,985$ $3,908,404$ | 8,290,638 | 9,355,269 $\mathbf{2 , 5 2 7 , 0 8 1}$ | $(1,064,631)$ | (12.84) | 22.6 | $(47,108)$ |
| 1145W | SUPPORT BUILDING RENOVATIONS |  | 2,239,499 | 2,527,081 | $(287,582)$ | (12.84) | 31.2 | $(9,217)$ |
|  | TOTAL KETTLE | 346,828,362 | 152,170,390 | 170,822,869 | (18,652,479) | (12.26) |  | $(552,453)$ |

RESPONSE TO ADDITIONAL UNDERTAKING REQUEST

| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010(2) | CALCULATED accrued DEPRECIATION (3) | Bоок <br> aCCUMULATED DEPRECIATION <br> (4) | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE (7) | ANNUALPROVISIONFOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
|  |  |  |  |  | $(5)=(3)-(4)$ | (6) $=(5) /(3)$ |  |  |
| 11500 | LAURIE RIVER |  |  |  |  |  |  |  |
| 1150A | DAMS, DYKES AND WEIRS | 355,538 | 195,406 | 119,594 | 75,812 | 38.80 |  |  |
| 1150B | POWERHOUSE | 7,664,146 | 2,067,225 | 1,265,197 | 802,028 | 38.80 38.80 | 22.0 | 3,446 36,456 |
| 1150 C | POWERHOUSE RENOVATIONS |  |  |  | - 0 |  | 22.0 | 36,456 ./** |
| 1150D | SPILLWAY | 870,000 | 360,580 | 240,118 | 120,462 | 33.41 | 21.9 | 5,501 |
| 1150 E | WATER CONTROL SYSTEMS | 458,033 | 198,157 | 121,277 | 76,880 | 38.80 | 21.7 | 3,543 |
| 1150F | ROADS AND SITE IMPROVEMENTS | 1,441,914 | 644,741 | 394,599 | 250,142 | 38.80 38.80 | 20.6 | 3,543 12,143 |
| 1150G | TURBINES AND GENERATORS | 4,603,136 | 853,547 | 522,394 | 331,153 | 38.80 | 21.9 | 15,121 |
| 1150 H | GOVERNORS AND EXCITATION SYSTEM | 882,653 | 103,151 | 62,131 | 40,020 | 38.80 | 21.9 | +15,121 |
| 1150L | LICENCE RENEWAL | 882,653 | 103,151 | 63,131 | 40,020 | 38.80 | 21.9 | 1,827 */.. |
| 1150P | A/C ELECTRICAL POWER SYSTEMS | 1,441,945 | 568,207 | 347,758 | 220,449 | 38.80 | 21.0 | 10,498 |
| 1150 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 1,220,047 | 713,465 | 436,660 | 276,805 | 38.80 | 9.9 | 27,960 |
| 1150R | AUXILIARY STATION PROCESSES | 308,504 | 131,850 | 80,696 | 51,154 | 38.80 | 19.5 | 2,623 |
| 1150X | SUPPORT BUILDINGS | 355,919 | 174,626 | 106,876 | 67,750 | 38.80 | 21.3 | 3,181 |
| 1150w | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | *** |
|  | TOTAL LAURIE RIVER | 19,601,835 | 6,010,955 | 3,698,298 | 2,312,657 | 38.47 |  | 122,298 |
| 11550 | Jenpeg |  |  |  |  |  |  |  |
| 1155A | DAMS, DYKES AND WEIRS | 15,295,318 | 3,491,006 | 3,661,242 | $(170,236)$ | (4.88) | 93.0 | $(1,830)$ |
| 1155B | POWERHOUSE | 76,905,294 | 22,035,810 | 23,110,365 | $(1,074,555)$ | (4.88) | 89.5 | $(12,006)$ |
| 1155 C | POWERHOUSE RENOVATIONS |  |  |  | 0 |  |  | (12,006)*/* |
| 1155D | SPILLWAY | 14,942,733 | 6,322,152 | 6,251,622 | 70,530 | 1.12 | 43.3 | 1,629 |
| 1155E | WATER CONTROL SYSTEMS | 16,762,099 | 11,562,526 | 12,126,362 | $(563,836)$ | (4.88) | 18.7 | $(30,152)$ |
| 1155F | ROADS AND SITE IMPROVEMENTS | 1,563,205 | 733,476 | 769,243 | $(35,767)$ | (4.88) | 28.9 | $(1,238)$ |
| 1155G | TURBINES AND GENERATORS | 79,641,550 | 38,051,031 | 39,906,553 | $(1,855,522)$ | (4.88) | 36.9 | $(50,285)$ |
| 1155 H | GOVERNORS AND EXCITATION SYSTEM |  |  |  | 0 |  |  | (50,28) |
| 1155L | LICENCE RENEWAL |  |  |  | 0 |  |  | */** |
| 1155P | A/C ELECTRICAL POWER SYSTEMS | 19,308,049 | 12,218,926 | 12,814,770 | $(595,844)$ | (4.88) | 21.2 | $(28,106)$ |
| 1155 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 3,343,800 | 1,921,209 | 2,014,895 | $(93,686)$ | (4.88) | 11.0 | $(8,517)$ |
| 1155R | AUXILIARY STATION PROCESSES | 9,796,258 | 4,250,680 | 4,457,960 | $(207,280)$ | (4.88) | 24.7 | $(8,392)$ |
| 1155X | SUPPORT BUILDINGS | 7,885,397 | 2,255,195 | 2,365,167 | $(109,972)$ | (4.88) | 48.2 | $(2,282)$ |
| 1155W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  | *** |
|  | TOTAL JENPEG | 245,443,703 | 102,842,011 | 107,478,180 | $(4,636,169)$ | (4.51) |  | (141,179) |
| 11600 | LAKE WINNIPEG REGULATION |  |  |  |  |  |  |  |
| 1160A | DAMS, DYKES AND WEIRS | 96,807,065 | 27,433,119 | 33,231,067 | $(5,797,948)$ | (21.13) | 92.8 | $(62,478)$ |
| 1160L | LICENCE RENEWAL |  |  |  | (5,7, 0 |  |  | (62,478) */* |
| 11602 | COMMUNITY DEVELOPMENT COSTS | 387,802,871 | 54,108,862 | 73,448,592 | $(19,339,730)$ | (35.74) | 86.6 | $(223,323)$ ** |
|  | TOTAL LAKE WINNIPEG REGULATION | 484,609,937 | 81,541,981 | 106,679,659 | $(25,137,678)$ | (30.83) |  | $(285,800)$ |
| 11650 | CHURCHILL RIVER DIVERSION |  |  |  |  |  |  |  |
| 1165A | DAMS, DYKES AND WEIRS | 114,718,213 | 32,012,829 | 31,921,746 | 91,083 | 0.28 | 93.3 | 976 |
| 1165D | SPILLWAY | 56,442,246 | 24,051,734 | 22,609,467 | 1,442,267 | 6.00 | 43.0 | 33,541 |
| 1165E | WATER CONTROL SYSTEMS | 17,583,551 | 12,359,364 | 12,324,199 | 35,165 | 0.28 | 18.0 | 1,954 |
| 1165F | ROADS AND SITE IMPROVEMENTS | 6,799,023 | 4,304,181 | 4,291,935 | 12,246 | 0.28 | 21.2 | 578 |
| 1165L | LICENCE RENEWAL |  |  |  | 0 |  |  | *** |
| 1165P | A/C ELECTRICAL POWER SYSTEMS | 1,596,593 | 1,012,593 | 1,009,712 | 2,881 | 0.28 | 21.2 | 136 |
| 1165Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 1,417,862 | 1,110,955 | 1,107,794 | 3,161 | 0.28 | 6.6 | 479 |
| 1165R | AUXILIARY STATION PROCESSES | 1,799,312 | 463,401 | 462,083 | 1,318 | 0.28 | 30.6 | 43 |
| 1165X | SUPPORT BUILDINGS | 28,361 | 3,979 | 3,968 | 11 | 0.28 | 56.7 | 0 |
| 1165W | SUPPORT BUILDING RENOVATIONS |  |  |  | 0 |  |  | *** |
| $1165 Z$ | COMMUNITY DEVELOPMENT COSTS | 305,036,524 | 55,319,169 | 74,130,320 | $(18,811,151)$ | (34.00) | 82.5 | $(228,014)$ ** |
|  | TOTAL CHURCHILL RIVER DIVERSION | 505,421,684 | 130,638,205 | 147,861,224 | $(17,223,019)$ | (13.18) |  | $(190,307)$ |


| ACCOUNT | DESCRIPTION | SURVIVING ORIGINAL COST AS OF MARCH 31, 2010 (2) | CALCULATED accrued DEPRECIATION | воок ACCUMULATED DEPRECIATION (4) | ACCUMULATED DEPRECIATION VARIANCE |  | PROBABLE REMAINING LIFE | ANNUAL PROVISION FOR TRUE-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUNT | PERCENT |  |  |
| 11700 | LONG SPRUCE |  |  |  | (5) $=(3)-(4)$ | $(6)=(5) /(3)$ | (7) | (8)=(5)/(7) |
| 1170A | DAMS, DYKES AND WEIRS | 64,744,494 |  |  |  |  |  |  |
| 1170B | POWERHOUSE | 143,780,355 | 40,040,841 | 18,797,519 | $(785,520)$ | (4.36) | 90.2 | $(8,709)$ |
| 1170C | POWERHOUSE RENOVATIONS | 143,780,355 |  | 41,787,059 | $(1,746,218)$ | (4.36) | 90.1 | $(19,381)$ |
| 1170D | SPILLWAY | 42,273,617 | 17,398,283 | 17,142,264 | 0 |  |  | * |
| 1170E | WATER CONTROL SYSTEMS | 57,946,281 | 39,717,639 | 17,142,264 | 256,019 | 1.47 | 44.1 | 5,805 |
| 1170F | ROADS AND SITE IMPROVEMENTS | 1,172,867 | 658,875 | $41,449,762$ 687,609 | $(1,732,123)$ | (4.36) | 18.8 | $(92,134)$ |
| 1170G | TURBINES AND GENERATORS | 143,328,643 | 73,881,737 | 77,103,787 | (28,734) | (4.36) | 24.5 | $(1,173)$ |
| 1170 H | GOVERNORS AND EXCITATION SYSTEM | 145,844 |  | 77,103,787 21,732 | $(3,222,050)$ | (4.36) | 34.6 | $(93,123)$ |
| 1170L | LICENCE RENEWAL | 14,844 | 20,824 | 21,732 | (908) | (4.36) | 43.5 | (21) |
| 1170P | A/C ELECTRICAL POWER SYSTEMS | 30,503,528 | 17,767,682 |  | (774,865) |  |  | *** |
| 1170Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 4,409,200 | 17,232,683 | $18,542,547$ $3,373,611$ | $(774,865)$ $(140,978)$ | (4.36) | 23.6 | $(32,833)$ |
| 1170R | AUXILIARY STATION PROCESSES | 12,199,119 | 6,837,678 | 7,135,875 | $(298,197)$ | (4.36) | 7.7 | $(18,309)$ |
| 1170X | SUPPORT BUILDINGS | 160,484 | -17,840 | $18,618$ |  | (4.36) | 19.9 | $(14,985)$ |
| 1170W | SUPPORT BUILDING RENOVATIONS |  |  |  |  | (4.36) | 58.4 | ${ }^{(13)}$ \%/* |
|  | TOTAL LONG SPRUCE | 500,664,431 | 217,586,031 | 226,060,384 | (8,474,353) | (3.89) |  | $(274,875)$ |
| 11750 | LIMESTONE |  |  |  |  |  |  |  |
| 1175A | DAMS, DYKES AND WEIRS | 33,258,073 | 5,626,205 | 5,756,238 |  |  |  |  |
| 1175B | POWERHOUSE | 461,430,334 | 77,689,788 | $5,756,238$ $79,485,351$ | (1,795,563) | (2.31) | 102.5 | $(1,269)$ |
| 1175C | POWERHOUSE RENOVATIONS | 461,430,334 | 77,689,788 | 79,485,351 | (1,795,563) |  | 102.6 | $(17,501)$ |
| 1175D | SPILLWAY | 201,240,773 | 49,895,347 | 49,241,598 | 653,749 | 1.31 | 56.4 | 11,591 |
| 1175E | WATER CONTROL SYSTEMS | 116,224,392 | 47,814,715 | 48,919,806 | $(1,105,091)$ | (2.31) | 56.4 31.3 | $(35,306)$ |
| 1175 F | ROADS AND SITE IMPROVEMENTS | 17,164,432 | 6,677,962 | 6,832,303 | $(154,341)$ | (2.31) | 32.3 | $(4,778)$ |
| 1175 G | TURBINES AND GENERATORS | 403,825,745 | 127,092,132 | 130,029,479 | $(2,937,347)$ | (2.31) | 46.4 | $(63,305)$ |
| 1175 H | GOVERNORS AND EXCITATION SYSTEM | 16,584,271 | 6,692,823 | 6,847,507 | $(154,684)$ | (2.31) | 31.7 | $(4,880)$ |
| 1175L | LICENCE RENEWAL |  |  |  | (154,684) |  |  | (4,8८) ./.** |
| 1175 P | A/C ELECTRICAL POWER SYSTEMS | 144,317,307 | 56,159,059 | 57,457,004 | $(1,297,945)$ | (2.31) | 32.3 | $(40,184)$ |
| 1175 Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 8,333,373 | 4,670,453 | 4,778,396 | $(107,943)$ | (2.31) | 11.3 | $(9,553)$ |
| 1175R | AUXILIARY STATION PROCESSES | 36,054,205 | 15,278,000 | 15,631,104 | $(353,104)$ | (2.31) | 24.6 | $(14,354)$ |
| 1175X | SUPPORT BUILDINGS | 5,703,494 | 1,579,622 | 1,616,130 | $(36,508)$ | (2.31) | 48.6 | (751) |
| 1175W | SUPPORT BUILDING RENOVATIONS |  |  | 1,616,130 | (Ј6,50) | (2.31) |  | * */* |
|  | TOTAL LIMESTONE | 1,444,136,399 | 399,176,106 | 406,594,917 | $(7,418,811)$ | (1.86) |  | $(180,289)$ |
| 11800 | WUSKWATIM |  |  |  |  |  |  |  |
| 1180A | DAMS, DYKES AND WEIRS |  |  |  |  |  |  |  |
| 1180B | POWERHOUSE |  |  |  |  |  |  |  |
| 1180 C | POWERHOUSE RENOVATIONS |  |  |  |  |  |  |  |
| 1180D | SPILLWAY |  |  |  |  |  |  |  |
| 1180E | WATER CONTROL SYSTEMS |  |  |  |  |  |  |  |
| 1180F | ROADS AND SITE IMPROVEMENTS |  |  |  |  |  |  |  |
| 1180G | TURBINES AND GENERATORS |  |  |  |  |  |  |  |
| 1180 H | GOVERNORS AND EXCITATION SYSTEM |  |  |  |  |  |  |  |
| 1180P | A/C ELECTRICAL POWER SYSTEMS |  |  |  |  |  |  |  |
| 1180Q | INSTRUMENTATION, CONTROL AND D/C SYSTEMS |  |  |  |  |  |  |  |
| 1180R | AUXILIARY STATION PROCESSES |  |  |  |  |  |  |  |
| 1180X | SUPPORT BUILDINGS |  |  |  |  |  |  |  |
| 1180W | SUPPORT BUILDING RENOVATIONS |  |  |  |  |  |  |  |
|  | TOTAL WUSKWATIM | 0 | 0 | 0 | 0 |  |  | 0 |
| 11990 | INFRASTRUCTURE SUPPORTING GENERATION |  |  |  |  |  |  |  |
| 1199F | PROVINCIAL ROADS | 25,380,938 | 14,295,429 | 13,691,986 | 603,443 | 4.22 | 24.3 |  |
| 1199 V | TOWN SITE BUILDINGS | 63,280,714 | 20,698,637 | 18,850,678 | 1,847,959 | 8.93 | 44.7 | 41,341 |
| 1199W | TOWN SITE BUILDINGS RENOVATIONS | 13,502,581 | 2,207,310 | 809,439 | 1,397,871 | 63.33 | 16.0 | 87,367 ** |
| 1199 Y | TOWN SITE OTHER INFRASTRUCTURE | 26,527,464 | 6,674,666 | 6,187,988 | 486,678 | 7.29 | 34.5 | 14,107 |
|  | TOTAL INFRASTRUCTURE SUPPORTING GENERATION | 128,691,696 | 43,876,042 | 39,540,091 | 4,335,951 | 9.88 |  | 167,648 |
|  | TOTAL HYDRAULIC GENERATION | 4,716,467,183 | 1,410,431,661 | 1,536,957,059 | (126,525,398) | (8.97) |  | $(2,800,584)$ |

SCHEDULE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP
FOR THE TWELVE MONTHS ENDED MARCH 31, 2010
(USE OF THE ASL PROCEDURE) NO NEGATIVE SALVAGE

ACCOUNT $\qquad$ DESCRIPTION (1)

SURVIVING
ORIGINAL COST
AS OF MARCH 31
(2)

воок ACCUMULATED $\frac{\text { DEPRECIAT }}{(4)}$
(4)

(3)

PRobable REMAINING LIFE

ANNUAL PROVISION FOR TRUE-UP
*The account has no balance as of March 31, 2010 and rate will be used on a go-forward basis for future additions .. On amortized account any true-up of less than $10 \%$ is not considered significant.
** True-up was deemed as not significant or has been limited to the annual depreciation expenses.

## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

## MANITOBA INDUSTRIAL POWER USERS GROUP ("MIPUG") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## MIPUG/MH/PRE-ASK-9

Question: Data quality - CAC book of documents, Exhibit CAC-5 pages 24-27
a) Please confirm Mr. Kennedy has reviewed the data in the column noted "retirements during age interval" at pages 25-27;
b) Please confirm Manitoba Hydro intends to fully address providing the details behind each item listed in the "retirements during age interval" as pages 25-27, as per PUB counsel undertaking at pages 1585 of the transcript; and
c) Please provide a detailed list of all steps and procedures Mr. Kennedy applied, including in consultation with Manitoba Hydro staff, to confirm that these data points are valid, are not database errors, and are not related to retirements that are of a unique and non-recurring nature.

## ANSWER:

a) Gannett Fleming confirms.
b) The PUB counsel undertaking referenced in the above question requested the retirement details for Account 000A Dams, Dykes and Weirs as shown on page 22 of the CAC book of documents. The response to this undertaking has been filed as Manitoba Hydro Exhibit \# 54.

The following table provides the retirement details for Account 000D Spillways, for each item listed in the "retirements during age interval" column as shown on pages 25-27 of the CAC book of documents.

ACCOUNT OOOD - SPILLWAYS
SPECIFIC RETIREMENT TRANSACTION DETAILS

As shown on Page 25-27 of CAC Exhibit 5
Original source Document: Appendix 16: [2010 Depreciation Study] Part IV: Service Life Statistics

| AGE AT | RETIREMENTS | HYDRAULIC |  |  | NATURE OF WORK |
| :---: | :---: | :---: | :---: | :---: | :--- |
| BEGIN OF | DURING AGE | GENERATING | YEAR | YEAR | TRIGGERING ASSET |
| INTERVAL | INTERVAL (\$) | FACILITY | RETIRED | INSTALLED | RETIREMENT |
| 8.5 | 1,838 | Great Falls | 1995 | 1986 | Replacement of joint seals |
| 65.5 | 9,446 | Great Falls | 1995 | 1927 | Replacement of joint seals |
| 71.5 | 16,317 | Great Falls | 1995 | 1923 | Replacement of joint seals |

c) The following response was provided by Gannett Fleming:

During the completion of the retirement rate analysis, the retirement ratios at all age intervals are reviewed to determine if the retirement ratios are consistent with the expectation of Gannett Fleming. In the circumstances of both, the Dams, Dykes and Weirs, and the Spillways Accounts, the retirement ratios were based on only a limited number of retirement transactions. The transactions were reviewed through a data audit routine to ensure that they were applicable to the correct account grouping, correctly coded as retirement transactions and did not result in a surviving balance in a credit position. The nature of the retirement transactions as indicated in response to part (b) of this request and as provided in response to the undertaking at pages 1585 of the transcript, are consistent with normal causes of retirement and are of a type that could reasonably be expected to re-occur in the future.

## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

## MANITOBA INDUSTRIAL POWER USERS GROUP ("MIPUG") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## MIPUG/MH/PRE-ASK-10

## Question: IFF-12 - major projects

a) Please provide all calculations used to estimate the depreciation impacts of Bipole III, Keeyask and Conawapa in IFF-12, by year, including the gross plant balance (by account class if needed) and the rates assumed to apply. Please provide all supporting data on the derivation of the rates applied; and
b) Please provide the account class breakdowns for the estimated capital costs of each of these major projects. If not available, please explain why account class breakdowns are not available and describe the method used to perform the depreciation calculations as well as the assumptions which were used.

## Response:

The following response applies to parts a) and b) of the question:

The attached schedules show the calculation used to estimate the depreciation impacts of Bipole III, Keeyask and Conawapa in IFF-12, by year, including the gross plant balance by account class and the rates assumed to apply for forecast purposes.

For depreciation forecast purposes, Manitoba Hydro uses a composite depreciation rate in the following circumstances:

- To estimate the depreciation associated with costs which are common to multiple components of the project, such as project management. These costs will be allocated to the relevant specific components on project in-service.
- To estimate the depreciation associated with projects where componentization has not yet been applied to the project plan - typically for projects with in-service dates beyond the first few years of the forecast.

The IFF12 depreciation forecast was determined by applying the depreciation rates provided in Appendix 5.7 - Electric Depreciation Rates. Calculations for the 2013 and 2014 fiscal years use the depreciation rates provided in Schedule 1 to the letter from Gannett Fleming letter dated January 13, 2012 (pages 1 - 8). Calculations for the 2015-2032 fiscal years use the depreciation rates provided in, or derived from the rates in Schedule 1 to the 2010 Depreciation Study (pages III-4 to III-11).

The following composite depreciation rates were used in IFF12 for the calculation of depreciation expense for Bipole III, Keeyask and Conawapa:

HGEN-NEW New Hydraulic Generation Station - Composite: uses a composite depreciation rate derived by applying the Wuskwatim depreciation rates to the consolidated surviving original cost for the existing hydraulic generating station asset accounts, as shown on pages III-4 - III-8 of the 2010 Depreciation Study.

| Acct | Depreciable Group | Surviving Original Cost * at 03/31/2010 | Total Depreciation @ Wuskwatim Rates |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Expense | Rate (\%) |
| 11xxA | DAMS, DYKES AND WEIRS | 302,176,910 | 2,417,415 | 0.80 |
| 11xxB | POWERHOUSE | 981,228,410 | 7,849,827 | 0.80 |
| 11xxC | POWERHOUSE RENOVATIONS | - |  | 4.00 |
| 11xxD | SPILLWAY | 314,201,886 | 4,189,358 | 1.33 |
| 11xxE | WATER CONTROL SYSTEMS | 281,157,726 | 5,623,155 | 2.00 |
| 11xxF | ROADS AND SITE IMPROVEMENTS | 57,586,303 | 1,151,726 | 2.00 |
| 11xxG | TURBINES AND GENERATORS | 1,038,058,205 | 15,970,126 | 1.54 |
| 11xxH | GOVERNORS AND EXCITATION SYSTEM | 21,666,854 | 433,337 | 2.00 |
| 11xxP | A/C ELECTRICAL POWER SYSTEMS | 266,199,398 | 5,323,988 | 2.00 |
| 11xxQ | INSTRUMENTATION, CONTROL AND D/C SYSTEMS | 66,236,674 | 2,879,855 | 4.35 |
| 11xxR | AUXILIARY STATION PROCESSES | 112,728,332 | 2,818,208 | 2.50 |
| 11xxX | SUPPORT BUILDINGS | 40,549,317 | 623,836 | 1.54 |
| 11xxW | SUPPORT BUILDING RENOVATIONS | - | - | 5.00 |
|  | HYDRAULIC - COMPOSITE FOR NEW GENERATION | 3,481,790,015 | 49,280,832 | 1.42 |

[^10]TRNS Transmission - Composite: uses the composite depreciation rate shown for the "Total Transmission" line on page III-10 of the 2010 Depreciation Study.

SSTN-AC AC Substation - Composite: uses a composite depreciation rate derived from the Substation asset accounts shown on page III-10 of the 2010 Depreciation Study by excluding the accounts relevant only to HVDC substation equipment as follows:

| Acct | Depreciable Group | Surviving Original Cost | Total Depreciation |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | at 03/31/2010 | Expense | Rate (\%) |
| 3000B | BUILDINGS | 109,491,690 | 1,604,410 | 1.47 |
| 3000C | BUILDING RENOVATIONS | 32,047 | 1,448 | 4.52 |
| 3000F | ROADS, STEEL STRUCTURES AND CIVIL SITE WORK | 109,211,425 | 2,123,078 | 1.94 |
| 3000J | POLES AND FIXTURES | 7,810,315 | 207,500 | 2.66 |
| 3100R | POWER TRANSFORMERS | 287,449,387 | 6,544,163 | 2.28 |
| 3100S | OTHER TRANSFORMERS | 72,153,356 | 2,099,534 | 2.91 |
| 3100T | INTERRUPTING EQUIPMENT | 156,214,257 | 3,608,467 | 2.31 |
| 3100 U | OTHER STATION EQUIPMENT | 503,404,372 | 12,360,023 | 2.46 |
| 3100 V | ELECTRONIC EQUIPMENT AND BATTERIES | 151,238,104 | 6,799,907 | 4.50 |
|  | TOTAL AC SUBSTATIONS | 1,397,004,953 | 35,348,530 | 2.53 |

SSTN-HVDC HVDC Substation - Composite: uses a composite depreciation rate derived from the Substation asset accounts shown on page III-10 of the 2010 Depreciation Study by including only the accounts relevant HVDC substation equipment as follows:

| Acct | Depreciable Group | Surviving Original Cost at 03/31/2010 | Total Depreciation |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Expense | Rate (\%) |
| 3200M | SYNCHRONOUS CONDENSERS AND TRANSFORMERS - HVDC | 111,737,981 | 1,834,760 | 1.64 |
| 3200 N | SYNCHRONOUS CONDENSER OVERHAULS - HVDC | 11,320,594 | 868,792 | 7.67 |
| 3200P | CONVERTOR EQUIPMENT - HVDC | 214,981,687 | 6,667,909 | 3.10 |
| 3200S | SERIALIZED EQUIPMENT - HVDC | 646,219,985 | 22,663,105 | 3.51 |
| 3200U | ACCESSORY STATION EQUIPMENT - HVDC | 55,177,090 | 1,292,538 | 2.34 |
| 3200 V | ELECTRONIC EQUIPMENT AND BATTERIES - HVDC | 10,401,883 | 403,780 | 3.88 |
|  | TOTAL HVDC EQUIPMENT | 1,049,839,220 | 33,730,884 | 3.21 |

DIST Distribution - Composite: uses the composite depreciation rate shown for the "Total Distribution" line on page III-10 of the 2010 Depreciation Study.

COMM Communication - Composite: uses the composite depreciation rate shown for the "Total Communication" line on page III-11 of the 2010 Depreciation Study.



| Asset Account Description | Depreciation <br> Rate - CGAAP 2013-2014 | Depreciation Rate - IFRS 2015-2032 |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | ${ }_{2021}$ | Million's) 2022 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole III-Transmission Line |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6000K Miscellaneous Vehicles | 5.93\% | 6.99\% | Depreciation Expense | . | - | - | - | - | - | - | - | - | - |
|  |  |  | Amount Placed In-Service | - | 0.1 | - | - | - | - | - | - |  | - |
|  |  |  | Amount Retired | - | - | - | - | - | - | - | - | - | - |
|  |  |  | Gross Plant Balance | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Easements |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A100A Easements | 1.28\% | 1.49\% | Depreciation Expense | - | 0.5 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
|  |  |  | Amount Placed In-Service | - | 59.3 | - | - | - | - | - | - | - | - |
|  |  |  | Gross Plant Balance | - | 59.3 | 59.3 | 59.3 | 59.3 | 59.3 | 59.3 | 59.3 | 59.3 | 59.3 |
| Total - Bipole Ill-Transmission Line |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Depreciation Expense | $\cdot$ | 0.6 | 1.3 | 1.3 | 1.3 | 8.1 | 17.5 | 17.5 | 17.5 | 17.5 |
|  |  |  | Amount Placed In-Service | 1.3 | 62.5 | - | - | - | 1,196.1 | - | - | - | - |
|  |  |  | Amount Retired | - | - | - | - | - | - | - | - | - | - |
|  |  |  | Gross Plant Balance | 1.3 | 63.8 | 63.8 | 63.8 | 63.8 | 1,259.9 | 1,259.9 | 1,259.9 | 1,259.9 | 1,259.9 |


| Asset Account Description | Depreciation <br> Rate - CGAAP <br> 2013-2014 | Depreciation <br> Rate - IFRS <br> 2015-2032 |  | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | Million's) <br> 2032 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole Ill - Transmission Line |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6000k Miscellaneous Vehicles | 5.93\% | 6.99\% | Depreciation Expense | . | - | - | - | - | . | - | - | - | - |
|  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  | Amount Retired | - | - | - | - | - | (0.1) | - | - | $\cdot$ | - |
|  |  |  | Gross Plant Balance | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | - | - | - | - | - |
| Easements |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A100A Easements | 1.28\% | 1.49\% | Depreciation Expense | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
|  |  |  | Amount Placed In-Service |  | - | - | - | - | - | - | - | - | - |
|  |  |  | Gross Plant Balance | 59.3 | 59.3 | 59.3 | 59.3 | 59.3 | 59.3 | 59.3 | 59.3 | 59.3 | 59.3 |
| Total - Bipole III- Transmission Line |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Depreciation Expense | 17.5 | 17.5 | 17.5 | 17.3 | 17.2 | 17.2 | 17.1 | 16.8 | 16.8 | 16.8 |
|  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | . |
|  |  |  | Amount Retired | - | $\cdot$ | - | (3.1) | - | (0.1) | - | - | - | - |
|  |  |  | Gross Plant Balance | 1,259.9 | 1,259.9 | 1,259.9 | 1,256.8 | 1,256.8 | 1,256.7 | 1,256.7 | 1,256.7 | 1,256.7 | 1,256.7 |


| Asset Account |  Depreciation <br> Rate- CGAAP <br> Description $2013-2014$ | Depreciation Rate - IFRS 2015-2032 |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Million's) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole III-Converter Stations |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Land |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LAND | Land $0.00 \%$ | 0.00\% | Depreciation Expense | - | - | - | - | - | - | - | - | - | . |
|  |  |  | Amount Placed In-Service | 0.2 | 0.2 | - | - | - | 0.3 | - | - |  |  |
|  |  |  | Gross Plant Balance | 17.9 | 18.1 | 18.1 | 18.1 | 18.1 | 18.4 | 18.4 | 18.4 | 18.4 | 18.4 |
| Sub-Stations |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30008 | Buildings | 1.47\% | Depreciation Expense | - | - | . | - | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  | Amount Placed In-Service | - | - | - | - | - | 9.7 | - |  |  | - |
|  |  |  | Gross Plant Balance | . | - | - | - | - | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 |
| 3000F | Roads, Steel Structure \& Civil Site Work | 1.94\% | Depreciation Expense | - | - | $\cdot$ | 0.1 | 0.3 | 0.8 | 1.5 | 1.5 | 1.5 | 1.5 |
|  |  |  | Amount Placed In-Service | - | - | - | 11.7 | 1.8 | 65.7 | - | - | - | - |
|  |  |  | Gross Plant Balance | . | - | - | 11.7 | 13.5 | 79.2 | 79.2 | 79.2 | 79.2 | 79.2 |
| 3100 R | Power Transformers | 2.28\% | Depreciation Expense | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  | Amount Placed In-Service | - | - | - | 4.3 | - | . | - | - | . | - |
|  |  |  | Gross Plant Balance | - | - | - | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| 31005 | Other Transformers | 2.91\% | Depreciation Expense | $\cdot$ | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  | Amount Placed In-Service | - | - | - | 2.5 | - | 0.7 | - | - | - | - |
|  |  |  | Gross Plant Balance | - | - | - | 2.5 | 2.5 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 |
| 3100T | Interrupting Equipment | 2.31\% | Depreciation Expense | - | - | $\cdot$ | - | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  | Amount Placed In-Service | - | - | - | 1.5 | - | 1.5 | - | - | - | - |
|  |  |  | Gross Plant Balance | - | - | - | 1.5 | 1.5 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 3100 U | Other Station Equipment | 2.46\% | Depreciation Expense | - | - | - | - | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 |
|  |  |  | Amount Placed In-Service | - | - | - | 3.3 | - | 2.8 | - | - | - | - |
|  |  |  | Gross Plant Balance | - | - | - | 3.3 | 3.3 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 |
| 3100 V | Electronic Equipment \& Batteries | 4.50\% | Depreciation Expense | $\cdot$ | - | - | 0.9 | 2.2 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
|  |  |  | Amount Placed In-Service | - | - | - | 43.9 | 8.5 | 0.6 | - | - | - | - |
|  |  |  | Gross Plant Balance | - | - | - | 43.9 | 52.4 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 |
| SSTN-AC | AC Substation - Composite <br> Project costs applicable to multiple components: Riel Site Development \& expansion of 230 kV yard | 2.53\% | Depreclation Expense | - | - | - | 0.4 | 1.0 | 1.2 | 1.5 | 1.5 | 1.5 | 1.5 |
|  |  |  | Amount Placed In-Service | - | - | - | 39.8 | 1.8 | 18.3 | - | - | - | - |
|  |  |  | Gross Plant Balance | - | - | - | 39.8 | 41.6 | 59.9 | 59.9 | 59.9 | 59.9 | 59.9 |
| SSTN-AC | AC Substation - Composite <br> High level componentization: Keewatinoow \& Riel converter stations | 2.53\% | Depreciation Expense | - | . | - | $\cdot$ | - | 16.6 | 40.2 | 40.2 | 40.2 | 40.2 |
|  |  |  | Amount Placed In-Service | - | - | - | - | - | 1,588.5 | - | - | - | - |
|  |  |  | Gross Plant Balance | - | - | - | . | - | 1,588.5 | 1,588.5 | 1,588.5 | 1,588.5 | 1,588.5 |


| Asset Account |  Depreciation <br> Rate <br>  <br> Description <br>  <br> $2013-2014$ | Depreciation Rate - IFRS 2015-2032 |  | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | Million's) <br> 2032 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole Ill - Converter Stations |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Amount Placed In-Service Gross Plant Balance | 18.4 | 18.4 | 18.4 | 18.4 | 18.4 | 18.4 | 18.4 | 18.4 | 18.4 | 18.4 |
| Sub-Stations |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30008 | Buildings | 1.47\% | Depreciation Expense | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  | Amount Placed in-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  | Gross Plant Balance | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 |
| 3000 F | Roads, Steel Structure \& Civil Site | 1.94\% | Depreciation Expense | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
|  | Work |  | Amount Placed in-Service | . | . | - | - | - | - | - | - | - | - |
|  |  |  | Gross Plant Batance | 79.2 | 79.2 | 79.2 | 79.2 | 79.2 | 79.2 | 79.2 | 79.2 | 79.2 | 79.2 |
| 3100 R | Power Transformers | 2.28\% | Depreciation Expense | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  | Gross Plant Balance | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| 31005 | Other Transformers | 2.91\% | Depreciation Expense | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  | Amount Placed in-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  | Gross Plant Balance | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 |
| 31007 | Interrupting Equipment | 2.31\% | Depreciation Expense | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  | Amount Placed In-Service | - | $\cdot$ | - | - | - | - | - | $\cdot$ | - | - |
|  |  |  | Gross Plant Balance | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 31000 | Other Station Equipment | 2.46\% | Depreciation Expense | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
|  |  |  | Amount Placed in-Service | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 |
|  |  |  | Gross Plant Balance | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 |
| 3100 V | Electronic Equipment \& Batteries | 4.50\% | Depreciation Expense | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
|  |  |  | Amount Placed In-Service | - | - | - | - | , |  | - | - | - | - |
|  |  |  | Gross Plant Balance | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 |
| SSTN-AC | AC Substation - Composite | 2.53\% | Depreciation Expense | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
|  | Project costs applicable to multiple components: Riel Site Development \& expansion of 230 kV yard |  | Amount Placed In-Service | - | - | - | - | - | . | - | . | - | - |
|  |  |  | Gross Plant Balance | 59.9 | 59.9 | 59.9 | 59.9 | 59.9 | 59.9 | 59.9 | 59.9 | 59.9 | 59.9 |
| SSTN-AC | AC Substation - Composite | 2.53\% | Depreciation Expense | 40.2 | 40.2 | 40.2 | 40.2 | 40.2 | 40.2 | 40.2 | 40.2 | 40.2 | 40.2 |
|  | High level componentization: Keewatinoow \& Riel converter stations |  | Amount Placed In-Service Gross Plant Balance | $1,588.5$ | 1,588.5 | 1,588.5 | 1,588.5 | 1,588.5 | 1,588.5 | 1,588.5 | 1,588.5 | 1,588.5 | $1,588.5$ |


| Asset Account | Description | Depreciation <br> Rate - CGAAP 2013-2014 | Depreciation Rate - IFRS 2015-2032 |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | $2^{15}$ | Million's) 2022 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole Ill - Converter Stations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Distribution |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 40001 | Poles \& fixtures |  | 1.41\% | Depreciation Expense | - | - | . | - | - | $-$ | . | $-$ | . | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | 0.3 | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 4000 L | Overhead Conductor \& Devices |  | 1.54\% | Depreciation Expense | - | - | - | $\cdot$ | - | $\cdots$ | - | . | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | 0.5 | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 4000N | Underground Cable \& Devices - |  | 1.69\% | Depreciation Expense | - | - | . | - | . | - |  |  |  |  |
|  |  |  |  | Amount Placed In-Service | - | - | - | 0.2 | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 40000 | Serialized Equipment - Overhead |  | 2.49\% | Depreciation Expense | - | - | - | $-$ | - | - | - | - | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | 0.1 | - | - | $\cdot$ | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| DIST | Distribution - Composite |  | 2.00\% | Depreciation Expense | $\cdot$ | - | - | $\cdot$ | - | - | - | - | - | - |
|  | Project costs applicable to multiple |  |  | Amount Placed In-Service | - | - | - | 0.1 | - | - | - | - | - |  |
|  | components |  |  | Gross Plant Balance | - | - | . | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Communication |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| W50H | Fibre Optic \& Metallic Cable |  | 3.95\% | Depreciation Expense | - | - | - | $\cdots$ | - | - | - | - | - | - |
|  |  |  |  | Amount Placed In-Service Amount Retired | - | - | - | 0.3 | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| w50 | Carrier Equipment |  | 8.85\% | Depreciation Expense | $\cdot$ | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  |  | Amount Placed In-Service Amount Retired | - | - | - | 0.8 | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Belance | - | - | - | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| w50M | Mobile Radio, Telephone \& Video |  | 8.19\% | Depreciation Expense | . | - | - | . | - | - | - | - | - | - |
|  | Conferencing |  |  | Amount Placed In-Service | - | - | - | 0.2 | - | - | - | - | - | - |
|  |  |  |  | Amount Retired |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | Gross Plant Balance | - | - | - | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| W50N | Network |  | 13.19\% | Depreciation Expense | . | $\cdots$ | - | - | - | - | - | - | - | - |
|  |  |  |  | Amount Placed In-Service Amount Retired | - | - | - | 0.1 | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |


| Asset Account | Description | Depreciation Rate - CGAAP 2013-2014 | $\begin{aligned} & \text { Depreciation } \\ & \text { Rate - IFRS } \\ & \text { 2015-2032 } \\ & \hline \end{aligned}$ |  | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | illion's) <br> 2032 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole III-Converter Stations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Distribution |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4000」 | Poles \& Fixtures |  | 1.41\% | Depreciation Expense | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 4000L | Overhead Conductor \& Devices |  | 1.54\% | Depreciation Expense | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 4000N | Underground Cable \& Devices Primary |  | 1.69\% | preciation Expens | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 4000Q | Serialized Equipment - Overhead |  | 2.49\% | Depreciation Expense | $\stackrel{-}{ }$ | - | - | - | - | . | - | - | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| DIST | Distribution-Composite |  | 2.00\% | Depreciation Expense | - | - | - | $\cdots$ | - | - | $\bullet$ | - | - | - |
|  | Project costs applicable to multiple |  |  | Amount Placed In-Service | - | - | - | . | - | - | - | - | - | - |
|  | components |  |  | Gross Plant Balance | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Communication |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| W5OH | Fibre Optic \& Metallic Cable |  | 3.95\% | Depreciation Expense | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Amount Placed In-Service Amount Retired | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| W50] | Carrier Equipment |  | 8.85\% | Depreciation Expense | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | - | - | - | - | - |
|  | . |  |  | Amount Placed In-Service Amount Retired | - | - | - | - | (0.8) | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 0.8 | 0.8 | 0.8 | 0.8 | - | - | - | - | - | - |
| W50M | Mobile Radio, Telephone \& Video |  | 8.19\% | Depreciation Expense | - | - | - | - | - | $\bullet$ | - | - | - | - |
|  | Conferencing |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Amount Retired |  |  |  |  |  | (0.2) |  |  |  |  |
|  |  |  |  | Gross Plant Balance | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | - | - | - | - | - |
| WSON | Network |  | 13.19\% | Depreciation Expense | - | - | - | - | - | - | - | $\bullet$ | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Amount Retired |  | (0.1) |  |  |  |  |  |  |  |  |
|  |  |  |  | Gross Plant Balance | 0.1 |  | - | - | - | - | - | - | - | - |


| Asset Account Description | Depreciation Rate - CGAAP $\qquad$ | Depreciation Rate - IFRS 2015-2032 |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | illion's) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole III-Converter Stations |  |  |  |  |  |  |  |  |  |  |  |  |  |
| COMM $\begin{array}{ll}\text { Communication - Composite } \\ & \begin{array}{l}\text { Project costs applicable to multipl } \\ \text { components }\end{array}\end{array}$ |  | 6.49\% | Depreciation Expense | - | . | - | - | - | - | - | . | - | - |
|  |  |  | Amount Placed In-Service Amount Retired | - | - | - | 0.3 | - | - | - | - | - | - |
|  |  |  | Gross Plant Balance | - | - | - | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Easements |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A100A Easements | 1.28\% | 1.49\% | Depreciation Expense | - | - | - | - | - | - | - | - | . | - |
|  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  | Gross Plant Balance | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Total - Bipole III - Converter Stations |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Depreciation Expense | $-$ | . | - | 1.5 | 3.9 | 21.6 | 46.3 | 46.3 | 46.3 | 46.3 |
|  |  |  | Amount Placed In-Service | 0.2 | 0.2 | - | 109.9 | 12.1 | 1,688.1 | - | - | - | - |
|  |  |  | Amount Retired | - | - | - | - | - | . | - | . | - | . |
|  |  |  | Gross Plant Balance | 18.2 | 18.4 | 18.4 | 128.3 | 140.4 | $1,828.5$ | 1,828.5 | 1,828.5 | 1,828.5 | 1,828.5 |


| Asset Account Description | Depreciation <br> Rate - CGAAP <br> 2013-2014 | Depreciation Rate - IFRS 2015-2032 |  | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |  | allion's) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole III-Converter Stations |  |  |  |  |  |  |  |  |  |  |  |  |  |
| COMM Communication - Composite Project costs applicable to multiple components |  | 6.49\% | Depreciation Expense | - | - | - | - | - | - | - |  | - | - |
|  |  |  | Amount Placed In-Service Amount Retired | - | $\checkmark$ | - | - | - | - | - |  | $(0.3)$ | - |
|  |  |  | Gross Plant Balance | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | . | - |
| Easements |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A100A Easements | 1.28\% | 1.49\% | Depreciation Expense | - | - | - | - | . | - | - | - | . | - |
|  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  | Gross Plant Balance | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Total-Bipole III- Converter Stations |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Depreciation Expense | 46.3 | 46.3 | 46.3 | 46.3 | 46.3 | 46.2 | 46.2 | 46.2 | 46.2 | 46.2 |
|  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | . | - |
|  |  |  | Amount Retired | - | (0.1) | - | - | (0.8) | (0.2) | - | - | (0.3) | - |
|  |  |  | Gross Plant Balance | 1,828.5 | 1,828.4 | 1,828.4 | 1,828.4 | 1,827.6 | 1,827.4 | 1,827.4 | 1,827.4 | 1,827.1 | 1,827.1 |


| Asset Account | Description | Depreciation <br> Rate - CGAAP <br> 2013-2014 | Depreciation Rate - IFRS 2015-2032 |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | illion's) 2022 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole III-Collector Lines |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Land |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | Amount Placed In-Service Gross Plant Balance | 2.3 2.3 | $2.3$ | $2.3$ | $2.3$ | 2.3 | 2.3 | 2.3 | 2.3 | $\overline{2.3}$ | $\stackrel{\cdot}{2} 3$ |
| Transmission |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000F | Roads, Trails \& Bridges |  | 2.63\% | Depreciation Expense | . | - | - | - | . | - | - | . | - | . |
|  |  |  |  | Amount Placed In-Service Gross Plant Balance | - | - | - | - | - | 1.7 1.7 | 1.7 | 17 | 17 | 17 |
| 2000 G | Metal Towers |  | 1.19\% | Depreciation Expense | - | - | - | - | - | 0.5 | 0.9 | 0.9 | 0.9 | 0.9 |
|  |  |  |  | Amount Placed In-Service Gross Plant Balance | - | - | - | - | - | 75.0 75.0 |  |  |  | - |
| 2000 L | Overhead Conductor \& Devices |  | 1.38\% | Depreciation Expense | - | - | - | - | - | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 |
|  |  |  |  | Amount Placed In-Service | $\div$ | $\stackrel{\square}{-}$ | - | - | - | 24.1 | 24.1 | 241 | 24 | - |
| TRNS | Transmission - Composite |  | 1.38\% | Depreciation Expense | - | - | - | - | - | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 |
|  | multiple components |  |  | Amount Placed In-Service Gross Plant Balance |  | - | - | - | - | $\begin{aligned} & 35.2 \\ & 35.2 \end{aligned}$ | $35.2$ | $35.2$ | $35.2$ | $35.2$ |
| Substations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3000в | Buildings |  | 1.47\% | Depreciation Expense | - | . | - | - | . | - | . | - | . | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | $\bullet$ | - | 0.4 | $\cdots$ | - | $\cdots$ | - |
| 3000F |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Work |  | 1.94\% | Depreciation Expense | - | - | . | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | 0.3 | 5.1 | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | - | 0.3 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| 30003 | Poles \& Fixtures |  | 2.66\% | Depreciation Expense | - | - | - | - | - | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | 6.4 | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | - | - | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |
| 3100 R | Power Transformers |  | 2.28\% | Depreciation Expense | - | - | - | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  |  | Amount Placed in-Service | - | - | - | - | - | 3.7 | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | - | - | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| 31005 | Other Transformers |  | 2.91\% | Depreciation Expense | - | - | - | - | . | - | - | . | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | 0.8 | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | - | - | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |


| Asset Account | Description | Depreciation <br> Rate - CGAAP 2013-2014 | $\begin{aligned} & \text { Depreciation } \\ & \text { Rate - IFRS } \end{aligned}$ 2015-2032 |  | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | Million's) <br> 2032 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole III-Collector Lines |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Land |  |  |  |  |  |  |  |  |  |  |  |  |  | - |
|  |  |  |  | Amount Placed In-Service Gross Plant Balance | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | $2.3$ |
| Transmission |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000F | Roads, Trails \& Bridges |  | 2.63\% | Depreciation Expense | . | - | - | - | - | - | - | - | . | - |
|  |  |  |  | Amount Placed In-Service Gross Plant Balance | $1.7$ | 1.7 | 1.7 | 1.7 | 1.7 | $1.7$ | $\overline{1.7}$ | 1.7 | 1.7 | $1.7$ |
| 2000 G | Metal Towers |  | 1.19\% | Depreciation Expense | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
|  |  |  |  | Amount Placed In-Service Gross Plant Balance | $\overline{75.0}$ | $75.0$ | $75.0$ | $75.0$ | $75.0$ | $75.0$ | $\overline{75.0}$ | $75.0$ | $75.0$ | $\overline{75.0}$ |
| 2000. | Overhead Conductor \& Devices |  | 1.38\% | Depreciation Expense | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
|  |  |  |  | Amount Placed In-Service Gross Plant Balance | $24.1$ | $24.1$ | $24.1$ | $24.1$ | $24.1$ | $24.1$ | $24.1$ | $24.1$ | $\overline{24.1}$ | $\overline{24.1}$ |
| TRNS | Transmission - Composite |  | 1.38\% | Depreciation Expense | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
|  | Includes project costs common to multiple components |  |  | Amount Placed In-Service Gross Plant Balance | 35.2 | 35.2 | 35.2 | 35.2 | $35.2$ | $35.2$ | $35.2$ | 35.2 | 35.2 | $35.2$ |
| Substations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{3000 B}$ | Buildings |  | 1.47\% | Depreciation Expense | . | - | - | - | - | . | - | - | - | - |
|  |  |  |  | Amount Placed In-Service | - | $\bigcirc$ | - | - | $\bigcirc$ | - | - | - | - | $\cdots$ |
|  |  |  |  | Gross Plant Balance | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 3000 F | Roads, Steel Structure \& Civil Site Work |  | 1.94\% | Depreciation Expense | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  |  | Amount Placed In-Service Gross Plant Balance | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| 3000 | Poles \& Fixtures |  | 2.66\% | Depreciation Expense | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
|  |  |  |  | Amount Placed In-Service Gross Plant Balance | 6.4 | 6.4 | ${ }_{6.4}$ | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | - 6.4 |
| 3100R | Power Transformers |  | 2.28\% | Depreciation Expense | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  |  | Amount Placed In-Service | - | - | - | $\bigcirc$ | - | - | $\cdots$ | $\cdots$ | - | - |
|  |  |  |  | Gross Plant Balance | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| 31005 | Other Transformers |  | 2.91\% | Depreciation Expense | - | - | - | - | - | - | . | - | - | - |
|  |  |  |  | Amount Placed in-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |


| Asset Account | Description | Depreciation <br> Rate - CGAAP 2013-2014 | Depreciation Rate - IFRS 2015-2032 |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Million's) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole III-Collector Lines |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31007 | Interrupting Equipment |  | 2.31\% | Depreciation Expense | - | - | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | 1.8 | 2.6 | - | - | - | - |
|  |  |  |  | Gross Plant Balance | . | - | . | - | 1.8 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| $3100 \cup$ | Other Station Equipment |  | 2.46\% | Depreciation Expense | - | - | $\cdot$ | - | $\cdot$ | - | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | 2.7 | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | - | - | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 |
| 3100 V | Electronic Equipment \& Batteries |  | 4.50\% | Depreciation Expense | - | $\cdot$ | - | $\cdot$ | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | 1.1 | 3.7 | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | - | 1.1 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 |
| 32000 | HVDC Accessory Stn Equipment |  | 2.34\% | Depreciation Expense | - | . | - | $\cdots$ | - | . | - | . | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | 2.2 | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | . | - | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| SSTN-AC | AC Substation - Composite |  | 2.53\% | Depreciation Expense | - | - | - | - | - | 0.3 | 0.5 | 0.5 | 0.5 | 0.5 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | 2.6 | 16.0 | - | - | - | - |
|  |  |  |  | Gross Plant Balance | . | - | - | - | 2.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 |
| Distribution |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 41000 | Serialized Equipment - Overhead |  | 2.49\% | Depreciation Expense | - | - | - | - | . | - | $\cdot$ | - | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | 1.1 | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | . | - | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| Communication |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5000 H | Fibre Optic \& Metallic Cable |  | 3.95\% | Depreciation Expense | - | . | - | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | 1.2 | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | - | . | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 5000 S | Carrier Equipment |  | 8.85\% | Depreciation Expense | - | - | - | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  |  | Amount Placed In-Service Amount Retired | - | - | - | - | - | 0.8 | - | - | - | - |
|  |  |  |  | Gross Plant Balance | - | - | - | - | - | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 5000N | Operational Data Network |  | 13.19\% | Depreciation Expense | - | - | - | - | - | - | - | - | $\cdot$ | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | 0.1 | - | - | - | - | - |
|  |  |  |  | Amount Retired |  |  |  |  |  |  |  |  |  |  |
| Easements |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A100A | Easements | 1.28\% | 1.49\% | Depreciation Expense | - | - | - | - | - | - | - | . | - | - |
|  |  |  |  | Amount Placed In-Service | 0.4 | - | 0.1 | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |


| Asset Account | Description | $\begin{gathered} \text { Depreciation } \\ \text { Rate - CGAAP } \\ \text { 2013-20144 } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Depreciation } \\ \text { Rate - IFRS } \\ \text { 2015-2032 } \\ \hline \end{gathered}$ |  | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | Milllon's) 2032 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole III-Collector Lines |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $3100 \%$ | Interrupting Equipment |  | 2.31\% | Depreciation Expense | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  |  | Amount Placed In-Service Gross Plant Balance | 4.4 | 4.4 | $4.4$ | $4.4$ | $4.4$ | 4.4 | $4.4$ | 4.4 | $4.4$ | 4.4 |
| 31000 | Other Station Equipment |  | 2.46\% | Depreciation Expense | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  |  | Amount Placed In-Service Gross Plant Balance | 2.7 | $2.7$ | $2.7$ | $2.7$ | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | $\overline{2.7}$ |
| 3100 V | Electronic Equipment \& Batteries |  | 4.50\% | Depreciation Expense | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | $\cdot$ | - | - | - | - |  |
|  |  |  |  | Gross Plant Balance | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 |
| 32000 | HVDC Accessory Stn Equipment |  | 2.34\% | Depreciation Expense | - | - | - | . | - | $\cdots$ | - | - | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| SSTN-AC | AC Substation - Composite |  | 2.53\% | Depreciation Expense | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | . | - |
|  |  |  |  | Gross Plant Balance | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 |
| Distribution |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 41000 | Serialized Equipment - Overhead |  | 2.49\% | Depreciation Expense | - | - | - | . | - | - | . | - | - | $\cdots$ |
|  |  |  |  | Amount Placed In-Service | $\cdot$ | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| Communication |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5000 H | Fibre Optic \& Metalic Cable |  | 3.95\% | Depreciation Expense | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 5000 J | Carrier Equipment |  | 8.85\% | Depreciation Expense | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | - | - | - |
|  |  |  |  | Amount Placed In-Service Amount Retired | - | - | - | - | - | - | (0.8) | - | - | - |
|  |  |  |  | Gross Plant Balance | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | (0.) | - | - | - |
| 5000N | Operational Data Network |  | 13.19\% | Depreciation Expense | - | $\cdot$ | - | - | - | - | - | - | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | (0,1) | - | - | - | - | - | - | - |
|  |  |  |  | Amount Retired |  |  | (0.1) |  |  |  | - |  |  |  |
|  |  |  |  | Gross Plant Balance | 0.1 | 0.1 | - | - | - | - | . | - | - | - |
| Easements |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A100A | Easements | 1.28\% | 1.49\% | Depreciation Expense | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - |  |
|  |  |  |  | Gross Plant Balance | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |


| Asset Account Description | Depreciation <br> Rate - CGAAP 2013-2014 | Depreciation Rate - IFRS 2015-2032 |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Million's) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole III-Collector Lines |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\underline{\text { Total-Bipole III-Collector Lines }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Depreciation Expense | - | . | - | - | 0.1 | 1.4 | 3.2 | 3.2 | 3.2 | 3.2 |
|  |  |  | Amount Placed in-Service | 2.7 | - | 0.1 | - | 5.9 | 182.7 | - | - | - |  |
|  |  |  | Amount Retired | - | - | - | - | - | - | - | - | . | - |
|  |  |  | Gross Plant Balance | 2.7 | 2.7 | 2.8 | 2.8 | 8.7 | 191.4 | 191.4 | 191.4 | 191.4 | 191.4 |


| Asset Account Description | $\begin{gathered} \text { Depreciation } \\ \text { Rate - CGAAP } \\ \text { 2013-2014 } \\ \hline \end{gathered}$ | Depreciation Rate - IFRS 2015-2032 |  | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | $2^{\text {2031 }}$ | 2032 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bipole Ill - Collector Lines |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Iotal - Bipole Ill-Collector Lines |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Depreciation Expense | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.1 | 3.1 | 3.1 |
|  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  | Amount Retired | - | - | (0.1) | . | - | - | (0.8) | - | - | - |
|  |  |  | Gross Plant Balance | 191.4 | 191.4 | 191.3 | 191.3 | 191.3 | 191.3 | 190.5 | 190.5 | 190.5 | 190.5 |


| Asset Account | Description | Depreciation <br> Rate - CGAAP <br> 2013-2014 | Depreciation Rate - IFRS 2015-2032 |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Million's) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Keeyask |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hydraulic Generation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| HGEN-NEW | New Hydraulic Generating Station Composite |  | 1.42\% | Depreciation Expense | - | . | - | - | - | . | - | 6.1 | 62.2 | 85.6 |
|  | High level componentization |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | 2,579.6 | 3,439.3 | - |
|  |  |  |  | Gross Plant Balance | - | - | - | - | - | - | - | 2,579.6 | 6,018.9 | 6,018.9 |
| 1199 F | Provincial Roads |  | 2.10\% | Depreciation Expense | $\cdot$ | $\cdot$ | - | $\cdot$ | - | - | . | - | 0.4 | 0.5 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | 10.7 | 14.3 | - |
|  |  |  |  | Gross Plant Balance | - | - | - | - | - | - | - | 10.7 | 25.0 | 25.0 |
| Transmission |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TRNS | Transmission Composite High level componentization |  | 1.38\% | Depreciation Expense | - | - | - | - | . | - | - | 0.1 | 1.0 | 1.3 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | 41.6 | 55.4 |  |
|  |  |  |  | Gross Plant Batance | - | - | - | . | - | - | - | 41.6 | 97.0 | 97.0 |
| Substations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SSTN-AC | AC Substation - Composite High level componentization |  | 2.53\% | Depreciation Expense | - | . | - | . | - | - | . | 0.1 | 0.8 | 1.1 |
|  |  |  |  | Amount Placed in-Service | - | - | - | - | - | - | - | 19.4 | 25.8 | - |
|  |  |  |  | Gross Plant Balance | - | - | - | - | - | - | - | 19.4 | 45.2 | 45.2 |
| SSTN-HVDC | HVDC Substation - Composite High level componentization |  | 3.21\% | Depreciation Expense | - | - | - | - | - | . | - | 0.1 | 0.8 | 1.1 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | 14.6 | 19.4 | - |
|  |  |  |  | Gross Plant Balance | - | - | - | - | - | - | - | 14.6 | 34.0 | 34.0 |
| Total-Keevask |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | Depreciation Expense | - | - | - | - | - | - | - | 6.4 | 65.2 | 89.6 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | 2,665.9 | 3,554.2 | - |
|  |  |  |  | Gross Plant Balance | . | . |  |  | . | - | - | 2,665.9 | 6,220.1 | 6,220.1 |


| Asset Account | Description | Depreciation <br> Rate - CGAAP <br> 2013-2014 | Depreciation Rate - IFRS 2015-2032 |  | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | ${ }^{1}{ }^{\text {(\$ }}$ | Million's) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Keeyask |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hydraulic Generation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| HGEN-NEW | New Hydraulic Generating Station - |  | 1.42\% | Depreciation Expense | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 |
|  | High level componentization |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 6,018.9 | 6,018.9 | 6,018.9 | 6,018.9 | 6,018.9 | 6,018.9 | 6,018.9 | 6,018.9 | 6,018.9 | 6,018.9 |
| 1199F | Provincial Roads |  | 2.10\% | Depreciation Expense | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
|  |  |  |  | Amount Placed in-Service | . | - | - | - | - | - | - | - | - | . |
|  |  |  |  | Gross Plant Balance | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Transmission |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TRNS | Transmission Composite High level componentization |  | 1.38\% | Depreciation Expense | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 97.0 | 97.0 | 97.0 | 97.0 | 97.0 | 97.0 | 97.0 | 97.0 | 97.0 | 97.0 |
| Substations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SSTN-AC | AC Substation - Composite High level componentization |  | 2.53\% | Depreciation Expense | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 |
| SSTN-HVDC | HVDC Substation - Composite High level componentization |  | 3.21\% | Depreciation Expense | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
|  |  |  |  | Amount Placed In-Service | - | - | - | - | - | - | - | - | - | - |
|  |  |  |  | Gross Plant Balance | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Total - Keevask |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | Depreciation Expense | 89.6 | 89.6 | 89.6 | 89.6 | 89.6 | 89.6 | 89.6 | 89.6 | 89.6 | 89.6 |
|  |  |  |  | Amount Placed in-Service | $\bigcirc$ | - 2 | $\cdots$ | - | ${ }^{-}$ | ${ }^{-}$ | $\cdots$ | $\stackrel{-}{1}$ | ${ }^{-}$ | $\stackrel{-}{-}$ |
|  |  |  |  | Gross Plant 8alance | 6,220.1 | 6,220.1 | 6,220.1 | 6,220.1 | 6,220.1 | 6,220.1 | 6,220.1 | 6,220.1 | 6,220.1 | 6,220.1 |



| Asset Account Description | Depreciation Rate-CGAAP 2013-2014 | Depreciation Rate -IFRS <br> 2015-2032 |  | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | Million's) 2032 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conawapa |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hydraulic Generation |  |  |  |  |  |  |  |  |  |  |  |  |  |
| HGEN-NEW Hydraulic Generating Station |  | 1.42\% | Depreciation Expense | - | - | - | 31.1 | 96.8 | 142.2 | 143.4 | 143.4 | 143.4 | 143.4 |
| Composite - New Generation |  |  | Amount Placed In-Service | - | - | - | 5,050.8 | 4,040.7 | 1,010.1 | - | . | - | - |
|  |  |  | Gross Plant Balance | - | - | - | 5,050.8 | 9,091.5 | 10,101.6 | 10,101.6 | 10,101.6 | 10,101.6 | 10,101.6 |
| Provincial Roads |  | 2.10\% | Depreciation Expense | - | - | - | 0.3 | 1.1 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
|  |  |  | Amount Placed In-Service | - | - | - | 38.1 | 30.5 | 7.6 | - | - | - | - |
|  |  |  | Gross Plant Balance | - | - | - | 38.1 | 68.6 | 76.2 | 76.2 | 76.2 | 76.2 | 76.2 |
| Transmission |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TRNS Transmission Composite |  | 1.38\% | Depreciation Expense | - | - | - | - | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
|  |  |  | Amount Placed In-Service | - | - | - | 7.3 | 5.8 | 1.5 | - | - | - | - |
|  |  |  | Gross Plant Balance | - | - | - | 7.3 | 13.1 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 |
| Total-Conawapa |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Depreciation Expense | . | - | . | 31.4 | 98.0 | 144.0 | 145.2 | 145.2 | 145.2 | 145.2 |
|  |  |  | Amount Placed In-Service | - | - | - | 5,096.2 | 4,077.0 | 1,019.2 | - | - | - | - |
|  |  |  | Gross Plant Balance | - | . | - | 5,096.2 | 9,173.2 | 10,192.4 | 10,192.4 | 10,192.4 | 10,192.4 | 10,192.4 |

## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

## MANITOBA INDUSTRIAL POWER USERS GROUP ("MIPUG") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## MIPUG/MH/PRE-ASK-11

## Question: Net Salvage

a) Please indicate if the Net Salvage component of Hydro's accumulated depreciation is separately identified in Hydro’s internal accounts from the accumulated depreciation of assets. If so please provide the balance in the net salvage component by asset class account;
b) Please provide a summary of the charges related to Net Salvage charged to the accumulated depreciation account, by year, for the most recent years of actuals (3-5 years);
c) Please provide a copy of Hydro's current policy for charging amounts related to net salvage to the accumulated depreciation provision; and
d) Please identify how the value of such net salvage charges are determined, and what process is used for due diligence on the amounts proposed to be charged (as opposed to being added to property, plant and equipment).

## Response:

a) \& b) Although some of the charges pertaining to Net Salvage are specifically identified and tracked in Manitoba Hydro's records, the portion of the annual depreciation accrual pertaining to Net Salvage is not separately identifiable, and as such, it is not possible to provide a balance for the net salvage component by asset account.

The following table provides a summary of the net salvage transactions that are identified separately within Manitoba Hydro’s accounting records for the 2008-2012 fiscal years:

| (\$ millions) |  | 2008 |  | $\underline{2009}$ |  | 2010 |  | 2011 |  | 2012 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cost of Removal | \$ | 11.7 | \$ | 12.6 | \$ | 13.5 | \$ | 22.5 | \$ | 14.7 |
| Salvage Credits |  | (15.9) |  | (7.5) |  | (8.1) |  | (11.6) |  | (8.4) |

c) Manitoba Hydro's accounting policy with respect to treatment of net salvage is described in Note 1 b) to the Consolidated Annual Financial Statements, (Appendix 5.8 - Manitoba Hydro-Electric Board Annual Report Year Ended March 31, 2012, page 63), as follows:
"Provision for removal costs of major property, plant and equipment is charged to depreciation expense on a straight-line basis over the remaining service lives of the related assets. Retirements of these assets, including costs of removal, are charged to accumulated depreciation with no gains or losses reflected in operations."
d) Current Process: Actual annual charges for cost of removal and for salvage credits are recorded separately within each capital project, and flow to accumulated depreciation accounts when the project is placed in-service. Staff working on a capital project charge their time to different capital activities for addition vs. removal activities. Salvaged materials are tagged with the relevant capital work order, and are returned to Central Stores to determine whether the materials are reusable. Stores credits for salvaged materials and proceeds received for the sale of project specific salvaged materials are recorded in the capital project. These charges and credits are reviewed for accuracy and completeness by project administrative staff. Where materials returned to Central Stores are later determined not to be reusable, the items are sold as scrap, and the amount of the salvage credit previously awarded is adjusted in the accumulated depreciation accounts. The charges to the accumulated depreciation accounts are further reviewed for reasonability during financial accounting processes relating to general ledger account reconciliation and asset retirement processing.

Future Process: With the implementation of IFRS, cost of removal charges will no longer flow to accumulated depreciation. The costs will be categorized based on the nature of work performed in the source capital projects as pertaining to either the replacement or final removal of an existing asset. Cost of removal postings incurred in relation to the replacement of existing assets will be recorded as a cost of the replacement assets. Cost of removal postings pertaining to a final asset removal will be charged as a period cost, unless an asset retirement obligation has been established for that asset, in which case, the cost of removal serves to draw down that obligation.

As the majority of Manitoba Hydro's capital program involves the purchase and/or construction of new or replacement assets, it is expected that annual period charges for cost of removal will be relatively minor.

Salvage credits will continue to be flow to accumulated depreciation, where they will be factored into annual calculations to determine the amount of gain or loss to be recognized on the disposition of assets during the year.

## MANITOBA HYDRO

## MANITOBA INDUSTRIAL POWER USERS GROUP ("MIPUG") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## MIPUG/MH/PRE-ASK-12

## Question:

Please update the table in Appendix 5.6 at page 7 to 2014/15.

## Response:

The following table provides a summary of Manitoba Hydro's actual and forecast costs over a 6 year period.

MANITOBA HYDRO
OPERATING, MAINTENANCE AND ADMINISTRATIVE COSTS BY COST ELEMENT

| (In thousands of \$) | $\begin{gathered} \text { 2009/10 } \\ \text { Actual } \end{gathered}$ |  | $\begin{gathered} \text { 2010/11 } \\ \text { Actual } \end{gathered}$ |  | $\begin{gathered} \text { 2011/12 } \\ \text { Actual } \end{gathered}$ |  | 2012/13 <br> Forecast |  | 2013/14 <br> Forecast |  | 2014/15 <br> Forecast |  | Average Annual |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | \% Inc/(Dec) |  |  |  |  |  |  |  |  |
| Wages, Salaries | \$ | 407,988 |  |  | \$ | 425,158 |  | \$451 925 |  | \$476 570 |  | \$486 101 | \$ | 495,823 | 4.0\% |
| Overtime |  | 50,307 |  | 50,704 |  | 54,987 |  | 56,005 |  | 57,126 |  | 58,268 | 3.0\% |
| Employee Benefits |  | 83,013 |  | 95,376 |  | 104,444 |  | 125,549 |  | 130,535 |  | 139,206 | 11.0\% |
| Employee Safety \& Training |  | 4,284 |  | 3,863 |  | 3,909 |  | 4,914 |  | 5,013 |  | 5,113 | 4.2\% |
| Travel |  | 32,435 |  | 32,594 |  | 31,266 |  | 32,405 |  | 33,053 |  | 33,714 | 0.8\% |
| Motor Vehicle |  | 24,281 |  | 24,436 |  | 28,676 |  | 27,452 |  | 28,001 |  | 28,561 | 3.5\% |
| Materials \& Tools |  | 26,897 |  | 28,105 |  | 26,663 |  | 27,173 |  | 27,716 |  | 28,271 | 1.1\% |
| Consulting \& Professional Fees |  | 14,814 |  | 11,157 |  | 10,250 |  | 11,639 |  | 11,872 |  | 12,109 | -3.1\% |
| Construction \& Maintenance Services |  | 20,109 |  | 22,657 |  | 21,228 |  | 18,706 |  | 19,080 |  | 19,461 | -0.3\% |
| Building \& Property Services |  | 22,931 |  | 21,944 |  | 21,386 |  | 22,399 |  | 22,847 |  | 23,304 | 0.4\% |
| Equipment Maintenance \& Rentals |  | 14,379 |  | 14,165 |  | 13,388 |  | 14,476 |  | 14,766 |  | 15,061 | 1.0\% |
| Consumer Services |  | 5,798 |  | 5,086 |  | 5,365 |  | 5,284 |  | 5,389 |  | 5,497 | -0.9\% |
| Collection Costs |  | 4,599 |  | 4,497 |  | 4,034 |  | 4,347 |  | 4,434 |  | 4,523 | -0.2\% |
| Customer \& Public Relations |  | 8,155 |  | 7,905 |  | 8,093 |  | 6,849 |  | 6,986 |  | 7,126 | -2.4\% |
| Sponsored Memberships |  | 1,325 |  | 1,917 |  | 1,608 |  | 1,081 |  | 1,103 |  | 1,125 | -0.1\% |
| Office \& Administration |  | 15,320 |  | 14,316 |  | 14,277 |  | 15,263 |  | 15,569 |  | 15,880 | 0.8\% |
| Computer Services |  | 983 |  | 1,003 |  | 861 |  | 909 |  | 927 |  | 946 | -0.5\% |
| Communication Systems |  | 1,772 |  | 1,678 |  | 1,683 |  | 1,683 |  | 1,717 |  | 1,751 | -0.2\% |
| Research \& Development Costs |  | 3,952 |  | 3,651 |  | 2,796 |  | 3,509 |  | 3,579 |  | 3,651 | -0.3\% |
| Miscellaneous Expense |  | 1,190 |  | 1,264 |  | 2,032 |  | 1,213 |  | 1,237 |  | 1,262 | 6.1\% |
| Contingency Planning |  | - |  | - |  | - |  | (883) |  | $(1,019)$ |  | 1,783 |  |
| Operating Expense Recovery |  | $(21,580)$ |  | $(23,004)$ |  | $(21,716)$ |  | $(9,787)$ |  | $(9,983)$ |  | $(10,183)$ | -10.0\% |
| Total Costs |  | 722,951 |  | 748,471 |  | 787,155 |  | 846,758 |  | 866,049 |  | 892,253 | 4.3\% |
| Capital Order Activities |  | $(224,298)$ |  | $(243,545)$ |  | $(268,651)$ |  | $(245,865)$ |  | $(250,782)$ |  | $(255,798)$ | 2.9\% |
| Capitalized Overhead |  | $(60,151)$ |  | $(47,336)$ |  | $(53,084)$ |  | $(78,284)$ |  | $(81,021)$ |  | $(84,535)$ | 9.2\% |
| Operating and Administration Charged to Centra |  | $(60,951)$ |  | $(60,644)$ |  | $(62,117)$ |  | $(67,300)$ |  | $(68,800)$ |  | $(70,176)$ | 2.9\% |
| Subsidiaries |  | 2,146 |  | 6,121 |  | 7,414 |  | 6,491 |  | 6,946 |  | 7,388 |  |
| IFRS Changes |  |  |  |  |  |  |  |  |  | - |  | 61,437 |  |
| Change in Wuskwatim |  | - |  | - |  | - |  | - |  | 5,208 |  | 369 |  |
| OM\&A Attributable to Electric Operations per Annual |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Report | \$ | 379,697 | \$ | 403,067 | \$ | 410,717 | \$ | 461,800 | \$ | 477,600 | \$ | 550,938 |  |
| Less: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subsidiaries |  | 2,146 |  | 6,121 |  | 7,414 |  | 6,491 |  | 6,946 |  | 7,388 |  |
| Accounting Changes |  | 11,240 |  | 30,910 |  | 34,973 |  | 75,411 |  | 78,318 |  | 143,211 |  |
| Wuskwatim |  |  |  |  |  |  |  | 5,589 |  | 10,797 |  | 11,166 |  |
| OM\&A Attributable to Electric Operations after adjusting for subsidiaries, accounting changes and Wuskwatim | \$ | 366,311 | \$ | 366,036 | \$ | 368,330 | \$ | 374,309 | \$ | 381,539 | \$ | 389,173 |  |

## MANITOBA HYDRO

## CAC/MH/PRE-ASK-2

Please confirm that the calculations comparing the result of IFF 12 and IFF 11-2 are accurate. If the calculations cannot be confirmed, please provide revised calculations.


## Answer:

The attached schedule provides minor revisions due to rounding (in bold blue font).

## COMPARISON OF RESULTS

## (\$Millions)

## For the year ended March 31

| IFF11-2 |  |  |  | IFF12 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2012 | 2013 | 2014 | Total | 2012 | 2013 | 2014 | Total |

## REVENUES

General Consumers
Additional General Consumers
Extraprovincial
Other

| 1,186 | 1,290 | 1,294 | 3,770 |
| ---: | ---: | ---: | ---: |
| 0 | 45 | 106 | 151 |
| 363 | 341 | 363 | 1,067 |
| 7 | 16 | 16 | 39 |
| 1,556 | 1,693 | 1,778 | 5,027 |


| 1,191 | 1,331 | 1,361 | 3,883 |
| ---: | ---: | ---: | ---: |
| 0 | 0 | 48 | 48 |
| 363 | 357 | 344 | 1,065 |
| 6 | 14 | 15 | 35 |
| 1,560 | 1,702 | 1,768 | 5,030 |

## EXPENSES

| Operating and Administrative | 398 | 447 | 532 | 1,377 | 403 | 455 | 471 | 1,329 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Finance Expense | 385 | 440 | 452 | 1,277 | 385 | 452 | 444 | 1,282 |
| Depreciation and Amortization | 353 | 401 | 354 | 1,108 | 353 | 399 | 430 | 1,183 |
| Water Rentals and Assessments | 119 | 106 | 112 | 338 | 119 | 117 | 116 | 352 |
| Fuel and Power Purchased | 146 | 182 | 158 | 486 | 146 | 143 | 166 | 455 |
| Capital and Other Taxes | 82 | 87 | 92 | 261 | 83 | 88 | 96 | 266 |
| Corporate Allocation | 9 | 9 | 8 | 26 | 9 | 9 | 9 | 27 |
|  | 1,492 | 1,672 | 1,709 | 4,873 | 1,498 | 1,664 | 1,732 | 4,894 |
| Net Income before Non-Controlling Interest | 64 | 21 | 69 | 154 | 61 | 39 | 36 | 136 |
| Non-controlling Interest | - | (1) | (1) | (2) | - | 14 | 24 | 39 |
| Net Income | 64 | 20 | 68 | 152 | 61 | 53 | 60 | 175 |

## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION CONSUMERS ASSOCIATION OF CANADA ("CAC") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## CAC/MH/PRE-ASK-3

Please confirm the calculations presented in Pre-Ask 3 are accurate. If the calculations cannot be confirmed, please provide revised calculations.



## Response:

Manitoba Hydro confirms that the calculations are correct, with the exception of the Inflation Index for April 1, 2013, which should be $108 \%$ rather than $107 \%$.

## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION CONSUMERS ASSOCIATION OF CANADA ("CAC") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## CAC/MH/PRE-ASK-4

Please confirm the calculations presented in Pre-Ask 4 are accurate. If the calculations cannot be confirmed, please provide revised calculations.



## Response:

While the calculations provided in CAC/MH/PRE-ASK 4 appear to be reasonably accurate, Manitoba Hydro asserts that such calculations may be misleading. The projected rate increases in IFF 12 are indicative only and are based on a number of assumptions which are subject to change. The IFF will be updated on an annual basis to reflect changes in assumptions. Manitoba Hydro's future rate applications will be based on the best information available at the date of filing. At this time, Manitoba Hydro is applying for a $3.5 \%$ rate increase to be effective April 1, 2013.

## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION CONSUMERS ASSOCIATION OF CANADA ("CAC") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## CAC/MH/PRE-ASK-5

Please confirm the calculations presented in Pre-Ask 5 are accurate. If the calculations cannot be confirmed, please provide revised calculations.



## Response:

The schedule below is restated for corrections (in bold blue font).

## COMPARISON OF DOMESTIC \& EXPORT VOLUME AND PRICE FORECASTS

$\underline{2009 / 10} \quad \underline{2010 / 11} \quad \underline{2011 / 12} \quad \underline{2012 / 13} \quad \underline{2013 / 14} \quad \underline{2014 / 15} \quad \underline{2015 / 16} \quad \underline{2016 / 17}$


Canadian Exports


## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION <br> CONSUMERS ASSOCIATION OF CANADA ("CAC") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## CAC/MH/PRE-ASK-6

Please confirm the calculations presented in Pre-Ask 6 are accurate. If the calculations cannot be confirmed, please provide revised calculations.


## Response:

Manitoba Hydro confirms that the figures shown above are correct as reported in the Hydro Quebec survey. Manitoba Hydro can confirm the figures for Winnipeg are accurate; however, it cannot confirm the calculations for the other cities, as Manitoba Hydro does not have access to the calculations obtained by Hydro Quebec in the preparation of the referenced report.

## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

## CONSUMERS ASSOCIATION OF CANADA ("CAC") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## CAC/MH/PRE-ASK-7

Please confirm the calculations presented in Pre-Ask 7 are accurate. If the calculations cannot be confirmed, please provide revised calculations.



## Response:

Please see Manitoba Hydro’s response to CAC/MH/PRE-ASK-4.

## MANITOBA HYDRO

## 2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

## CONSUMERS ASSOCIATION OF CANADA ("CAC") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## CAC/MH/PRE-ASK-8

Question:
Please confirm the calculations presented in Pre-Ask 8 are accurate. If the calculations cannot be confirmed, please provide revised calculations.

|  |  |  |  | PROJECTED OPERATING STATEMENT - WUSKWATIM PARTNERSHIP |  |  |  |  |  |  |  |  | 2022 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | (\$ Millions) |  |  |  |  |  |  |  |
|  | $\underline{2010}$ | $\underline{2011}$ | $\underline{2012}$ | $\underline{2013}$ | $\underline{2014}$ | $\underline{2015}$ | $\underline{2016}$ | $\underline{2017}$ | $\underline{2018}$ | $\underline{2019}$ | 2020 | $\underline{2021}$ |  |
| Revenue |  |  |  |  |  |  |  |  |  |  |  |  |  |
| - CEC Filing |  |  |  |  |  |  |  |  |  |  |  |  |  |
| High Export Price | 77 | 118 | 129 | 136 | 140 | 146 | 152 | 156 | 160 | 165 | 170 | 176 | 180 |
| Low Export Price | 58 | 84 | 86 | 89 | 91 | 93 | 95 | 97 | 100 | 102 | 105 | 108 | 110 |
| - IFFI1-2 |  |  | 1 | 57 | 57 | 69 | 90 | 99 | 108 | 117 | 124 | 125 | 133 |
| - IFF12 | - | - | - | 26 | 43 | 52 | 72 | 81 | 87 | 99 | 108 | 103 | 112 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Expenses |  |  |  |  |  |  |  |  |  |  |  |  |  |
| - CEC Filing |  |  |  |  |  |  |  |  |  |  |  |  |  |
| High Export Price | 52 | 78 | 72 | 72 | 71 | 71 | 70 | 69 | 69 | 68 | 68 | 67 | 67 |
| Low Export Price | 53 | 79 | 73 | 73 | 72 | 72 | 71 | 71 | 70 | 70 | 69 | 69 | 68 |
| - IFF11-2 | - | - | 5 | 99 | 110 | 113 | 115 | 114 | 113 | 112 | 110 | 109 | 108 |
| - IFF12 | - | - | - | 69 | 118 | 117 | 120 | 120 | 119 | 118 | 116 | 116 | 115 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net Income |  |  |  |  |  |  |  |  |  |  |  |  |  |
| - CEC Filing |  |  |  |  |  |  |  |  |  |  |  |  |  |
| High Export Price | 25 | 41 | 57 | 64 | 69 | 75 | 82 | 87 | 91 | 96 | 102 | 109 | 113 |
| Low Export Price | 5 | 6 | 13 | 16 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | 42 |
| - IFF11-2 |  |  | -3 | -42 | -54 | -44 | -25 | -15 | -5 | 5 | 14 | 17 | 27 |
| - IFF12 |  |  |  | -43 | -74 | -65 | -47 | -38 | -31 | -19 | -9 | -12 | -3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sources: | CECFiling | CECs | skwatim | FAAT | W-CA | SOSIN | AT/S/1 |  |  |  |  |  |  |
|  | IFF11-2- | UB/MH |  |  |  |  |  |  |  |  |  |  |  |
|  | IFF12-EX | it34 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## RESPONSE:

Please see the attached revised table for the corrected IFF11-2 Expenses in 2022 (in bold blue font).

## PROJECTED OPERATING STATEMENT - WUSKWATIM PARTNERSHIP

## (\$Millions)

|  | $\underline{2010}$ | $\underline{2011}$ | $\underline{2012}$ | $\underline{2013}$ | $\underline{2014}$ | $\underline{2015}$ | 2016 | $\underline{2017}$ | $\underline{2018}$ | $\underline{2019}$ | 2020 | $\underline{2021}$ | $\underline{2022}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Revenue |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CEC Filing |  |  |  |  |  |  |  |  |  |  |  |  |  |
| High Export Price | 77 | 118 | 129 | 136 | 140 | 146 | 152 | 156 | 160 | 165 | 170 | 176 | 180 |
| Low Export Price | 58 | 84 | 86 | 89 | 91 | 93 | 95 | 97 | 100 | 102 | 105 | 108 | 110 |
| IFF11-2 |  |  | 1 | 57 | 57 | 69 | 90 | 99 | 108 | 117 | 124 | 125 | 133 |
| IFF12 |  |  |  | 26 | 43 | 52 | 72 | 81 | 87 | 99 | 108 | 103 | 112 |
| Expenses |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CEC Filing |  |  |  |  |  |  |  |  |  |  |  |  |  |
| High Export Price | 52 | 78 | 72 | 72 | 71 | 71 | 70 | 69 | 69 | 68 | 68 | 67 | 67 |
| Low Export Price | 53 | 79 | 73 | 73 | 72 | 72 | 71 | 71 | 70 | 70 | 69 | 69 | 68 |
| IFF11-2 |  |  | 5 | 99 | 110 | 113 | 115 | 114 | 113 | 112 | 110 | 109 | 106 |
| IFF12 |  |  |  | 69 | 118 | 117 | 120 | 120 | 119 | 118 | 116 | 116 | 115 |
| Net Income/(Loss) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CEC Filing |  |  |  |  |  |  |  |  |  |  |  |  |  |
| High Export Price | 25 | 41 | 57 | 64 | 69 | 75 | 82 | 87 | 91 | 96 | 102 | 109 | 113 |
| Low Export Price | 5 | 6 | 13 | 16 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | 42 |
| IFF11-2 |  |  | (3) | (42) | (54) | (44) | (25) | (15) | (5) | 5 | 14 | 17 | 27 |
| IFF12 |  |  |  | (43) | (74) | (65) | (47) | (38) | (31) | (19) | (9) | (12) | (3) |

## MANITOBA HYDRO

2012/13 \& 2013/14 ELECTRIC GENERAL RATE APPLICATION

## CONSUMERS ASSOCIATION OF CANADA ("CAC") PRE-ASK QUESTIONS OF MANITOBA HYDRO

## CAC/MH/PRE-ASK-9

Please confirm the calculations presented in Pre-Ask 9 are accurate. If the calculations cannot be confirmed, please provide revised calculations.

|  | CEF-03 | CEF-04 | CEF-05 | CEF-06 | CEF-07 | CEF-08 | CEF-09 | CEF-10 | CEF-11 | CEF-12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wuskwatim G.S. |  | 846 | 935 | 1,094 | 1,275 | 1,275 | 1,275 | 1,275 | 1,375 | 1,449 |
| Wuskwatim Transmission |  | 199 | 200 | 257 | 320 | 316 | 316 | 291 | 298 | 323 |
| Wuskwatim Total Project | 988 | 1,045 | 1,135 | 1,351 | 1,595 | 1,591 | 1,591 | 1,566 | 1,673 | 1,772 |
| Herblet Lake Transmission | 57 | 55 | 54 | 54 | 95 | 93 | 93 | 75 | 75 | 77 |
| Bipole III | 360(E) | 388(E) | 1,880 | 1,880 | 2,248 | 2,248 | 2,248 | 3,280 | 3,280 | 3,280 |
| Riel C.S. | 96 | 101 | 103 | 103 | 105 | 268 | 268 | 268 | 268 | 268 |
| Kelsey G.S. | 121 | 121 | 166 | 166 | 184 | 190 | 190 | 302 | 302 | 302 |
| Kettle G.S. |  | 61 | 61 | 61 | 61 | 76 | 76 | 166 | 166 | 166 |
| Pointe du Bois Improvements and Upgrades | 421 | 288 | 692 | 834 | 818 | 818 |  |  |  |  |
| Pointe du Bois Spillway |  |  |  |  |  |  | 318 | 398 | 398 | 560 |
| Pointe du Bois Trans. |  |  |  |  | 83 | 86 | 86 | 86 | 86 | 86 |
| Pointe du Bois Rebuild |  |  |  |  |  |  |  | 1,538 | 1,538 | 1,538 |
| Slave Falls G.S. |  |  |  | 179 | 192 | 198 | 198 | 223 | 230 | 230 |
| Conawapa G.S. |  | 4,050 | 4,516 | 4,978 | 4,978 | 4,978 | 6,325 | 7,771 | 7,771 | 10,192 |
| Keeyask G.S. |  |  |  |  |  | 3,700 | 4,592 | 5,637 | 5,637 | 6,220 |
| 500 KV Dorsey U.S. Border |  |  |  |  |  | 205 | 205 | 205 | 205 | 205 |
| Sources: $\quad$ PUB/MH I-93 <br> CEF 12 |  |  |  |  |  |  |  |  |  |  |

## Response:

Please see the attached schedule with a minor revision (in blue font) for rounding to the Wuskwatim Total Project amount.

| Progression of Project Costs in \$ M |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | CEF-03 | CEF-04 | CEF-05 | CEF-06 | CEF-07 | CEF-08 | CEF-09 | CEF-10 | CEF-11 | CEF-12 |
| Wuskwatim G.S. |  | 846 | 935 | 1,094 | 1,275 | 1,275 | 1,275 | 1,275 | 1,375 | 1,449 |
| Wuskwatim Transmission |  | 199 | 200 | 257 | 320 | 316 | 316 | 291 | 298 | 323 |
| Wuskwatim Total Project | 988 | 1,045 | 1,135 | 1,351 | 1,595 | 1,591 | 1,591 | 1,566 | 1,673 | 1,771 |
| Herblet Lake Transmission | 57 | 55 | 54 | 54 | 95 | 93 | 93 | 75 | 75 | 77 |
| Bipole III | 360(E) | 388(E) | 1,880 | 1,880 | 2,248 | 2,248 | 2,248 | 3,280 | 3,280 | 3,280 |
| Riel C.S. | 96 | 101 | 103 | 103 | 105 | 268 | 268 | 268 | 268 | 268 |
| Kelsey G.S. | 121 | 121 | 166 | 166 | 184 | 190 | 190 | 302 | 302 | 302 |
| Kettle G.S. |  | 61 | 61 | 61 | 61 | 76 | 76 | 166 | 166 | 166 |
| Pointe du Bois Spillway |  |  |  |  |  |  | 318 | 398 | 398 | 560 |
| Pointe du Bois Trans. |  |  |  |  | 83 | 86 | 86 | 86 | 86 | 86 |
| Pointe du Bois Rebuild | 421 | 288 | 692 | 834 | 818 | 818 |  | 1,538 | 1,538 | 1,538 |
| Slave Falls G.S. |  |  |  | 179 | 192 | 198 | 198 | 223 | 230 | 230 |
| Conawapa G.S. |  | 4,050 | 4,516 | 4,978 | 4,978 | 4,978 | 6,325 | 7,771 | 7,771 | 10,192 |
| Keeyask G.S. |  |  |  |  |  | 3,700 | 4,592 | 5,637 | 5,637 | 6,220 |
| 500 KV Dorsey U.S. Border |  |  |  |  |  | 205 | 205 | 205 | 205 | 205 |


[^0]:    ${ }^{1}$ In September 2010, the Canadian Accounting Standards Board announced that a one-year exception for the implementation of IFRS is available for Rate Regulated Entities.

[^1]:    ${ }^{2}$ Winfrey, Robley. Statistical Analyses of Industrial Property Retirements. Iowa State College, Engineering Experiment Station, Bulletin 125. 1935.
    ${ }^{3}$ Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.
    ${ }^{4}$ Couch, Frank V. B., Jr. "Classification of Type O Retirement Characteristics of Industrial Property." Unpublished M.S. thesis (Engineering Valuation). Library, lowa State College, Ames, Iowa. 1957.
    ${ }^{5}$ Winfrey, Robley, Supra Note 1.
    ${ }^{6}$ Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 2.
    ${ }^{7}$ Wolf, Frank K. and W. Chester Fitch. Depreciation Systems. Iowa State University Press. 1994

[^2]:    ${ }^{1}$ In September 2010, the Canadian Accounting Standards Board announced that a one-year exception for the implementation of IFRS is available for Rate Regulated Entities.

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    ${ }^{3}$ Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.
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    ${ }^{3}$ Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.
    ${ }^{4}$ Couch, Frank V. B., Jr. "Classification of Type O Retirement Characteristics of Industrial Property." Unpublished M.S. thesis (Engineering Valuation). Library, Iowa State College, Ames, Iowa. 1957.
    ${ }^{5}$ Winfrey, Robley, Supra Note 1.
    ${ }^{6}$ Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 2.
    ${ }^{7}$ Wolf, Frank K. and W. Chester Fitch. Depreciation Systems. Iowa State University Press. 1994

[^6]:    ${ }^{1}$ In September 2010, the Canadian Accounting Standards Board announced an optional oneyear deferral for the implementation of IFRS is available for Rate Regulated Entities.

[^7]:    ${ }^{2}$ Winfrey, Robley. Statistical Analyses of Industrial Property Retirements. Iowa State College, Engineering Experiment Station, Bulletin 125. 1935.
    ${ }^{3}$ Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.
    ${ }^{4}$ Couch, Frank V. B., Jr. "Classification of Type O Retirement Characteristics of Industrial Property." Unpublished M.S. thesis (Engineering Valuation). Library, Iowa State College, Ames, Iowa. 1957.
    ${ }^{5}$ Winfrey, Robley, Supra Note 1.
    ${ }^{6}$ Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 2.
    ${ }^{7}$ Wolf, Frank K. and W. Chester Fitch. Depreciation Systems. Iowa State University Press. 1994

[^8]:    ${ }^{1}$ Appendix 5.7-2010 Depreciation Study, page III-8

[^9]:    * The account has no balance as of March 31, 2010 and rate will be used on a go-forward basis for future additions.

[^10]:    * Surviving Original Cost: Total by component for all existing Hydraulic Generating Stations - excludes Lake Winnipeg Regulation, Churchill River Diversion \& Infrastructure assets.

