Interim Additions

As used in life span analysis, additions made subsequent to the year in which the unit was placed in service. Interim additions are not considered in the depreciation computation until they occur.

Interim Retirements

As used in life span analysis, retirements of component parts of a major structure prior to the complete removal of the retirement unit from service. See Final Retirement, Retirement Unit.

Interim Retirement Ratio

The ratio of the interim dollars retired from a group during a period divided by the total dollars in service at the beginning of the period.

Interim Salvage

Salvage received from the disposition of plant as a result of interim retirements.

Iowa Curves

Several families of curve shapes derived empirically from analysis of the mortality data for many different types of industrial property.

Life

A general term, used broadly to refer to the period of time during which depreciable plant is in service. See Average Life, Average Remaining Life, Average Service Life (ASL), Economic Life, Life Characteristics, Life Cycle, Life Indication, Location Life, Probable Life, Realized Life, Service Life, Unrealized Life.

Life Characteristics

A general term to refer to the average life and shape of a survivor curve.

Life Cycle

The state of an asset at every point in time from its inception to termination with the asset passing through identifiable and predictable stages.

Life Indication

A life indicated by analysis of historical property records.

Life Span

The number of years between the year of installation of a major structure unit and its year of final retirement.

Life Table

A tabulation showing the proportion of the original additions surviving at successive ages after placement. See Survivor Curve.

Reserve Ratio

The accumulated depreciation divided by its associated plant balance, expressed as a percentage.

Reserve Requirement

See Theoretical Depreciation Reserve.

Retirement

The sale, abandonment, destruction, or withdrawal of assets from service.

Retirement Dispersion

The distribution of retirements by age. See Retirement Frequency Curve.

Retirement Experience Index (REI)

The REI associated with a retirement dispersion pattern is the percentage of installations from the oldest vintage that would have retired by the end of the most recent year in the chosen band of years if the installations retired according to the specified survivor curve. The higher the REI the more assurance that a unique retirement pattern was used in the SPR simulation.

Retirement Frequency Curve

The retirement frequency curve shows the distribution of the percentage (or number) retired at each age.

Retirement Ratio (Rate)

The ratio of the number of units (or dollars) retired from a group during a period divided by the units (or dollars) in service at the beginning of the period.

Retirement Unit

The largest unit of plant for which addition and retirement records are maintained as defined by the relevant accounting system. See Average Retirement Unit Cost.

Reuse Salvage

The material (as opposed to labor) portion of a retirement, reported as salvage and placed in materials and supplies in anticipation of putting it back into service.

Salvage

See Gross Salvage, Net Salvage.

Service Life

See Life.

Service Value

The original cost of an asset less its estimated net salvage. See Depreciable Base.

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MH/MIPUG/COALITION (LEE)-4

Section:	General	Page No.:	General
Topic:	Expert Qualifications		
Subtopic:			
Issue:			

PREAMBLE TO IR (IF ANY):

QUESTION:

Please provide a summary of the extent to which Ms. Lee has been directly involved in the implementation of IFRS by a public utility. Please indicate if Ms. Lee holds a professional accounting designation.

RATIONALE FOR QUESTION:

Information on Intervener expert qualifications is required in assessing the evidence provided.

RESPONSE:

Ms. Lee has not been directly involved in the implementation of IFRS by a public utility. She is not an accountant and does not proclaim to be one. Ms. Lee's IFRS involvement has been in conversations with FPSC accounting staff and Florida electric company representatives (Florida Power and Light Company and Florida Progress now Duke Florida). The conversations were generalized concerning how Florida companies are dealing with IFRS, are there any potential problems, will regulated utilities be required to comply, etc.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MH/MIPUG/COALITION (LEE)-5

Section:	General	Page No.:	General
Topic:	Expert Qualifications		
Subtopic:			
Issue:			

PREAMBLE TO IR (IF ANY):

QUESTION:

Please provide a list of utilities for which Ms. Lee has performed a comprehensive depreciation study.

RATIONALE FOR QUESTION:

Information on Intervener expert qualifications is required in assessing the evidence provided.

RESPONSE:

Ms. Lee has not performed a comprehensive depreciation study for any utility. That said, Ms. Lee has over 30 years of experience in reviewing, analyzing, and presenting testimony and recommendations on comprehensive depreciation studies filed by Florida telecommunications, electric, and gas companies. In this capacity, Ms. Lee also analyzed and evaluated depreciation methods, procedures, and concepts. The review process included prudency of company planning (including additions and retirements), retirement practices, and basic accounting data used in the developm ent of life characteristics.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

Manitoba Hydro 2014/15, 2015/16 & 2016/17 General Rate Application
COALITION/BOWMAN-5

Chapter:	7		Page No.:	23
Topic:				
Subtopic:				
Issue:				

PREAMBLE TO IR (IF ANY):

Mr. Bowman states:

> Manitoba Hydro's position is that, from an overall fairness perspective, the PUB should consider the impacts of the proposed depreciation changes for rate-setting purposes as a whole rather than focusing only on the change to ELG. However, the PUB must primarily concern itself with ensuring the overall approach is principled and reasonable and results in a fair matching of cost profiles and benefits for ratepayers. From this perspective, the onus is to demonstrate that each method change separately is required for rate regulation purposes, that it **better matches regulatory rate setting concepts** and that it is to the **benefit of rate payers.** (emphasis added)

QUESTION:

a) Taking into account the principal of better matching rate setting concepts and the issue of benefit to rate payers, does Mr. Bowman have an opinion on whether ELG or ASL better meets each of these objectives? If so, please provide your opinion and supporting reasons.

RATIONALE FOR QUESTION:

It is unclear whether Mr. Bowman prefers ASL and if so, why?

Manitoba Hydro 2014/15, 2015/16 & 2016/17 General Rate Application
COALITION/BOWMAN-5

RESPONSE:

(a)

In Mr. Bowman's view, the ASL method better matches regulatory rate setting concepts and better matches the distribution of costs and benefits to ratepayers over time, compared to ELG. This is particularly true for capital intensive assets such as hydro-electric generating stations and transmission lines, and regardless as to the degree of componentization (so long as componentization is sufficiently detailed to meet such standards as the FERC Uniform System of Accounts, which Manitoba Hydro's current accounts far surpass[1]). This is for the following reasons:

1. ASL results in lower depreciation costs in the early years of an asset's life compared to ELG. This is more consistent with the distribution of economic benefits of hydro-electric generation assets, which typically are low in the early years of the asset's life and increase over time.

2. ASL reduces the burden on today's ratepayers during periods of intense capital growth, compared to ELG. This is particularly relevant given that Manitoba Hydro is currently undertaking substantial development of major new hydro-electric generation and transmission assets.

3. ASL more equitably distributes the costs of these new major capital projects over time, compared to ELG.

For these reasons, ASL is used by many public sector utilities in Canada as provided in response to PUB/MIPUG-17.

For further explanation on why ASL better addresses the intergenerational equity issue please review the response to PUB/MIPUG-16.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

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[1] For example, the FERC Uniform System of Accounts has a total of eight components for all hydraulic assets for a single utility. Manitoba Hydro has more than eight accounts for each site and componentizes by site.

Public Utility

Depreciation Practices

August 1996

Compiled and Edited by

Staff Subcommittee on Depreciation of

The Finance and Technology Committee

of the

National Association of Regulatory Utility Commissioners

Published by

FOREWORD

To the National Association of Regulatory Utility Commissioners (NARUC):

In 1937, realization of the importance of depreciation in public utility regulation prompted the National Association of Railroad and Utilities Commissioners to create a Special Committee on Depreciation. In 1939, that Committee was reconstituted under the reissued constitution adopted by the Association and given the status of a standing committee. A series of extended meetings was held by the Committee in the ensuing years, leading to the publication of a comprehensive report in 1943 on the entire subject of depreciation in public utility regulation. That report, an informative text on utility depreciation, was used by regulatory commissions and their staffs for many years and is still referred to today.

In 1961, the duties of the Committee on Depreciation were assigned to the Committee on Engineering, Depreciation and Valuation. Upon further consideration, the Staff Subcommittee on Depreciation was formed in May 1962. In September of that year, the Subcommittee decided to compile a *Manual of Depreciation Practices* using the 1943-44 Report of the NARUC Committee on Depreciation as a base. Emphasis was placed on the development of a manual which would be useful particularly to Commissions and Commission staffs. Work ensued over the next several years, resulting in publication of a manual of *Public Utility Depreciation Practices* in December 1968.

Time has proven the value of the 1968 manual, as it has well served the multitude of regulatory Commissioners and their staffs for many years. In the fall of 1984, however, the NARUC Engineering Committee questioned whether work should commence on revising the 1968 manual. After seeking and receiving input from the state commissions, it was decided to revise the manual and the work was assigned to the Staff Subcommittee on Depreciation. By early 1986 a proposed outline for the revised manual was developed, but work on the project did not begin in earnest until mid-1988. At that time the Staff Subcommittee on Depreciation was composed of the following members:

Darrell A. Baker, Alabama, Chair   William Irby, Virginia
Alyson Anderson, Idaho   Ramesh U. Joshi, California
James J. Augstell, New York   Ben Kitashima, FERC
David J. Berquist, Michigan   Daniel C. McLean, Washington
Jack Butler, Arkansas   Kenneth P. Moran, FCC
Eric de Gruyter, West Virginia   Noel J. Sheehan, IRS
Edward H. Feinstein, FERC   Mark Wilkerson, Florida
Michael J. Gruber, Pennsylvania   Steve Wilt, Oklahoma
E. C. Hostettler, ICC

In late 1988, the first assignments of specific chapters of the manual were made to several Subcommittee members and work on the text commenced. At a Subcommittee meeting in Oklahoma City in June 1989, several key decisions were made regarding the best way to

iv　　　　　　　　　　PUBLIC UTILITY DEPRECIATION PRACTICES

proceed with the project. It was decided that the Subcommittee would meet at least twice a year to ensure that the project would continue to move forward despite the heavy demands on the authors' time caused by the hectic pace of events at their respective Commissions; and an external review committee, consisting of individuals designated by the Society of Depreciation Professionals and an internal review committee, consisting of several Subcommittee members, would review draft chapters once they had been revised in response to Subcommittee members' comments. The internal review committee was comprised of the following members:

> Susan Jensen, Ph.D., STB, Chair
> Fatina K. Franklin, FCC
> William Irby, Virginia
> Ronald Lenart, FERC

　　　In the ensuing years the Subcommittee changed as Commission personnel changed. In August, 1991, following dissolution of the Staff Subcommittee on Engineering (to which this Subcommittee reported), the Staff Subcommittee on Depreciation was given NARUC standing committee status and was directed to report to the Finance and Technology Committee of NARUC.

　　　Following the appointment of Fatina Franklin, of the FCC staff, as Subcommittee Chair in June of 1992, the project moved forward at a steady pace. As decided earlier, the Subcommittee also met twice in 1993 and 1994. Between meetings drafts and rewrites of the text were exchanged among Subcommittee members. In late February 1995, the Subcommittee met for four days in Washington, D.C., followed by lengthy conference calls. At those meetings all of the chapters of the manual were given final review before submission to the National Regulatory Research Institute for final editing.

　　　The Subcommittee on Depreciation wishes to acknowledge the following individuals who authored the various chapters of the manual and its appendices:

> James J. Augstell, New York, now retired
> Darrell A. Baker, Alabama
> David J. Berquist, Michigan
> David M. Birenbaum, Missouri
> Bryan Clopton, FCC
> Fatina Franklin, FCC
> Wade Herriman, FCC
> Richard Huriaux, DOT
> William Irby, Virginia
> Dr. Susan Jensen, Ph.D., STB (formerly ICC)
> Ramesh U. Joshi, California
> Christopher Kotting, Ohio
> Patricia Lee, Florida
> Ronald J. Lenart, FERC, now retired
> Clarence Mougin, Wisconsin
> Steve Wilt, Oklahoma

FOREWARD   V

The Subcommittee on Depreciation also wishes to acknowledge the following individuals who made major contributions toward the editing of the manual:

> Scott Bohler, New York
> Michael Dean, Maryland
> Terry Fowler, Arkansas
> Angelo Rella, New York
> Emmanuel Tzanakis, FERC

The Subcommittee further wishes to express its appreciation to the members of the external review committee who provided valuable assistance and guidance to the Subcommittee:

> Dave Ashbaugh, GTE Telephone Operations North
> Thomas Clark, U S WEST Communications, now retired
> Harold Cowles, Professor Emeritus, Consultant, now retired
> John Ferguson, Deloitte and Touche
> Thomas McKitrick, American Water Works Service Company
> Donald Myers, GTE Service Corporation, now retired
> Joe Poitras, Technology Futures, Inc.
> Branko Terzic, Yankee Energy Systems, Inc. (formerly Comm., FERC)
> Robert Warnek, Consultant, now retired
> Ronald White, Ph.D., Foster Associates, Inc.

Finally, the Subcommittee would like to acknowledge its debt of gratitude to the National Regulatory Research Institute for its invaluable assistance in editing the text, ensuring consistency of presentation, and making publication possible.

Staff Subcommittee On Depreciation:

Fatina K. Franklin, FCC, Chair	Susan Jensen, Ph.D., STB
Patricia Lee, Florida, Vice Chair	Ramesh Joshi U. Joshi, California
Darrell A. Baker, Alabama	Christopher Kotting, Ohio
David J. Berquist, Michigan	Bruce S. Mitchell, Colorado
David Birenbaum, Missouri	Clarence Mougin, Wisconsin
Robert Evans, Georgia	Angelo Rella, New York
Terry Fowler, Arkansas	Thomas Spinks, Washington
Richard D. Huriaux, DOT	Emmanuel Tzanakis, FERC
William Irby, Virginia	Steve Wilt, Oklahoma

COMPUTING DEPRECIATION   61

In utility rate making, the sinking fund (compound interest) method can be applied with either a depreciated or undepreciated rate base. The depreciation expense used with the depreciated rate base is the total accrual of the annuity plus interest. This is sometimes termed the modified sinking fund method. The depreciation expense to be used with the undepreciated rate base is the annuity only. The two results will give the same total cost of service if the interest rate and the rate of return are the same. If an interest rate less than the rate of return is used, only the modified sinking fund method avoids an overallowance for return.

Equalizing return and depreciation under the sinking fund method ignores the many other utility costs which are seldom equal from year to year. Compared to the straight-line method, the sinking fund method produces lower early accruals and higher accruals in the later years. This difference increases with an increase in interest rate. Conversely, sinking fund advocates say that the straight-line method is a sinking fund solution with an interest rate of zero. The heavy accruals due to greater interest toward the end of a property's life can produce wide differences between the accumulated accruals and the cost being recovered if retirements occur only a year or two from the estimated time. In other words, the sinking fund method requires closer accuracy in service life and net salvage estimates.

The sinking fund and related interest methods were widely adopted at the time retirement and replacement accounting were being discontinued. At that time, they caused substantial increases in depreciation expenses for many companies. The sinking fund method is rarely used today due to the advance of tax depreciation, first on a straight-line basis and now with more "liberalized" methods; problems of annuity mathematics; and difficulties of proper accruals near the end of a property's life.

Summary

The straight-line method is almost universally used in the utility rate making process. The particular procedure used will vary depending upon the regulatory jurisdiction involved.

The accelerated methods identified above are not generally used for regulatory purposes. The Internal Revenue Service has permitted their use, and modifications of them, in computing tax depreciation, along with other specialized depreciation procedures for taxes. Interest methods, such as the sinking fund method, are no longer in general use.

Category Grouping Procedures

The group plan of depreciation accounting is particularly adaptable to utility property but raises many questions concerning the makeup of the group or category selected for analysis. Rather than one single group containing all utility plant, each group should contain homogeneous units of plant that are generally alike in character, used in the same manner throughout the plant, and operated under the same general conditions. However, even within the framework of this definition, it must be realized that there will be differences in the lives of the individual units.

Consider the case of poles. Some poles will be retired because of storms or other casualties, some because of public convenience or decay, some because of the substitution of underground for aerial facilities, and many more for a combination of the several causes of retirement. There

62   PUBLIC UTILITY DEPRECIATION PRACTICES

will be a wide dispersion of retirements by age. What then is the proper grouping for a study of poles? Should it be all of the poles owned by the company analyzed en masse? This has not always proven satisfactory because there was a time when it was evident that the life characteristics of untreated poles differed materially from those of treated poles. Accordingly, during the time when untreated poles were substantial in number, it was appropriate to study poles in two separate categories: untreated and treated.

Regardless of which depreciation method is used, several alternatives are available for grouping individual plant units within a depreciation category. The most commonly used grouping procedures are as follows:

1.   The Single Unit. Under this procedure each unit of property is depreciated separately. Because the procedure requires separate record keeping for each unit, it is not practical for most types of property. Thus, it is not widely used by utilities.

2.   The Broad Group. Under this procedure all units of plant within a particular depreciation category, usually a plant account or subaccount, are considered to be one group. The Broad Group is widely used and produces reasonably stable depreciation rates from year to year because of its averaging effects. It is a procedure that requires at least accounting records of annual additions and balances. Retirements by vintage are desirable.

3.   The Vintage Group. Under this procedure each vintage or placement year within the depreciation category is considered to be a separate group. This combines, into one group, all of the poles placed in a single calendar year, or vintage. Even within each vintage group there will be dispersions of retirements by age, due to the many causes of retirements mentioned above. This requires that each vintage group be analyzed separately to determine its average life; all vintages are composited to produce the average service life for the plant class. Then the depreciation rate may be based on this estimated average service life of the units making up the group.

4.   The Equal Life Group (ELG). Under this procedure the plant units are grouped according to their service lives, with the units from each vintage expected to experience the same service life being included in the same life group. This procedure permits accruing the full cost of the shorter-lived units to the depreciation reserve while they are in service. Thus the longer-lived units bear only their own costs. This is accomplished by dividing each vintage group (plant placed in a single year) into smaller groups, each of which is limited to units that are expected to have the same life. This distribution is based on life tables developed from the recorded experience, with respect to the mortality of utility plant. While it is not possible to identify the individual units of plant that will have a given life, it is possible to estimate statistically the number of units or dollars of plant in each equal life group, provided

COMPUTING DEPRECIATION   63

mortality data were accumulated. The prediction of future retirement patterns
is also necessary in application of the vintage group procedure. However,
ELG is much more sensitive to these predictions. ELG may be expected
to produce greater fluctuations in depreciation expense from year to year
than the broad group procedure.

The Broad Group procedure does not require that an assumption be made concerning the
shape of the appropriate survivor curve (see Chapter VI) in the grouping process. However,
Vintage Group, as generally applied, and ELG require such a determination. ELG depends upon
the survivor curve forecast to determine the subgroups. With the FCC's agreement, the ELG
procedure has been widely adopted by telephone companies subject to FCC jurisdiction. Some
of the state commissions, however, have disallowed its use for intrastate rate making on both
practical and technical grounds. The Vintage Group and Equal Life Group procedures are discussed
in more detail in Chapter XII.

Application Techniques

There are two techniques commonly used to determine the depreciation rate to be applied
to a utility's plant depreciation categories: Whole Life and Remaining Life.

Whole Life

The Whole Life technique bases the depreciation rate on the estimated average service
life of the plant category. Whole life depreciation results in the allocation of a gross plant base
over the total life of the investment. However, to the extent that the estimated average service
life assigned turns out to be incorrect, (and precision in these estimates cannot reasonably be expected),
the Whole Life technique will result in a depreciation reserve imbalance. For example, such over-accrual
or under-accrual may remain in the reserve indefinitely unless offset by later overages or underages
in the opposite direction. However, when a depreciation reserve excess or deficiency is reasonably
certain, the Whole Life technique may be modified to include an adjustment to the accrual rate
designed to eliminate the reserve imbalance in the future. For example, a special amortization
of the difference may be allowed.

Remaining Life

The Remaining Life technique seeks to recover the undepreciated original cost less future
net salvage over its remaining life. With this technique, the gross plant less book depreciation
reserve is used as the depreciable cost and the remaining life or future life expectancy is used
in the denominator. The formula is:

64   PUBLIC UTILITY DEPRECIATION PRACTICES

$$D = \frac{B - U - C'}{E} \qquad (11)$$

where D is the depreciation expense or annual accrual
where B is the book cost of the Gross Plant
where U is the book depreciation reserve at start of the year
where C' is the Estimated Future Net Salvage in dollars
where E is the Estimated Average Remaining Life

The following formula is used to arrive at the depreciation rate in percent:

$$\text{depreciation rate } d = \frac{D}{B} \times 100 \qquad (12)$$

This rate may also be derived by dealing entirely in percentages as follows:

$$\text{depreciation rate } d = \frac{100 - u - c'}{E} \qquad (13)$$

GLOSSARY   317

Conformance Index (CI)
A measure of closeness of fit between calculated and actual balances in the Simulated Plant-Record Model. The best fits are those with the highest CIs. The CI equals 1,000 divided by the index of variation (IV). See **Simulated Plant-Record Model (SPR)**.

Continuing Property Record (CPR)
A perpetual collection of essential records showing the detailed original costs, quantities, and locations of plant in service. These records vary in detail depending upon the kind of plant. CPRs are required by most systems of accounts. Generally, a CPR should contain 1) an inventory of property record units which can be readily checked for proof of physical existence, 2) the association of costs with such property record units to ensure accurate accounting for retirements, and 3) the dates of installation and removal of plant to provide data for use in connection with depreciation studies.

Converted Life Table
A life table with the same basic shape as the Graduated Life Table from which it was developed but having whatever average life was specified by the analyst.

Cost of Removal
The costs incurred in connection with the retirement from service and the disposition of depreciable plant. Cost of removal may be incurred for plant that is retired in place. See **Net Salvage**.

Cradle-to-Grave
An accounting method which treats a unit of plant as being in service from the time it is first purchased until it is finally junked or disposed of. Periods in shop for refurbishing, and in stock awaiting reinstallation are included in the service life. See, in contrast, **Location Life.**

Depletion
The loss of service value incurred in connection with the exhaustion of a natural resource in the course of service.

Depreciable Base
The cost of plant in service which is allocable to expense during the service life of the property through the depreciation process.

Depreciable Plant
Plant in service for which it is proper to allocate the original cost to annual expense through the depreciation process. Items such as land and plant under construction are not considered depreciable.

318   PUBLIC UTILITY DEPRECIATION PRACTICES

Depreciation

As applied to the depreciable plant of utilities, the term depreciation means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes that are known to be in current operation, against which the company is not protected by insurance, and the effect of which can be forecast with reasonable accuracy. Among the causes to be considered are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and the requirement of public authorities.

Depreciation Accounting

The process of charging the book cost of depreciable property, adjusted for net salvage, to operations over its useful life. See Depreciable Base, Service Value.

Depreciation Accruals

The amount of depreciation expense during each period of an asset's life. The amount is developed by applying a depreciation rate to the appropriate depreciation base. Depreciation accruals are charged to depreciation expense accounts or clearing accounts and credited to the accumulated depreciation account.

Depreciation Base

The cost of depreciable plant to which the depreciation rate is applied to compute the amount of depreciation expense. Under a cost basis method the depreciation base is the original cost of the depreciable plant.

Depreciation Expense

The periodic charge to expense to allocate the cost of depreciable plant over the expected service life of the plant. See Depreciation Accruals, Accumulated Depreciation Account.

Depreciation Rate

The rate applied to the depreciation base to determine the amount of depreciation expense for an accounting period.

Depreciation Reserve

See Accumulated Depreciation Account.

Direct Weighting

The process of computing the weighted average of a set of numbers by multiplying each by its corresponding weight, and then dividing the sum of the products by the sum of the weights.

Economic Depreciation

The change in economic value of an asset from one time period to the next.

Economic Life

The total revenue producing life of an asset.

GLOSSARY

Simulated Plant-Record Model (SPR)
A trial-and-error model used to estimate the average service life of a depreciable group. The SPR model simulates retirements and the resultant plant balances for combinations of standardized survivor curves and average service lives and compares the results to the historical data until a good match is found.

Sinking Fund Method
Under this method the depreciation accrual is comprised of two parts: an annuity and interest on the accumulated depreciation. As compared with the straight-line method, the sinking fund method produces lower early accruals and higher accruals in the latter part of the service life.

Statistical Aging
See **Computed Mortality**.

Straight-Line Method
A depreciation method by which the service value of plant is charged to depreciation expense (or a clearing account) and credited to the accumulated depreciation account through equal annual charges over its service life. See **Depreciation Rate**.

Survivor Curve
A plot representing the percent surviving at each age.

Survival Ratio
The ratio of the number of units (or dollars) surviving in a group at the end of a period to the number of units (or dollars) in the group at the beginning of that period. The ratio is equal to one minus the retirement ratio. See **Proportion Surviving**.

T-cut
A truncation of the observed life table values which is generally used in a mathematical fitting of a curve to the observed values.

Theoretical Depreciation Reserve
The calculated balance that would be in the accumulated depreciation account at a point in time using current depreciation parameters, such as average service and net salvage. Also known as "reserve requirement" or "calculated accumulated depreciation (CAD)." See **Accumulated Depreciation Account**.

Turnover Methods
Methods of estimating service life based on the time it takes the plant to "turn over," that is, the time it takes for the actual retirements to exhaust a previous plant balance. See **Computed Mortality**.

326   PUBLIC UTILITY DEPRECIATION PRACTICES

Total Life
A term sometimes used to represent the sum of the age and the remaining life. Not to be confused with average service life.

Type Curves
Generalized survivor curve families, for example, Iowa, h, and Bell curves.

Unit Depreciation Procedure
The depreciation procedure in which each plant unit (retirement unit) is accounted for individually in the depreciation process, as compared to "group" depreciation procedure.

Unit of Production Method
A straight-line depreciation method that allocates the depreciable base to expense on a "use" or production basis using, for example, miles, megawatt-hours, or cubic feet, as opposed to allocation of the depreciable base over the average service life in years.

Unit Summation Procedure
See Equal Life Group.

Units of Property
The terms in which quantities of plant are expressed, for example, dollars, poles, sheath-feet, lines, ...

Unrealized Life
That portion of the average life of a vintage group expected to be realized subsequent to the study date. Realized life plus unrealized life equals the vintage group average life.

Vintage Group
Plant placed in service during the same year. See Vintage Year.

Vintage Average Life—Equal Life Group Procedure
The average life of a vintage is calculated by dividing the number of surviving units or dollars in the vintage by the sum of the accrual weights, i.e., investment divided by life) for all of the surviving equal life groups.

Vintage Average Life—Vintage Group Procedure
The average life of a vintage is calculated by dividing the total unit-years or dollar-years lived during the total life of the vintage by the original number of units or dollars in the vintage.

Vintage Group Procedure
Under this procedure each vintage within the depreciation category is considered to be a separate group. This requires that each vintage group be analyzed separately to determine its average life, and then the average lives of all vintages are composited to produce the average service life for the plant class.

Manitoba Hydro 2015/16 & 2016/17 General Rate Application
PUB/MIPUG/COALITION (LEE)-6

Chapter:	P. Lee Direct Testimony	Page No.:	14 Lines 1-3
Topic:	Depreciation & Amortization		
Subtopic:			
Issue:	ELG VS ASL		

PREAMBLE TO IR:

QUESTION:

a) Please provide a listing of U.S. electric generation companies that utilized ASL for depreciation purposes.

b) Please provide examples of electric utilities which maintain two sets of books: one for regulatory reporting and another for financial reporting and the reasons for the divergent practice.

RATIONALE FOR QUESTION:

RESPONSE:

(a)

The following list is by no means exhaustive but is what could be ascertained in a short period of time to be responsive to this request. As stated, the question asks for historic practice. To be responsive, most of the U.S. electric generation companies have utilized ASL for depreciation practices.

Currently, some companies use the ASL procedure for all accounts, some use a combination of the ASL procedure and remaining life technique, some use the ASL procedure plus a remaining life reserve correction (a whole life depreciation rate plus a

reserve imbalance correction over the remaining life – sometimes referred to as modified whole life).

- Florida Progress

- Florida Power and Light

- Consumers Energy

- Baltimore Gas & Electric

- Gulf Power

- Northern Utilities

- Idaho Power Company

- Tampa Electric

(b)

Florida Power and Light Company and Florida Progress (Duke Florida). The Florida Commission ordered that the quantified reserve surplus be 1) transferred to correct account reserve deficiencies, 2) applied to offset increased depreciation expenses. Ms. Lee understands that these companies reflected the regulatory differences on the financial books.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

Manitoba Hydro 2014/15, 2015/16 & 2016/17 General Rate Application
COALITION/BOWMAN-7

Chapter:	7.1	Page No.:	26
Topic:			
Subtopic:			
Issue:			

PREAMBLE TO IR (IF ANY):

Mr. Bowman states:

> Other utilities with gas and coal generators were initially hesitant about increased costs to dismantle as well but are finding that there is inherent value in these sites as many utilities have converted steam plants to gas without going through a massive dismantlement (i.e. they are not as costly as predicted).

QUESTION:

a) Please provide illustrative examples to support this statement.

RATIONALE FOR QUESTION:

To test the basis for Mr. Bowman's statement.

RESPONSE:

(a)

Mr. Bowman's statement reflects in part discussions with Patricia Lee, who has more direct experience with reuse of thermal generating sites. Reuse of existing sites for major generating assets (hydro or thermal) is often preferable to returning the site to a greenfield state and constructing new assets elsewhere. The reasons for this were articulated by KPMG during a review of depreciation methods for Newfoundland and Labrador Hydro:

**Manitoba Hydro 2014/15, 2015/16 & 2016/17 General Rate Application
COALITION/BOWMAN-7**

When a major asset is replaced by a new asset of the same nature at the same site (rather than abandoned), site restoration or rehabilitation is not required. The existing site will still be occupied by the new asset (most likely in an upgraded or improved form). Salvage will include the removal costs of the asset that is replaced, which will normally take place as part of the construction activities related to the new asset. In most cases it would actually be quite hard to separate the costs of the two activities.

In the case of negative net salvage the rationale for this treatment is the assumption that any such salvage is most likely to be offset by construction cost savings attributable to the fact that the site has been previously occupied by a similar asset.[1]

Part of the rationale for these decisions reflects the presence of transmission infrastructure, communities who have experience with the vicinity of generating stations, or existing licenses. For example, Mr. Bowman is familiar with a number of recent examples such as the recent addition of a 100 MW turbine unit by Newfoundland and Labrador Hydro at the existing Holyrood Generating Station Site. The 1,500 MW oil fired Holyrood station is scheduled to be largely decommissioned within 10 years, but despite this new generation in the form a 100 MW turbine is being installed at the same site in order to provide for reliability in the long-term.

A hydroelectric-related recent example is the redevelopment of the Bluefish hydroelectric generating station in the Northwest Territories, where an existing facility was at end-of-life and was refurbished rather than decommissioning the existing site and developing an alternative project at another location.[2]

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

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[1] 1998 KPMG Depreciation Policy Study for Newfoundland and Labrador Hydro. Provided in the response to Consumer.
Advocate Information Request CA-NLH-32 from the 2012 Depreciation Methodology Review.
http://www.pub.nf.ca/applications/NLH2012Depreciation/files/rfi/CA-NLH-032.pdf.
[2] Discussed further during the 2012/13 & 2013/14 GRA hearing by Patrick Bowman in direct testimony with Mr. Antoine Hacault, January 23, 2013, pages 535-5362.

Manitoba Hydro 2015/16 & 2016/17 General Rate Application
PUB/MIPUG/COALITION (LEE)-2

Chapter:	P. Lee Direct Testimony	Page No.:	3 Line 8
Topic:	ELG vs. ASL		
Subtopic:			
Issue:	Characteristics of Depreciation Methodology		

PREAMBLE TO IR:

QUESTION:

a) With respect to each of the characteristics listed, please summarize in a table whether ASL or ELG meets each of the characteristics with reasons.

RATIONALE FOR QUESTION:

RESPONSE:

(a)

ASL meets each of the characteristics listed on page 3, lines 8-14; in its pure form, ELG does also. The pure form of ELG means that a separate ELG rate is designed for each age of each vintage, vintage actuarial plant and reserve data are required to be maintained, and an annual monitoring and reserve true-up is developed each year to measure any over or under recovery. MH does not appear to be proposing implementing ELG in its pure form but rather some hybrid form. A retirement pattern and life are applied to the plant balance of each vintage. The retirement pattern and life for ELG are statistically developed in the same way as they are for ASL. In ELG though, the retirement pattern and life separates each vintage into hypothetical equal life

groups. Hypothetical in the sense that the equal life groups are formed based on the selected retirement pattern and life that may or may not reflect how those particular assets have been living, or are expected to live in the future. Because of how the equal life groups are formed, the physical units in each equal life group cannot be identified. The statistical estimation simply establishes the number of units or dollars in each equal life group. This is one reason why it is critical to have vintage plant data if the theoretically correct ELG is to be implemented. The table below explains why ASL or ELG meets the characteristics listed on page 3.

	ASL	ELG	Reasons
Matching costs with benefits	Yes, if there is a reserve true-up as part of each category's depreciation rate.	Theoretically yes if rates are established for each age of each vintage, if vintage plant and reserve data are maintained, and if there is an annual expense and reserve true-up. However, MH is not proposing to implement the theoretically correct ELG in which a separate ELG rate is developed for each age; it is proposing a composite ELG rate for all vintages of the entire account/category/component. It is therefore not clear whether MH's hybrid ELG rate will match costs with benefits.	Theoretically correct ELG is not practical to implement. The administrative and regulatory costs to maintain vintage plant and reserve data, to annually monitor each vintage for over or under recovery, and to maintain separate ELG rates for each age have not been quantified nor considered by MH to determine whether the costs of implementation outweigh the benefits of the mechanism. Both ASL and ELG will recover the total investment in the category/account/component over the period the related assets are serving the public, if there is a reserve true-up added and if all the requisite ELG requirements are met. Under the original ELG concept, separate annual monitoring of the vintage plant activity and the vintage reserve level is required. This is necessary so that any over or under

	ASL	ELG	Reasons
			recovery can be measured and an end-of-year depreciation expense and reserve correction for each vintage can be made. The over or under recovery is due to projected life patterns not being realized. For ASL, a reserve imbalance can be calculated and a true-up can be made at the time depreciation rates are reviewed and revised. Certainly ELG is more aggressive than ASL in the earlier years. Given that MH's assets are capital intensive, very long lived (some in excess of 100 years), and increase not decrease in economic value as they age, MH's hybrid form of ELG may not match costs with benefits.
Avoiding intergenerational equity issues	Yes, with a reserve true-up as implemented by MH. Over the life of the property group, full	Theoretically yes, if implemented on a going-forward basis to new additions, if ELG rates are established for each age of each vintage, if vintage plant and reserve data are maintained, and if there is	Reserve imbalances, to the extent they exist, represent a failure in the past to recover. They can and will occur under either ASL or ELG to the extent that the plant under study does not live in accord with the

Manitoba Hydro 2015/16 & 2016/17 General Rate Application
PUB/MIPUG/COALITION (LEE)-2

	ASL	ELG	Reasons
	recovery will be achieved.	an annual monitoring and reserve true-up provision. However, MH is proposing a hybrid form of ELG where a single composite ELG rate is developed for the entire account/category/component investment. Applying ELG to embedded plant investments creates intergenerational inequities by assuming that ELG has always been the applied procedure. Depreciation rates are designed and implemented on a prospective basis. Logic dictates that a change in depreciation procedure also be implemented prospectively. The MH 2005 depreciation study indicated that vintage plant data is not maintained; aged data was simulated so statistical techniques could be used as though the data were in fact actual. This is another reason that the hybrid ELG rates, if	selected curve shape (retirement pattern) and life estimate. Reserve true-ups are necessary to correct these intergenerational inequities and to provide full recovery. If ELG is to meet the alleged characteristic of being the best mechanism for matching depreciation expenses (recovery) to the using up of the related assets (consumption), then the ability to measure that recovery and consumption is critical for each vintage to which ELG is applied. That measurement can only theoretically be made if the age of the assets which have retired during any given year (vintage actuarial data) is known. To the extent the investment/age mix of plant retiring during a year does not equal the amount of retirements at the age/mix predicted under the ELG rates, there has been an over or under recovery.

	ASL	ELG	Reasons
		approved, should be implemented on a going forward basis for new additions. The embedded should be subject to ASL with a reserve adjustment. The embedded balance will decrease over time and ultimately be fully recovered and retired.	Without methods and procedures to monitor and analyze the data within each group of property required in using ELG and without detailed information by vintage for each category, the PUB and other interested parties will not be in a position to review life estimates or to determine depreciation expense applicable to that plant used in providing service. Regulatory review ensuring there has not been any under or over recovery of investment through the depreciation rates cannot be assured. A major disadvantage of ELG is with the administrative costs of maintaining the requisite vintage data and performing the annual reviews and reserve true-ups. MH has not quantified these costs. If MH claims that vintage plant and reserve data, a separate ELG rate for each age of each vintage, and an annual reserve

	ASL	ELG	Reasons
			true-up rate are too costly and burdensome for it to maintain, then the resulting lives and depreciation rates simply reflect a mathematical exercise with no real added precision. At that point the hybrid ELG is no better than any other procedure.
			With a prospective application, vintage reserve data should be required to be maintained so that an annual reserve true-up for ELG vintages can be made as needed.
Transparency of method, calculations, intentions, and resulting expenses for use in setting customer rates	Yes. The same ASL depreciation rate is applied to each vintage of each account. In this way each vintage is treated as though it will experience the life of the group.	Theoretically yes, if a separate ELG rate is established for each age of each vintage, and vintage plant and reserve data are maintained. However, MH proposes a hybrid ELG rate that does not meet this characteristic.	Most of the calculations in developing the ELG rate are done within the computer. The reason for this is the voluminous number of rates to track for each vintage. A separate ELG rate is calculated for each age of each vintage. Over a period of three years, this equates to three separate ELG rates for each account/category/component. Over a period of 10 years, this would be

Manitoba Hydro 2015/16 & 2016/17 General Rate Application
PUB/MIPUG/COALITION (LEE)-2

	ASL	ELG	Reasons
			10 separate ELG rates for each account/category/component for each age plus an additional annual reserve true-up rate. In order to reduce the number of separate rates for each vintage, the mathematics is performed within the computer and the process simplified by developing one ELG rate representing the composite of the separate ELG rates for each age within an account/category/component. Thus, one hybrid ELG rate would apply to the account/category/component rather than a different rate for each age of each vintage. Application of a composite rate is not the same and does not yield the same expenses as applying separate ELG rate for each age to the investment surviving at that age. ASL is based on the concept of averages for the group (account/category/component) as a

May 12, 2015

Page 9

Manitoba Hydro 2015/16 & 2016/17 General Rate Application
PUB/MIPUG/COALITION (LEE)-2

	ASL	ELG	Reasons
			whole. Some assets within the group will live shorter than the average life while others may live longer than the average life. The life pattern is not necessarily representative of any vintage, but is intended to reflect the average pattern expected from the entire group. Within the group, any given year of activity may experience more or less retirements than indicated by the curve shape. By the very nature of a group, there can be a variation of service lives among the contained items. A major disadvantage of ELG is with the administrative costs of maintaining the requisite vintage data and performing the annual reviews and reserve true-ups. These costs have not been quantified. If vintage plant and reserve data, a separate ELG rate for each age of each vintage, and an annual reserve true-up rate are too costly and

	ASL	ELG	Reasons
			burdensome for a company to maintain, then the resulting lives and depreciation rates simply reflect a mathematical exercise with no real added precision. In which case, simply accept ELG as a mechanism to increase cash flow and forget the purist argument of ideally matching recovery with consumption.
Quality of data in determining an appropriate retirement pattern and life	Yes. Vintage data is not requisite for ASL because the account is not divided. ASL assumes that some items in the group will live longer than the average life while others will live shorter but the account as a whole will live the average.	Theoretically yes if adequate data is available for the proper application of ELG and if recordkeeping and reporting practices will enable monitoring the reasonableness of the rate of allocation of original cost. According to MH's 2014 depreciation study, it does not have vintage data for many of its accounts.	For ELG to meet the alleged characteristic of being the best mechanism for matching depreciation expenses (recovery) to the using up of the related assets (consumption), then the ability to measure that recovery and consumption is critical for each vintage to which ELG is applied. That measurement can only theoretically be made if the age of the assets which have retired during any given year (vintage actuarial data) is known. To the extent the investment/age mix of plant retiring during a year does not equal the

	ASL	ELG	Reasons
			amount of retirements at the age/mix predicted under the ELG rates, there has been an over or under recovery. Without methods and procedures to monitor and analyze the data within each group of property required in using ELG and without detailed information by vintage for each category, the PUB and other interested parties will not be in a position to review life estimates or to determine depreciation expense applicable to that plant used in providing service. Regulatory review ensuring there has not been any under or over recovery of investment through the depreciation rates cannot be assured.
			While vintage data would be advantageous using the ASL method, it is not a critical requirement because the concept is based on averages.
			A disadvantage of ELG is with the

	ASL	ELG	Reasons
			increased administrative costs of maintaining the requisite vintage data and performing the annual reviews and reserve true-ups. These costs have not been quantified. It cannot be said whether taking into consideration these costs would be less costly or more costly than MH's estimated $2 million to additionally componentize for ASL to be compliant with IFRS. [If MH estimates costs of maintaining vintage plant and reserve data, a separate ELG rate for each age of each vintage, and an annual reserve true-up rate are too costly and burdensome then there is essentially no added benefit or accuracy changing to a new depreciation procedure. ELG rates will be the result of a mathematical exercise with no real added precision. The purist argument for ELG of ideally matching recovery with consumption

**Manitoba Hydro 2015/16 & 2016/17 General Rate Application
PUB/MIPUG/COALITION (LEE)-2**

	ASL	ELG	Reasons
			will not exist.] An advantage of using ASL is the simplicity of the approach and wide acceptance.

RATIONALE FOR REFUSAL TO FULLY ANSWER THE QUESTION:

CAMPUT

30 August 2013

Attention: Mr. Hans Hoogervorst
Chair, International Accounting Standards Board
30 Cannon Street
London EC4M6XH
United Kingdom

Dear Mr. Hoogervorst:

Re: Exposure Draft ED/2013/5 Regulatory Deferral Accounts

CAMPUT, Canada's Energy and Utility Regulators, appreciates this opportunity to respond to the International Accounting Standards Board's (the IASB's) Exposure Draft Regulatory Deferral Accounts (the "Exposure Draft" or "interim Standard").

CAMPUT consists of the following fourteen federal, provincial, territorial rate regulators of electricity and natural gas in Canada[1]:

- Alberta Utilities Commission
- British Columbia Utilities Commission
- Manitoba Public Utilities Board
- National Energy Board
- New Brunswick Energy and Utilities Board
- Newfoundland & Labrador Board of Commissioners of Public Utilities
- Northwest Territories Public Utilities Board
- Nova Scotia Utility and Review Board
- Nunavut Utility Rates Review Council
- Ontario Energy Board
- Prince Edward Island - Island Regulatory and Appeals Commission
- Régie de l'énergie du Québec
- Saskatchewan Rate Review Panel
- Yukon Utilities Board

The objectives for the above regulatory bodies of electricity and gas sectors, among others, include protecting the interests of consumers with respect to prices and the adequacy, reliability and quality of services and promoting economic efficiency and cost effectiveness in the generation, transmission, and distribution of electricity, gas and oil. To serve the public interest and to maintain financial viability of the regulated companies are the key common, high-level objectives of the Canadian rate regulators. The Canadian rate regulators' comments in this document, unless otherwise specified, relate to rate-

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[1] Some of the Canadian regulatory agencies also regulate oil pipelines, water and sewer utilities and other non-utility mandates.

regulated companies that are first time adopters of IFRS, since the scope of the Exposure Draft has been limited to these entities. Overall, all the Canadian rate regulators strongly support the interim Standard and the IASB's proposals contained in the Exposure Draft for regulatory deferral accounts. The Canadian rate regulators endorse the IASB's initiative to enable rate-regulated utilities to continue to recognize regulatory balances in their financial statements. The chairs of these regulatory commissions and boards have approved the contents of this comment letter and considered it very important that the interim Standard be put in place.

We are encouraged to observe that the IASB will permit rate-regulated utilities to apply financial accounting policies for financial reporting that are similar to those determined by rate regulators for the purposes of rate-making. We applaud the IASB's effort in developing the draft interim Standard to reduce uncertainty until the IASB completes its Comprehensive Rate-regulated accounting project. It is our position that it would be a significant detriment to rate-regulated utilities in Canada, their rate-setting authorities, and their investors and financers if the interim Standard was not to be adopted in substantially the form proposed. The reasons for our position to fully support the interim Standard are explained in the following paragraphs using the IASB's Effects Analysis, as outlined in the Exposure Draft. We have also provided additional comments in the Appendix to this letter in response to the ten questions from the IASB.

In evaluating the likely effects of permitting rate-regulated entities that are first-time adopters of IFRS to continue to recognize regulatory deferral account balances, IASB has considered the following factors in its Effects Analysis:[2]

a) How the proposed changes to the presentation of regulatory deferral account balances affect the financial statements of a rate-regulated entity.

We strongly endorse the IASB's statement "A number of rate-regulatory methodologies exist and, for each, application can vary by rate regulator, the entity that is being regulated and the particular circumstances. The objective of many methodologies is to set 'just and reasonable' rates, in other words, rates that balance both customer and investor interests. Rate regulators that use such methodologies establish rates that charge customers a fair price and are reasonably stable from year to year. At the same time, these rate regulators wish to ensure that the entity that is providing the regulated goods or services **remains financially viable**. Consequently, they may set rates to not only recover the costs of providing the goods or services, but also to provide a fair return to the entity's owners [emphasis added in bold]."[3]

We agree with the IASB that "regardless of the regulatory methodology that is used, the economic reality of an entity with operations that are subject to rate regulation is shaped in part by the actions of its rate regulator. By restricting prices, rate regulation can affect the amount and timing of the entity's revenues and cash flows, thereby affecting its financial position and performance."[4] We support the IASB's observation that "the nature and extent of rate regulation can have **a significant impact on the amount and timing of revenue and cash flows of a rate-regulated entity** [emphasis added in bold]".[5] We endorse the IASB's position that "discontinuing the recognition of regulatory deferral account

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[2] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC70, page 45.
[3] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC23, page 33.
[4] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC27, page 34.
[5] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC66, page 44.

balances in advance of the comprehensive Rate-regulated Activities project could be a significant barrier to the adoption of IFRS for those entities for which **regulatory deferral account balances represent a significant proportion of net assets** [emphasis added in bold]".[6] As noted by the IASB, because of significant impact on the amount and timing of revenue and cash flows of a rate-regulated entity and because of significance of deferral account balances, rate regulators need to ensure the entity that is providing the regulated goods or services remains financially viable. This is part of the objective of setting just and reasonable rates for rate-regulated utilities. We note that IASB has acknowledged these considerations throughout the Exposure Draft as benefit drivers for developing the proposed interim Standard in order to remove a major barrier to the adoption of IFRS for many rate-regulated entities.[7,8]

The interim Standard resolves one major problem for entities with rate-regulated operations. Our observation is that, without the interim Standard, these rate-regulated entities will be required to provide two sets of financial statements, as has happened in some other jurisdictions and as was acknowledged by the IASB[9]: one to meet general purpose financial reporting requirements under IFRS; and, the other to present to the rate regulator for purpose of (i) requesting rate adjustments, (ii) regulatory accounting and rate-making, and (iii) regulatory reporting. As regulators, we find it unsatisfactory and not serving the public interest if there are two views of economic reality of entities with rate-regulated operations. Rate regulators are aware that their actions have significant economic impact, including investment, lending and consumer prices. The IASB has acknowledged that many of rate-regulated entities argue that recognizing such balances as assets and liabilities would provide more relevant information and would be a more representationally faithful way of reporting their rate-regulated activities.[10] Some of these utilities had to eliminate regulatory deferral account balances from the statement of financial position when they adopted IFRS and do not recognize such balances in IFRS financial statements. It behooves the accounting profession to find the appropriate ways to ensure all economic events are reflected in the base numbers reported in general purpose financial statements. Requiring rate-regulated entities to leave certain economic events outside the purview of the financial statements, or at best relegated to note disclosure, is not good enough for regulatory actions that affect prices. Furthermore, exclusion of certain economic events would not serve the needs of users of the financial statements.

Finally on this point, the results of having two views will add confusion and unnecessary complexity and higher cost to the rate-regulated entities and their customers such as maintaining two sets of books. Furthermore, the investors or the lenders of the rate-regulated entities will find it confusing to decide which set of financial statements to use when monitoring financial performance to judge the financial soundness of the enterprises. The IASB's proposed interim Standard addresses the above concerns. Therefore, we support the IASB's development and application of the interim Standard.

b) *Whether those changes improve the comparability of financial information between different reporting periods for a rate-regulated entity and between different rate-regulated entities in a particular reporting period.*

On this point, we fully support the IASB's views and reasons that the interim Standard will help achieve the following two stated IASB's objectives:

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[6] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC15, page 31.

[7] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC20, page 32.

[8] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC70, page 45.

[9] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC84, page 48.

[10] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC10, page 30.

(a) "enhance the comparability of financial reporting by reducing barriers to the adoption of IFRS by entities with rate-regulated activities until guidance is developed through the IASB's comprehensive Rate-regulated Activities project; and

(b) ensure that users of financial statements will be able to identify clearly the amounts of regulatory deferral account balances, and movements in those balances, in order to be able to compare the financial statements of entities that recognize such balances in accordance with this [draft] interim Standard against the financial statements of entities that do not recognize such balances." [11]

Contrary to the views of Messrs. Gomes and Zhang, we believe that the objectives of general purpose financial reporting and regulatory reporting are not competing with each other; rather they are complementary, and therefore must be integrated to better serve the public interest and all users of the financial statements of entities with rate-regulated operations. The interim Standard will help bring the financial statements closer to the economic reality of the rate-regulated entities. We agree with the IASB that the interim Standard will improve the comparability between different reporting periods for a rate-regulated entity and between different rate-regulated entities in a particular reporting period. Our position is that IASB's proposed changes to recognize valuing and reporting regulatory deferral account balances not only enhance the comparability of information within the general financial statements, but also, they offer transparency of financial information to the users. Thus, the proposed changes by the IASB are vital to the credibility and usefulness of any financial statements that are prepared for the users.

c) *Whether the changes will improve the quality of the financial information that is available to investors and its usefulness in assessing the future cash flows of a rate-regulated entity.*

As one of the key users of financial statements, the lending and investment communities of the rate-regulated utilities will be most negatively impacted if regulatory deferral account balances are not recognized and reported in the rate-regulated utilities' financial statements.

Our position is that the IASB's interim Standard will improve the quality of the financial information that is available to investors and its usefulness in assessing the future cash flows of a rate-regulated entity. This is due to the fact that recognition of regulatory deferral accounts in the financial statements will increase transparency related to:

- "the amounts that the rate regulator decides are included as allowable costs when determining the customer rates and the amounts that eventually are recognized through the entity's statement of profit or loss and other comprehensive income for financial reporting purposes;"[12] and

- "all of the entity's expenditures that could have a significant effect on rates are usually subject to a prudency review by the rate regulator. This includes expenditures for the construction of property, plant and equipment and some intangible assets." [13]

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[11] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, page 5.
[12] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC27, page 34.
[13] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC27(b), page 34.

We note that interim Standard states that "If a single cause has a significant effect on a regulatory deferral account balance, the entity shall disclose it separately"[14] and "when an entity concludes that a regulatory deferral account balance is no longer fully recoverable, it shall disclose that fact, the reason why it is not recoverable and the amount by which the regulatory deferral account balance has been reduced."[15] First, such transparency and availability of the financial information to lenders and investors will permit them to clearly note the facts, assess possible risks, and determine if the amounts reported in the financial statements are fairly and appropriately represented. Furthermore, having the financial information disclosed in financial statements is useful to investors and lenders because it provides them with a higher level of relevancy, reliability, and accuracy of information related to the recoverability of the amounts. Finally, transparency regarding financial information arising from rate-regulated activities will allow these users to make consistent apples to apples comparisons among these entities and make informed decisions.

We believe that the public interest is impaired by the fact that the transparency that exists today under current Generally Accepted Accounting Principles for these key users of the financial statements could be diminished in absence of the recognition of regulatory deferral accounts. Rate-regulated entities are capital intensive and require substantial financing. It is quite possible that a lack of transparency in how regulatory deferral account balances are reported and disclosed could lead to a higher risk assessment (lower credit rating) and therefore increased financing costs. This may further lead to higher costs to rate-regulated utilities, the lending and investing communities, and rate payers because of a false perception of increased risks.

d) Whether users will benefit from better economic decision-making as a result of improved financial reporting.

Rate regulation can significantly affect the economic environment of rate-regulated entities and their operations. The IASB has also noted this by stating "the nature and extent of rate regulation can have a significant impact on the amount and timing of revenue and cash flows of a rate-regulated entity. Hence, the IASB concluded that such disclosures should be part of the financial statements and that they could be given either in the financial statements or incorporated by cross-reference from the financial statements to some other statement that is available to users of the financial statements on the same terms as the financial statements and at the same time. IASB has also stated that this approach is consistent with certain risk disclosures required by IFRS 7 *Financial Instruments: Disclosures.*"[16]

We agree with the IASB that proposed changes and especially the improvements in comparability noted in paragraphs BC76–BC77, compared to the current IFRS standards will provide all users of financial statements including rate-regulated enterprises, the preparers of statements, the lenders and investors, the regulator, and the rate payers with relevant and reliable information to help them better understand the impact of rate regulation on rate-regulated entities and make informed decisions. The interim Standard can help improve the communication of relevant information for users of financial statements, rather than leaving it to the users to identify the nature and extent that rate-regulation can have on the amount and timing of revenue and cash flows arising from rate-regulated entities' activities. As the economic rate regulators who use and rely on the audited financial statements, we recognize the

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[14] Draft International Financial Reporting Standard - Regulatory Deferral Accounts, paragraph 28, page 16.
[15] Draft International Financial Reporting Standard - Regulatory Deferral Accounts, paragraph 33, page 17.
[16] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC66, page 44.

significance of the interim Standard to our rate making decision process. In the absence of regulatory deferral accounts under IFRS, the interim Standard will provide temporary relief to enable the public to discern that the Regulators have set just and reasonable rates for rate-regulated entities, and monitor their financial performance.

e) The likely effect on compliance costs for preparers, both on initial application and on an ongoing basis; and whether the likely costs of analysis for users are affected.

IASB has rightfully determined that the likely effect of these proposals on the costs of analysis for users of financial statements is expected to be outweighed by the benefits of improved reporting. It stated that the proposals should have little or no impact on the net assets or on the net profit reported in the financial statements of those entities within the scope of the draft interim Standard.[17]

In summary, we support the IASB's decision to prioritize the issues related to rate-regulated activities through the interim Standard. We believe that the IASB's proposed interim Standard begins to address our concerns and resolves the uncertainty and apparent exclusion of rate-regulated activities from IFRS compliant financial statements that would otherwise occur. We view the IASB's interim Standard as a means to align financial reporting with the regulatory rate-making and regulatory accounting and reporting.
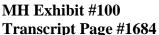
Attached are our responses to the questions in the invitation to comment. If you require any further information, please contact me at the telephone number below or at rochefort@camput.org.

Yours very truly,

Terry Rochefort
Executive Director, CAMPUT
Telephone: +1 905 827-5139

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[17] Exposure Draft – ED/2013/5, Regulatory Deferral Accounts, paragraph BC72, page 46.

ELECTRIC GENERAL RATE APPLICATION 2015

Manitoba Hydro Undertaking #32

Manitoba Hydro to provide retirement data in each category set out in the asset condition report under distribution.

Response:

Following a review of transcript pages 1683 – 1684, Manitoba Hydro has interpreted the undertaking to be a request for information relating to the quality of Manitoba Hydro's asset retirement data, rather than the data itself. The following response addresses the quality of Manitoba Hydro's asset retirement data.

Manitoba Hydro has full and complete asset accounting data for 365 of 397 (94%) asset component groups. This includes original investment (plant additions) by installation year, and for all retirements, the year of retirement and the original year of installation or acquisition.   This information is complete for all generation, transmission line, HVDC substation, communication, general buildings, motor vehicles, general equipment and IT systems, as well as some distribution asset components (ground line treatment, electronic equipment).

For the remaining 22 asset component groups (6%), Manitoba Hydro's asset accounting data contains full continuity of original investment by year of installation/acquisition and year of retirement. These component groups fall within the AC substation, distribution and easement categories. For retirement transactions the original year of installation has been estimated in one of two ways:

- For 12 of these asset component groups, Manitoba Hydro has been able to either determine the age distribution of the underlying population of equipment, or has been able to determine original installation year for a large enough sample to support Gannett Fleming's life analysis. For eight asset component groups, age information has been used to determine the original installation date of retired investment. For distribution meters and metering transformers, original installation year is known for assets retired since 2004. For distribution concrete duct line, the year of acquisition for retired assets is known as these assets were acquired from Winnipeg Hydro, or were constructed by Manitoba Hydro subsequent to the acquisition.

- For the remaining 10 asset component groups, IOWA curve based statistical processes have been used to determine the original installation year for retirement transactions.

As indicated on page 60 of Manitoba Hydro Exhibit #75, the financial asset accounting system records investment by asset component group rather than for individual pieces of

equipment. As there is a many to one relationship between the asset categories identified in the Asset Condition Assessment Report versus the asset component groups used for depreciation purposes, it is not possible to identify the financial asset records applicable to each of the asset categories identified in the report.

▲Manitoba
Hydro

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21a

Section:	Appendix 5.6 Depreciation Study	Page No.:	
Topic:	Depreciation		
Subtopic:	Asset Accounts Illustration		
Issue:			

PREAMBLE TO IR (IF ANY):

As requested in MIPUG/MH I-15q from the 2012/13 and 2013/14 General Rate Application MIPUG would like to compare the ASL and ELG approach, as well as the 2010 Depreciation Study to the 2014 Depreciation Study using the following illustrative example.

QUESTION:

Please provide the ELG approach to the calculations for annual and accrued depreciation and the composite remaining life for accounts 1175D – Spillway and 2000L – Overhead Conductor and Devices.

RATIONALE FOR QUESTION:

To review the 2014 Depreciation Study and implications on rate payers.

RESPONSE:

The following response and tables were provided by Gannett Fleming.

Please refer to **Attachment 1** which provides the detailed Whole Life calculation incorporating the ELG procedure for Accounts **1175D – Spillway and 2000L – Overhead Conductor and Devices**. Please also refer to **Attachment 2** which provides for a Remaining Life Calculation incorporating the ELG Procedure for the same 2 accounts.

Please note that in the currently filed depreciation study the remaining life calculations used in the determination of the Accumulated Depreciation True-Up were calculated using the ASL procedure. The composite remaining life calculations produced by the ASL procedure are based on detailed calculation of the estimated remaining life of each vintage from the age

of the vintage to the maximum life of the Iowa curve. It is widely accepted[1] that this calculation provides the most appropriate composite remaining life estimate for the purposes of developing an accumulated depreciation true-up calculation, when the ELG procedure is used for the determination of the Calculated Accumulated Depreciation and Annual Accrual amounts (as is the process used in the current depreciation filing). However, to be responsive to this specific information request, the remaining life calculations incorporating the ELG procedure are provided as Attachment 2 to this response.

The following provides a brief description of the calculations included in each of the columns on the 2 Attachments:

Calculations related to the Whole Life Determinations of Annual and Accrued Depreciation - ELG Procedure (Attachment 1):

The values for each installation vintage as indicated in **column (3) Annual Accrual Rate** and **column (5) Accrued Depreciation Factor** are determined in accordance with the formula provided in "Depreciation of Group Properties – Engineering Research Institute Bulletin 155" by Robley Winfrey, Iowa State University, Engineering Research Institute, Ames, Iowa an excerpt of which is provided in MIPUG/MH-I-21(c) Attachment 1. Please note that the Equal Life Group procedure was originally known as the unit of summation procedure, as such the relevant discussion in the provided excerpt is a discussion related to the Unit Summation procedure.

The figures in **column (4) Annual Accrual Amount** and in **column (6) Accrued Depreciation Amount** for each installation vintage of the attached Whole Life Calculations are based on **Annual Depreciation Rates** and **Accrued Depreciation Factors** as provided in **columns (3) and (5)**, multiplied by the **Original Cost** as provided in **column (2)**.

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[1] As originally ordered by the Alberta Energy and Utilities Board in Decision E82131, dated June 21, 1982. This process has been upheld in a number of subsequent Alberta and other North American jurisdictions since 1982.

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21a

Calculations related to the Determination of Composite Remaining Life - ELG Procedure (Attachment 2):

The information used in the depreciation study from the detailed remaining life calculations as provided in Attachment 2 is the composite remaining life, as indicated in the line **"Composite Remaining Life and Annual Accrual Rate, Percent"**. The following is a discussion of the remaining information.

Column (3) – Calculated Accrued Depreciation – is taken from the schedule of Calculated Annual and Accrued Depreciation (Attachment 1) **column (6) Accrued Depreciation Amount.**

Column (4) - Allocated Book Reserve - the total amount of allocated book reserve is determined from the company's actual financial sub-ledgers. The total amount by account (i.e. 1175D) is allocated to each vintage based on the calculated accrued depreciation amount for each vintage as a percentage of the total account calculated accrued depreciation. For example the Allocated Booked Reserve for the installation year of 1991 is determined as follows: ($25,512,545/$61,904,239)*$60,573,556. Where the $60,573,556 is based on a known amount from the company's accumulated depreciation sub-ledger.

Column (5) - Future Book Accruals - is determined by subtracting the **Allocated Book Reserve (column 4)** from the **Original Cost (column 2)**. For example the future book accruals for the 1991 installation year are determined as follows: $80,430,469 - $24,964,132.

Column (6) – Expected Remaining Life – The remaining life values for each installation vintage as indicated in column (6) is calculated as originally published in 1942 in the publication "Depreciation of Group Properties – Engineering Research Institute Bulletin 155" by Robley Winfrey, Iowa State University, Engineering Research Institute, Ames, Iowa an excerpt of which from Bulletin 155 is provided in MIPUG/MH - I-21(c) Attachment 1.

Column (7) - Annual Accrual – is calculated as **Future Book Accruals column (5) / Expected Remaining Life column (6).**

Attachment 1(Page 1 of 3)

MANITOBA HYDRO
ACCOUNT 1175D - SPILLWAY
CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

YEAR	ORIGINAL COST	--ANNUAL RATE	ACCRUAL-- AMOUNT	--ACCRUED FACTOR	DEPREC.-- AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)

INTERIM SURVIVOR CURVE.. IOWA 80-R3
PROBABLE RETIREMENT YEAR.. 3-2131
NET SALVAGE PERCENT. 0

YEAR	ORIGINAL COST	--ANNUAL RATE	ACCRUAL-- AMOUNT	--ACCRUED FACTOR	DEPREC.-- AMOUNT
1991	80,430,469.28	1.35	1,085,811.34	0.3172	25,512,545
1992	80,430,469.28	1.36	1,093,854.38	0.3060	24,611,724
1993	40,215,234.64	1.36	546,927.19	0.2924	11,758,935
2007	68,329.54	1.42	970.28	0.1065	7,277
2008	94,022.89	1.42	1,335.13	0.0923	8,678
2010	2,246.89	1.43	32.13	0.0644	145
2012	110,825.32	1.45	1,606.97	0.0362	4,012
2013	30,591.49	1.46	446.64	0.0219	670
2014	34,191.02	1.49	509.45	0.0074	253
	201,416,380.35		2,731,493.51		61,904,239

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.36

Manitoba Hydro

**Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21a**

Attachment 1 (Page 2 of 3)

MANITOBA HYDRO
ACCOUNT 2000L - OVERHEAD CONDUCTOR AND DEVICES
CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

YEAR (1)	ORIGINAL COST (2)	--ANNUAL RATE (3)	ACCRUAL-- AMOUNT (4)	--ACCRUED FACTOR (5)	DEPREC.-- AMOUNT (6)
SURVIVOR CURVE.. IOWA 80-R4					
1911	123,750.00	0.93	1,150.88	0.9626	119,122
1923	49,408.75	1.01	499.03	0.9242	45,664
1926	62,927.80	1.04	654.45	0.9204	57,919
1927	314,857.21	1.04	3,274.51	0.9100	286,520
1928	39,363.53	1.05	413.32	0.9082	35,750
1930	522,063.55	1.07	5,586.08	0.9042	472,050
1931	1,500,000.00	1.07	16,050.00	0.8934	1,340,100
1939	446.20	1.13	5.04	0.8532	381
1946	1,053.27	1.17	12.32	0.8014	844
1948	596.21	1.18	7.04	0.7847	468
1949	418,369.50	1.18	4,936.76	0.7729	323,358
1950	512,241.27	1.19	6,095.67	0.7676	393,196
1951	411,102.89	1.19	4,892.12	0.7556	310,629
1952	623,756.54	1.20	7,485.08	0.7500	467,817
1953	181,384.93	1.20	2,176.62	0.7380	133,862
1955	214,207.13	1.21	2,591.91	0.7200	154,229
1956	1,017,464.20	1.22	12,413.06	0.7137	726,164
1957	244,145.73	1.22	2,978.58	0.7015	171,268
1958	11,557.33	1.23	142.16	0.6950	8,032
1959	45,931.38	1.23	564.96	0.6826	31,353
1960	9,105.00	1.24	112.90	0.6758	6,153
1961	1,267,042.44	1.24	15,711.33	0.6634	840,556
1962	2,202,708.81	1.24	27,313.59	0.6510	1,433,963
1963	110,859.67	1.25	1,385.75	0.6438	71,371
1964	76,762.00	1.25	959.52	0.6312	48,452
1965	1,325,873.24	1.26	16,706.00	0.6237	826,947
1966	577,503.19	1.26	7,276.54	0.6111	352,912
1967	10,483,558.18	1.26	132,092.83	0.5985	6,274,410
1968	749,644.48	1.27	9,520.48	0.5906	442,740
1969	1,855,561.71	1.27	23,565.63	0.5778	1,072,144
1970	1,174,482.85	1.27	14,915.93	0.5652	663,818
1971	54,721,422.77	1.28	700,434.21	0.5568	30,468,888
1972	3,539,695.96	1.28	45,308.11	0.5440	1,925,595
1973	1,861,760.33	1.28	23,830.53	0.5312	988,967
1974	3,183,230.44	1.29	41,063.67	0.5224	1,662,920
1975	3,554,160.95	1.29	45,848.68	0.5096	1,811,200
1976	3,033,727.44	1.29	39,135.08	0.4966	1,506,549
1977	5,239,870.90	1.29	67,594.33	0.4838	2,535,050
1978	2,634,319.79	1.30	34,246.16	0.4745	1,249,985
1979	545,339.94	1.30	7,089.42	0.4615	251,674
1980	6,789,595.83	1.30	88,264.75	0.4485	3,045,134
1981	436,619.15	1.30	5,676.05	0.4355	190,148
1982	4,360,183.93	1.30	56,682.39	0.4225	1,842,178
1983	84,846.80	1.31	1,111.49	0.4126	35,008
1984	362,239.79	1.31	4,745.34	0.3996	144,751
1985	22,101,743.98	1.31	289,532.85	0.3864	8,540,114

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Manitoba Hydro

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21a

Attachment 1 (Page 3 of 3)

MANITOBA HYDRO
ACCOUNT 2000L - OVERHEAD CONDUCTOR AND DEVICES
CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

YEAR (1)	ORIGINAL COST (2)	--ANNUAL RATE (3)	ACCRUAL-- AMOUNT (4)	--ACCRUED FACTOR (5)	DEPREC.-- AMOUNT (6)
SURVIVOR CURVE.. IOWA 80-R4					
1986	19,805.94	1.31	259.46	0.3734	7,396
1987	13,031.21	1.31	170.71	0.3602	4,694
1988	421,948.99	1.31	5,527.53	0.3472	146,501
1989	6,521,525.36	1.31	85,431.98	0.3340	2,178,189
1990	9,394,025.98	1.32	124,001.14	0.3234	3,038,028
1991	2,614,779.67	1.32	34,515.09	0.3102	811,105
1992	4,328,653.33	1.32	57,138.22	0.2970	1,285,610
1993	2,462,562.70	1.32	32,505.83	0.2838	698,875
1994	1,868,678.63	1.32	24,666.56	0.2706	505,664
1995	4,369,494.93	1.32	57,677.33	0.2574	1,124,708
1996	445,858.55	1.32	5,885.33	0.2442	108,879
1997	18,660,182.46	1.32	246,314.41	0.2310	4,310,502
1998	14,863,385.61	1.32	196,196.69	0.2178	3,237,245
1999	16,578,859.10	1.32	218,840.94	0.2046	3,392,035
2000	3,712,975.08	1.32	49,011.27	0.1914	710,663
2001	11,382,677.70	1.32	150,251.35	0.1782	2,028,393
2002	13,719,505.57	1.32	181,097.47	0.1650	2,263,718
2003	13,309,103.13	1.33	177,011.07	0.1530	2,036,293
2004	6,697,745.21	1.33	89,080.01	0.1396	935,005
2005	6,403,901.14	1.33	85,171.89	0.1264	809,453
2006	2,931,026.30	1.33	38,982.65	0.1130	331,206
2007	16,187,690.22	1.33	215,296.28	0.0998	1,615,531
2008	4,354,802.49	1.33	57,918.87	0.0864	376,255
2009	1,921,712.98	1.33	25,358.78	0.0732	140,669
2010	2,176,207.62	1.33	28,943.56	0.0598	130,137
2011	3,618,821.74	1.33	48,130.33	0.0466	168,637
2012	13,678,028.71	1.33	181,917.78	0.0332	454,111
2013	24,764,704.69	1.33	329,370.57	0.0200	495,294
2014	3,812,324.46	1.33	50,703.92	0.0066	25,161
	349,810,506.49		4,569,630.17		106,680,310

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.31

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21a

Attachment 2 (Page 1 of 3)

MANITOBA HYDRO
ACCOUNT 1175D - SPILLWAY
CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. RESERVE (4)	FUTURE ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIM SURVIVOR CURVE.. IOWA 80-R3						
PROBABLE RETIREMENT YEAR.. 3-2131						
1991	80,430,469.28	25,512,545	24,964,132	55,466,337	50.58	1,096,606
1992	80,430,469.28	24,611,724	24,082,675	56,347,794	51.03	1,104,209
1993	40,215,234.64	11,758,935	11,506,167	28,709,068	52.03	551,779
2007	68,329.54	7,277	7,120	61,210	62.92	973
2008	94,022.89	8,678	8,492	85,531	63.92	1,338
2010	2,246.89	145	142	2,105	65.43	32
2012	110,825.32	4,012	3,925	106,900	66.47	1,608
2013	30,591.49	670	656	29,935	66.99	447
2014	34,191.02	253	247	33,944	66.62	510
	201,416,380.35	61,904,239	60,573,556	140,842,824		2,757,502

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 51.1 1.37

Manitoba Hydro

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21a

Attachment 2 (Page 2 of 3)

MANITOBA HYDRO
ACCOUNT 2000L - OVERHEAD CONDUCTOR AND DEVICES
CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 80-R4						
1911	123,750.00	119,122	123,750			
1923	49,408.75	45,664	49,409			
1926	62,927.80	57,919	62,928			
1927	314,857.21	286,520	314,857			
1928	39,363.53	35,750	39,364			
1930	522,063.55	472,050	522,064			
1931	1,500,000.00	1,340,100	1,500,000			
1939	446.20	381	446			
1946	1,053.27	844	1,053			
1948	596.21	468	596			
1949	418,369.50	323,358	418,370			
1950	512,241.27	393,196	512,241			
1951	411,102.89	310,629	411,103			
1952	623,756.54	467,817	623,757			
1953	181,384.93	133,862	181,385			
1955	214,207.13	154,229	214,207			
1956	1,017,464.20	726,164	1,017,464			
1957	244,145.73	171,268	244,146			
1958	11,557.33	8,032	11,470	87	24.80	4
1959	45,931.38	31,353	44,772	1,159	25.80	45
1960	9,105.00	6,153	8,787	318	26.15	12
1961	1,267,042.44	840,556	1,200,316	66,726	27.15	2,458
1962	2,202,708.81	1,433,963	2,047,703	155,006	28.15	5,506
1963	110,859.67	71,371	101,918	8,942	28.50	314
1964	76,762.00	48,452	69,190	7,572	29.50	257
1965	1,325,873.24	826,947	1,180,883	144,990	29.87	4,854
1966	577,503.19	352,912	503,959	73,544	30.87	2,382
1967	10,483,558.18	6,274,410	8,959,875	1,523,683	31.87	47,809
1968	749,644.48	442,740	632,234	117,410	32.24	3,642
1969	1,855,561.71	1,072,144	1,531,025	324,537	33.24	9,763
1970	1,174,482.85	663,818	947,934	226,549	34.24	6,617
1971	54,721,422.77	30,468,888	43,509,656	11,211,767	34.62	323,852
1972	3,539,695.96	1,925,595	2,749,755	789,941	35.62	22,177
1973	1,861,760.33	988,967	1,412,248	449,512	36.62	12,275
1974	3,183,230.44	1,662,920	2,374,654	808,576	37.02	21,842
1975	3,554,160.95	1,811,200	2,586,399	967,762	38.02	25,454
1976	3,033,727.44	1,506,549	2,151,356	882,371	39.02	22,613
1977	5,239,870.90	2,535,050	3,620,058	1,619,813	40.02	40,475
1978	2,634,319.79	1,249,985	1,784,982	849,338	40.42	21,013
1979	545,339.94	251,674	359,391	185,949	41.42	4,489
1980	6,789,595.83	3,045,134	4,348,460	2,441,136	42.42	57,547
1981	436,619.15	190,148	271,532	165,087	43.42	3,802
1982	4,360,183.93	1,842,178	2,630,635	1,729,549	44.42	38,936
1983	84,846.80	35,008	49,992	34,855	44.84	777
1984	362,239.79	144,751	206,705	155,535	45.83	3,394
1985	22,101,743.98	8,540,114	12,195,306	9,906,438	46.84	211,495

Manitoba Hydro **Manitoba Hydro 2014/15 & 2015/16 General Rate Application**
MIPUG/MH-I-21a

Attachment 2 (Page 3 of 3)

MANITOBA HYDRO

ACCOUNT 2000L - OVERHEAD CONDUCTOR AND DEVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL

RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 80-R4						
1986	19,805.94	7,396	10,562	9,244	47.83	193
1987	13,031.21	4,694	6,703	6,328	48.84	130
1988	421,948.99	146,501	209,204	212,745	49.83	4,269
1989	6,521,525.36	2,178,189	3,110,460	3,411,065	50.84	67,094
1990	9,394,025.98	3,038,028	4,338,312	5,055,714	51.26	98,629
1991	2,614,779.67	811,105	1,158,260	1,456,520	52.26	27,871
1992	4,328,653.33	1,285,610	1,835,855	2,492,798	53.26	46,804
1993	2,462,562.70	698,875	997,995	1,464,568	54.26	26,992
1994	1,868,678.63	505,664	722,090	1,146,589	55.26	20,749
1995	4,369,494.93	1,124,708	1,606,086	2,763,409	56.26	49,119
1996	445,858.55	108,879	155,480	290,379	57.26	5,071
1997	18,660,182.46	4,310,502	6,155,409	12,504,773	58.26	214,637
1998	14,863,385.61	3,237,245	4,622,795	10,240,591	59.26	172,808
1999	16,578,859.10	3,392,035	4,843,835	11,735,024	60.26	194,740
2000	3,712,975.08	710,663	1,014,829	2,698,146	61.26	44,044
2001	11,382,677.70	2,028,393	2,896,551	8,486,127	62.26	136,301
2002	13,719,505.57	2,263,718	3,232,595	10,486,911	63.26	165,775
2003	13,309,103.13	2,036,293	2,907,832	10,401,271	63.68	163,337
2004	6,697,745.21	935,005	1,335,190	5,362,555	64.69	82,896
2005	6,403,901.14	809,453	1,155,901	5,248,000	65.68	79,903
2006	2,931,026.30	331,206	472,963	2,458,063	66.69	36,858
2007	16,187,690.22	1,615,531	2,306,982	13,880,708	67.68	205,093
2008	4,354,802.49	376,255	537,293	3,817,509	68.69	55,576
2009	1,921,712.98	140,669	200,876	1,720,837	69.68	24,696
2010	2,176,207.62	130,137	185,836	1,990,372	70.69	28,156
2011	3,618,821.74	168,637	240,814	3,378,008	71.68	47,126
2012	13,678,028.71	454,111	648,471	13,029,558	72.69	179,248
2013	24,764,704.69	495,294	707,281	24,057,424	73.68	326,512
2014	3,812,324.46	25,161	35,930	3,776,394	74.69	50,561
	349,810,506.49	106,680,310	151,380,725	198,429,781		3,448,992

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 57.5 0.99

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21b

Section:	Appendix 5.6 Depreciation Study	Page No.:	
Topic:	Depreciation		
Subtopic:	Asset Accounts Illustration		
Issue:			

PREAMBLE TO IR (IF ANY):

QUESTION:

Please provide the same for the ASL approach (without any net salvage provision).

RATIONALE FOR QUESTION:

To review the 2014 Depreciation Study and implications on rate payers.

RESPONSE:

The following response and tables were provided by Gannett Fleming.

Please refer to **Attachment 1** which provides the detailed Whole Life calculation incorporating the ASL procedure for Accounts **1175D – Spillway and 2000L – Overhead Conductor and Devices**. Please also refer to **Attachment 2** which provides for a Remaining Life Calculation incorporating the ASL Procedure for the same 2 accounts.

The following provides a brief description of the calculations included in each of the columns on the 2 Attachments:

**Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21b**

Calculations related to the Whole Life Determinations of Annual and Accrued Depreciation - ASL Procedure (Attachment 1):

Column (3) - Average Life - represents the average life expectancy for the respective installation year.

It should be noted that account 1175D is subject to an expected retirement year, and as such, the average service life in the attached excerpt has been modified to reflect the truncation of the Iowa curve as at the end of the year 2131.

Column (4) – Annual Accrual Rate - The figures in **column (4)** are calculated as (1/Average Service Life column 3).

Column (5) – Annual Accrual Amount – is calculated as **Original Cost (column 2)** multiplied by the **Annual Accrual rate (column 4).**

Column (6) - Expectancy (Remaining Life) for each installation vintage is based on the age of the installation vintage expressed as a percentage of the age to the average life estimate. The specific values for each age interval were originally published in 1935 in the publication "Statistical Analysis of Industrial Property Retirements - Engineering Research Institute Bulletin 125 by Robley Winfrey, Iowa State University, Engineering Research Institute, Ames, Iowa an excerpt of which from Bulletin 125 is provided in MIPUG/MH – I-21(c), Attachment 2.

It should be noted that account 1175D is subject to an expected retirement year, and as such, the formulae provided in the attached excerpt have been modified to reflect the truncation of the Iowa curve as at the end of the year 2131.

Column (7) – Accrued Depreciation Factor – for each vintage is determined in accordance with the formula provided in the 1935 publication, "Statistical Analysis of Industrial Property Retirements - Engineering Research Institute Bulletin 125 by Robley Winfrey, Iowa State University, Engineering Research Institute, Ames, Iowa an excerpt of which from Bulletin 125 is provided in MIPUG/MH – I-21(c), Attachment 2.

Column (8) – Accrued Depreciation Amount – is calculated as **Original Cost (column 2)** multiplied by the **Annual Depreciation Factor (column 7).**

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21b

Calculations related to the Determination of Composite Remaining Life - ASL Procedure (Attachment 2):

Column (3) – Calculated Accrued Depreciation – is taken from the schedule of Calculated Annual and Accrued Depreciation (Attachment 1) **column (8) Accrued Depreciation Amount.**

Column (4) - Allocated Book Reserve - the total amount of allocated book reserve is determined from the company's actual financial sub-ledgers. The total amount by account (i.e. 1175D) is allocated to each vintage based on the calculated accrued depreciation amount for each vintage as a percentage of the total account calculated accrued depreciation. For example the Allocated Booked Reserve for the installation year of 1991 is determined as follows: ($22,631,525/$54,741,751)*$60,573,556. Where the $60,573,556 is based on a known amount from the company's accumulated depreciation sub-ledger.

Column (5) - Future Book Accruals - is determined by subtracting the **Allocated Book Reserve (column 4)** from the **Original Cost (column 2)**. For example the future book accruals for the 1991 installation year are determined as follows: $80,430,469 - $25,042,530.

Column (6) – Expected Remaining Life - The remaining life for each installation vintage as indicated in column (6) is based on the age of the installation vintage expressed as a percentage of the age to the average life estimate. The specific values for each age interval were originally published in 1935 in the publication "Statistical Analysis of· Industrial Property Retirements - Engineering Research Institute Bulletin 125 by Robley Winfrey, Iowa State University, Engineering Research Institute, Ames, Iowa an excerpt of which from Bulletin 125 is provided in MIPUG/MH – I-21(c), Attachment 2.

It should be noted that account 1175D is subject to an expected retirement year, and as such, the formulae provided in the attached excerpt have been modified to reflect the truncation of the Iowa curve as at the end of the year 2131.

Column (7) – Annual Accrual – is calculated as the **Future Book Accruals column (5) /** the **Remaining Life column (6).**

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21b

Attachment 1(Page 1 of 3)

MANITOBA HYDRO
ACCOUNT 1175D - SPILLWAY
CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
INTERIM SURVIVOR CURVE.. IOWA 80-R3							
PROBABLE RETIREMENT YEAR.. 3-2131							
1991	80,430,469.28	80.00	1.25	1,005,380.87	57.49	0.2814	22,631,525
1992	80,430,469.28	80.00	1.25	1,005,380.87	58.41	0.2699	21,706,575
1993	40,215,234.64	80.00	1.25	502,690.43	59.34	0.2583	10,385,584
2007	68,329.54	79.98	1.25	854.12	72.64	0.0918	6,271
2008	94,022.89	79.98	1.25	1,175.29	73.61	0.0796	7,488
2010	2,246.89	79.96	1.25	28.09	75.54	0.0553	124
2012	110,825.32	79.93	1.25	1,385.32	77.47	0.0308	3,411
2013	30,591.49	79.90	1.25	382.39	78.43	0.0184	563
2014	34,191.02	79.88	1.25	427.39	79.39	0.0061	210
	201,416,380.35			2,517,704.77			54,741,751

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.25

Manitoba Hydro

**Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21b**

Attachment 1(Page 2 of 3)

MANITOBA HYDRO
ACCOUNT 2000L - OVERHEAD CONDUCTOR AND DEVICES
CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 80-R4							
1911	123,750.00	80.00	1.25	1,546.88	4.14	0.9483	117,346
1923	49,408.75	80.00	1.25	617.61	7.43	0.9071	44,820
1926	62,927.80	80.00	1.25	786.60	8.38	0.8953	56,336
1927	314,857.21	80.00	1.25	3,935.72	8.71	0.8911	280,576
1928	39,363.53	80.00	1.25	492.04	9.06	0.8868	34,906
1930	522,063.55	80.00	1.25	6,525.79	9.80	0.8775	458,111
1931	1,500,000.00	80.00	1.25	18,750.00	10.20	0.8725	1,308,750
1939	446.20	80.00	1.25	5.58	14.01	0.8249	368
1946	1,053.27	80.00	1.25	13.17	18.33	0.7709	812
1948	596.21	80.00	1.25	7.45	19.68	0.7540	450
1949	418,369.50	80.00	1.25	5,229.62	20.37	0.7454	311,844
1950	512,241.27	80.00	1.25	6,403.02	21.07	0.7366	377,327
1951	411,102.89	80.00	1.25	5,138.79	21.78	0.7278	299,180
1952	623,756.54	80.00	1.25	7,796.96	22.49	0.7189	448,406
1953	181,384.93	80.00	1.25	2,267.31	23.21	0.7099	128,762
1955	214,207.13	80.00	1.25	2,677.59	24.69	0.6914	148,099
1956	1,017,464.20	80.00	1.25	12,718.30	25.44	0.6820	693,911
1957	244,145.73	80.00	1.25	3,051.82	26.20	0.6725	164,188
1958	11,557.33	80.00	1.25	144.47	26.97	0.6629	7,661
1959	45,931.38	80.00	1.25	574.14	27.75	0.6531	29,999
1960	9,105.00	80.00	1.25	113.81	28.54	0.6433	5,857
1961	1,267,042.44	80.00	1.25	15,838.03	29.34	0.6333	802,355
1962	2,202,708.81	80.00	1.25	27,533.86	30.15	0.6231	1,372,552
1963	110,859.67	80.00	1.25	1,385.75	30.97	0.6129	67,944
1964	76,762.00	80.00	1.25	959.52	31.79	0.6026	46,258
1965	1,325,873.24	80.00	1.25	16,573.42	32.63	0.5921	785,076
1966	577,503.19	80.00	1.25	7,218.79	33.47	0.5816	335,887
1967	10,483,558.18	80.00	1.25	131,044.48	34.32	0.5710	5,986,112
1968	749,644.48	80.00	1.25	9,370.56	35.18	0.5603	419,988
1969	1,855,561.71	80.00	1.25	23,194.52	36.05	0.5494	1,019,408
1970	1,174,482.85	80.00	1.25	14,681.04	36.93	0.5384	632,318
1971	54,721,422.77	80.00	1.25	684,017.78	37.81	0.5274	28,858,984
1972	3,539,695.96	80.00	1.25	44,246.20	38.70	0.5163	1,827,368
1973	1,861,760.33	80.00	1.25	23,272.00	39.60	0.5050	940,189
1974	3,183,230.44	80.00	1.25	39,790.38	40.51	0.4936	1,571,306
1975	3,554,160.95	80.00	1.25	44,427.01	41.42	0.4823	1,713,994
1976	3,033,727.44	80.00	1.25	37,921.59	42.34	0.4708	1,428,127
1977	5,239,870.90	80.00	1.25	65,498.39	43.26	0.4593	2,406,411
1978	2,634,319.79	80.00	1.25	32,929.00	44.19	0.4476	1,179,174
1979	545,339.94	80.00	1.25	6,816.75	45.12	0.4360	237,768
1980	6,789,595.83	80.00	1.25	84,869.95	46.06	0.4243	2,880,486
1981	436,619.15	80.00	1.25	5,457.74	47.01	0.4124	180,053
1982	4,360,183.93	80.00	1.25	54,502.30	47.96	0.4005	1,746,254
1983	84,846.80	80.00	1.25	1,060.58	48.91	0.3886	32,973
1984	362,239.79	80.00	1.25	4,528.00	49.87	0.3766	136,427
1985	22,101,743.98	80.00	1.25	276,271.80	50.83	0.3646	8,058,738

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Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21b

Attachment 1(Page 3 of 3)

MANITOBA HYDRO
ACCOUNT 2000L - OVERHEAD CONDUCTOR AND DEVICES
CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 80-R4							
1986	19,805.94	80.00	1.25	247.57	51.79	0.3526	6,984
1987	13,031.21	80.00	1.25	162.89	52.76	0.3405	4,437
1988	421,948.99	80.00	1.25	5,274.36	53.73	0.3284	138,560
1989	6,521,525.36	80.00	1.25	81,519.07	54.70	0.3163	2,062,432
1990	9,394,025.98	80.00	1.25	117,425.32	55.68	0.3040	2,855,784
1991	2,614,779.67	80.00	1.25	32,684.75	56.66	0.2918	762,862
1992	4,328,653.33	80.00	1.25	54,108.17	57.64	0.2795	1,209,859
1993	2,462,562.70	80.00	1.25	30,782.03	58.62	0.2673	658,120
1994	1,868,678.63	80.00	1.25	23,358.48	59.61	0.2549	476,289
1995	4,369,494.93	80.00	1.25	54,618.69	60.59	0.2426	1,060,127
1996	445,858.55	80.00	1.25	5,573.23	61.58	0.2303	102,659
1997	18,660,182.46	80.00	1.25	233,252.28	62.57	0.2179	4,065,681
1998	14,863,385.61	80.00	1.25	185,792.32	63.56	0.2055	3,054,426
1999	16,578,859.10	80.00	1.25	207,235.74	64.55	0.1931	3,201,709
2000	3,712,975.08	80.00	1.25	46,412.19	65.54	0.1808	671,120
2001	11,382,677.70	80.00	1.25	142,283.47	66.54	0.1683	1,915,136
2002	13,719,505.57	80.00	1.25	171,493.82	67.53	0.1559	2,138,597
2003	13,309,103.13	80.00	1.25	166,363.79	68.53	0.1434	1,908,259
2004	6,697,745.21	80.00	1.25	83,721.82	69.52	0.1310	877,405
2005	6,403,901.14	80.00	1.25	80,048.76	70.52	0.1185	758,862
2006	2,931,026.30	80.00	1.25	36,637.83	71.51	0.1061	311,041
2007	16,187,690.22	80.00	1.25	202,346.13	72.51	0.0936	1,515,492
2008	4,354,802.49	80.00	1.25	54,435.03	73.51	0.0811	353,262
2009	1,921,712.98	80.00	1.25	24,021.41	74.51	0.0686	131,868
2010	2,176,207.62	80.00	1.25	27,202.60	75.51	0.0561	122,129
2011	3,618,821.74	80.00	1.25	45,235.27	76.50	0.0438	158,323
2012	13,678,028.71	80.00	1.25	170,975.36	77.50	0.0313	427,438
2013	24,764,704.69	80.00	1.25	309,558.81	78.50	0.0188	464,338
2014	3,812,324.46	80.00	1.25	47,654.06	79.50	0.0063	23,827
	349,810,506.49			4,372,631.36			101,020,885

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.25

Manitoba Hydro

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21b

Attachment 2(Page 1 of 3)

MANITOBA HYDRO
ACCOUNT 1175D - SPILLWAY
CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIM						
PROBABLE RETIREMENT YEAR.. 3-2131						
1991	80,430,469.28	22,631,525	25,042,530	55,387,939	57.49	963,436
1992	80,430,469.28	21,706,575	24,019,043	56,411,426	58.41	965,784
1993	40,215,234.64	10,385,584	11,491,992	28,723,243	59.34	484,045
2007	68,329.54	6,271	6,939	61,391	72.64	845
2008	94,022.89	7,488	8,286	85,737	73.61	1,165
2010	2,246.89	124	137	2,110	75.54	28
2012	110,825.32	3,411	3,774	107,051	77.47	1,382
2013	30,591.49	563	623	29,968	78.43	382
2014	34,191.02	210	232	33,959	79.39	428
	201,416,380.35	54,741,751	60,573,556	140,842,824		2,417,495

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT.. 58.3 1.20

Manitoba Hydro

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21b

Attachment 2(Page 2 of 3)

MANITOBA HYDRO
ACCOUNT 2000L - OVERHEAD CONDUCTOR AND DEVICES
CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 80-R4						
1911	123,750.00	117,346	123,750			
1923	49,408.75	44,820	49,409			
1926	62,927.80	56,336	62,928			
1927	314,857.21	280,576	314,857			
1928	39,363.53	34,906	39,364			
1930	522,063.55	458,111	522,064			
1931	1,500,000.00	1,308,750	1,500,000			
1939	446.20	368	446			
1946	1,053.27	812	1,053			
1948	596.21	450	596			
1949	418,369.50	311,844	418,370			
1950	512,241.27	377,327	512,241			
1951	411,102.89	299,180	411,103			
1952	623,756.54	448,406	623,757			
1953	181,384.93	128,762	181,385			
1955	214,207.13	148,099	214,207			
1956	1,017,464.20	693,911	1,017,464			
1957	244,145.73	164,188	244,146			
1958	11,557.33	7,661	11,557			
1959	45,931.38	29,999	45,287	644	27.75	23
1960	9,105.00	5,857	8,842	263	28.54	9
1961	1,267,042.44	802,355	1,211,240	55,802	29.34	1,902
1962	2,202,708.81	1,372,552	2,072,012	130,697	30.15	4,335
1963	110,859.67	67,944	102,569	8,291	30.97	268
1964	76,762.00	46,258	69,831	6,931	31.79	218
1965	1,325,873.24	785,076	1,185,155	140,718	32.63	4,313
1966	577,503.19	335,887	507,057	70,446	33.47	2,105
1967	10,483,558.18	5,986,112	9,036,669	1,446,889	34.32	42,159
1968	749,644.48	419,988	634,016	115,628	35.18	3,287
1969	1,855,561.71	1,019,408	1,538,904	316,658	36.05	8,784
1970	1,174,482.85	632,318	954,551	219,932	36.93	5,955
1971	54,721,422.77	28,858,984	43,565,686	11,155,737	37.81	295,047
1972	3,539,695.96	1,827,368	2,758,605	781,091	38.70	20,183
1973	1,861,760.33	940,189	1,419,315	442,445	39.60	11,173
1974	3,183,230.44	1,571,306	2,372,052	811,178	40.51	20,024
1975	3,554,160.95	1,713,994	2,587,455	966,706	41.42	23,339
1976	3,033,727.44	1,428,127	2,155,909	877,818	42.34	20,733
1977	5,239,870.90	2,406,411	3,632,732	1,607,139	43.26	37,151
1978	2,634,319.79	1,179,174	1,780,088	854,232	44.19	19,331
1979	545,339.94	237,768	358,936	186,404	45.12	4,131
1980	6,789,595.83	2,880,486	4,348,398	2,441,198	46.06	53,000
1981	436,619.15	180,053	271,809	164,810	47.01	3,506
1982	4,360,183.93	1,746,254	2,636,155	1,724,029	47.96	35,947
1983	84,846.80	32,973	49,776	35,071	48.91	717
1984	362,239.79	136,427	205,951	156,289	49.87	3,134
1985	22,101,743.98	8,058,738	12,165,516	9,936,228	50.83	195,480

Manitoba Hydro

Manitoba Hydro 2014/15 & 2015/16 General Rate Application
MIPUG/MH-I-21b

Attachment 2(Page3 of 3)

MANITOBA HYDRO
ACCOUNT 2000L - OVERHEAD CONDUCTOR AND DEVICES
CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 80-R4						
1986	19,805.94	6,984	10,543	9,263	51.79	179
1987	13,031.21	4,437	6,698	6,333	52.76	120
1988	421,948.99	138,560	209,171	212,778	53.73	3,960
1989	6,521,525.36	2,062,432	3,113,459	3,408,066	54.70	62,305
1990	9,394,025.98	2,855,784	4,311,108	5,082,918	55.68	91,288
1991	2,614,779.67	762,862	1,151,621	1,463,159	56.66	25,823
1992	4,328,653.33	1,209,859	1,826,410	2,502,243	57.64	43,412
1993	2,462,562.70	658,120	993,502	1,469,061	58.62	25,061
1994	1,868,678.63	476,289	719,009	1,149,670	59.61	19,287
1995	4,369,494.93	1,060,127	1,600,374	2,769,121	60.59	45,703
1996	445,858.55	102,659	154,975	290,884	61.58	4,724
1997	18,660,182.46	4,065,681	6,137,575	12,522,607	62.57	200,138
1998	14,863,385.61	3,054,426	4,610,978	10,252,408	63.56	161,303
1999	16,578,859.10	3,201,709	4,833,318	11,745,541	64.55	181,960
2000	3,712,975.08	671,120	1,013,126	2,699,849	65.54	41,194
2001	11,382,677.70	1,915,136	2,891,100	8,491,578	66.54	127,616
2002	13,719,505.57	2,138,597	3,228,438	10,491,068	67.53	155,354
2003	13,309,103.13	1,908,259	2,880,719	10,428,384	68.53	152,173
2004	6,697,745.21	877,405	1,324,535	5,373,210	69.52	77,290
2005	6,403,901.14	758,862	1,145,582	5,258,319	70.52	74,565
2006	2,931,026.30	311,041	469,549	2,461,477	71.51	34,421
2007	16,187,690.22	1,515,492	2,287,796	13,899,894	72.51	191,696
2008	4,354,802.49	353,262	533,286	3,821,516	73.51	51,986
2009	1,921,712.98	131,868	199,069	1,722,644	74.51	23,120
2010	2,176,207.62	122,129	184,367	1,991,841	75.51	26,379
2011	3,618,821.74	158,323	239,005	3,379,817	76.50	44,181
2012	13,678,028.71	427,438	645,263	13,032,766	77.50	168,165
2013	24,764,704.69	464,338	700,967	24,063,738	78.50	306,544
2014	3,812,324.46	23,827	35,969	3,776,355	79.50	47,501
	349,810,506.49	101,020,885	151,380,725	198,429,781		3,203,702

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 61.9 0.92

Depreciation Procedures

ELG Example

Average Service Life Procedure				Equal Life Group Procedure			
Year	Accruals ($)	Retirements ($)	Accum. Depr'n Balance ($)	Year	Accruals ($)	Retirements ($)	Accum. Depr'n Balance ($)
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	67		736
12	100		700	12	67		802
13	100		800	13	67		868
14	100		900	14	67		934
15	100	1,000	0	15	67	1,000	0

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**IFRS
Developments**

The IASB issues IFRS 14 - interim standard on regulatory deferral accounts

What you need to know

▶ IFRS 14 allows rate-regulated entities to continue recognising regulatory deferral accounts in connection with their first-time adoption of IFRS. Existing IFRS preparers are prohibited from adopting this standard.

▶ Entities that adopt IFRS 14 must present the regulatory deferral accounts as separate line items on the statement of financial position and present movements in these account balances as separate line items in the statement of profit or loss and other comprehensive income.

▶ The standard requires disclosures on the nature of, and risks associated with, the entity's rate regulation and the effects of that rate regulation on its financial statements.

▶ The standard is effective for annual periods beginning on or after 1 January 2016. Earlier application is permitted.

▶ The IASB is continuing its comprehensive rate-regulated activities project, which could result in a standard on rate regulation or a decision not to develop specific requirements. By issuing IFRS 14, the IASB is not anticipating the outcome of the comprehensive project.

IFRS 14 is intended to encourage rate-regulated entities to adopt IFRS while the IASB works on the comprehensive rate-regulated activities project.

Highlights

On 30 January 2014, the International Accounting Standards Board (IASB or the Board) issued IFRS 14 *Regulatory Deferral Accounts* to ease the adoption of International Financial Reporting Standards (IFRS) for rate-regulated entities. The standard allows an entity to continue applying most of its existing accounting policies for regulatory deferral account balances upon adoption of IFRS. This interim standard provides first-time adopters of IFRS with relief from derecognising rate-regulated assets and liabilities until a comprehensive project on accounting for such assets and liabilities is completed by the IASB. IFRS 14 is intended to encourage rate-regulated entities to adopt IFRS while bridging the gap with entities that already apply IFRS, but do not recognise regulatory deferral accounts. This would be achieved by requiring separate presentation of the regulatory deferral account balances (and movements in these balances) in the statement of financial position and statement of profit or loss and comprehensive income.

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> Existing IFRS preparers are prohibited from adopting IFRS 14.

Scope of IFRS 14

An entity can only adopt IFRS 14 in connection with the application of IFRS 1 *First-time Adoption of International Financial Reporting Standards*. IFRS 14 cannot be adopted by entities that are currently preparing their financial statements under IFRS. Also, an entity whose current GAAP does not allow the recognition of rate-regulated assets and liabilities, or that has not adopted such policy under its current GAAP, would not be allowed to recognise them through the adoption of IFRS 14.

The IASB refined the scope in IFRS 14, stating that, "an entity is permitted to apply the requirements of [IFRS 14] in its first IFRS financial statements if and only if it:

(a) conducts rate-regulated activities; and

(b) recognised amounts that qualify as regulatory deferral account balances in its financial statements in accordance with its previous GAAP."

The evaluation of whether an entity conducts rate-regulated activities is based on whether an entity's activities are subject to rate regulation, which is defined in IFRS 14 as, "A framework for establishing the prices that can be charged to customers for goods or services and that framework is subject to oversight and/or approval by a rate regulator." Contrary to what the Board proposed in the exposure draft *Regulatory Deferral Accounts* (the ED), the price established by the regulation does not need to be designed to recover the entity's allowable cost of providing the regulated goods or services.

How we see it

IFRS 14's definition of rate regulation has been expanded from the definition in the April 2013 ED. This enhancement removes the scope restriction that required prices to recover the entity's allowable costs and will allow more entities to consider the adoption of the new standard.

Recognition and measurement

Upon adoption of IFRS 14, an entity would continue to apply its previous GAAP accounting policies to the recognition, measurement, impairment and derecognition of regulatory deferral account balances. As such, the application of IFRS 14 would be rather straight-forward for regulatory deferral account balances that are recognised and measured separately from other standards. For example, storm damage costs and volume or purchase price variances that will be recovered in future rates are frequently recorded in separate regulatory deferral accounts.

However, additional effort will be required to measure regulatory deferral accounts that historically have not been recorded or tracked separately. For example, rate-regulated property, plant and equipment (PP&E) accounts recognised under an entity's previous GAAP will likely include activity that is unique to a rate-regulated jurisdiction as well as activity that would be recognised under IAS 16 *Property, Plant and Equipment*. The measurement of these regulatory deferral account balances would effectively entail a two-step process. An entity would first determine the carrying amount of its assets and liabilities under IFRS, excluding IFRS 14. These amounts would then be compared with the assets and liabilities determined under the entity's previous GAAP presentation (i.e., its rate-regulated balances). The differences would represent the regulatory deferral debit or credit account balances recognised by the entity.

Regulatory deferral account balances, and the net movements in these account balances, are presented on separate line items on the statement of financial position and statement of profit or loss and comprehensive income.

Presentation

IFRS 14 requires regulatory deferral account balances to be presented as separate line items on the statement of financial position. In addition, the total of all regulatory deferral debit balances must be separated from the total of all regulatory deferral credit balances. The net movements in these account balances must be presented, net of the applicable deferred income taxes, as a separate line item on the statement of profit or loss. The net movements in regulatory deferral account balances that relate directly to other comprehensive income are also presented separately.

The IASB believes that presenting the regulatory deferral accounts separately on the statement of financial position and the statement of profit or loss and other comprehensive income would enhance comparability with entities that already apply IFRS and thus do not recognise regulatory deferral accounts.

Disclosure

IFRS 14 requires an entity to disclose information that enables users to assess: (a) the nature of, and risks associated with, the rate regulation that establishes prices; and (b) the effects of the rate regulation on the entity's financial statements. Some of the disclosure requirements include:

▶ A description of the rate-regulated activities and regulatory rate-setting process

▶ An explanation of how the future recovery or reversal of each class of regulatory deferral account balance is affected by risks and uncertainties, such as demand and regulatory risks

▶ The basis on which regulatory deferral account balances are recognised and measured initially and subsequently

▶ A reconciliation of the carrying amount of each class of regulatory deferral account balance as of the beginning and end of the reporting period

In addition, the description of the rate-regulated activities and explanation of the future recovery or reversal of regulatory deferral account balances may be provided in the financial statements or incorporated by cross-reference to information that is readily available to users of the financial statements (e.g., management commentary or risk report).

Interaction with other standards

IFRS 14 contains additional presentation and disclosure requirements, as follows:

▶ An entity is required to present additional earnings per share (EPS) amounts. Although entities would continue presenting basic and diluted EPS in accordance with IAS 33 *Earnings per Share*, they are also required to present basic and diluted EPS excluding the net movement in the regulatory deferral account balances.

▶ When an entity that has adopted IFRS 14 acquires a business, its accounting policies must be applied to the acquiree's regulatory deferral account balances as of the date of acquisition.

▶ Regulatory deferral accounts, and the related net movement, must be excluded from discontinued operations or disposal group amounts presented in accordance with IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*.

▶ Disclosures under IFRS 12 *Disclosure of Interests in Other Entities* must include separate disclosure of the regulatory deferral accounts and the related net movement for subsidiaries.

Transition and effective date

IFRS 14 is to be applied on a full retrospective basis. It is effective for annual periods beginning on or after 1 January 2016. Earlier application is permitted.

Looking ahead

The IASB has clarified that the issuance of IFRS 14 is not intended to anticipate the outcome of its comprehensive rate-regulated activities project. In addition, there are differing views as to whether rate-regulated assets and liabilities meet the current definitions of assets and liabilities set out in the conceptual framework or the definitions included in the discussion paper on the IASB's project to revise the conceptual framework. Therefore, it is important for rate-regulated entities to stay tuned to the IASB's progress on both of these projects. A discussion paper on the comprehensive rate-regulated activities project is expected in Q2 2014 while re-deliberations on the conceptual framework will continue during 2014.

How we see it

Entities that elect to adopt IFRS 14 should be aware that the regulatory deferral account balances may need to be derecognised from their financial statements if the IASB decides not to issue a separate standard upon completion of the comprehensive rate-regulated activities project.