Manitoba Hydro

PO Box 815 • Winnipeg, Manitoba Canada • R3C 2P4
Street Location for DELIVERY: 22nd floor 360 Portage Ave
Telephone / N° de téléphone : (204) 360-3257 • Fax / N° de télécopieur : (204) 360-6147 • baczarnecki@hydro.mb.ca

February 27, 2015

Mr. D. Christle
Secretary and Executive Director
Public Utilities Board
400-330 Portage Avenue
Winnipeg, Manitoba
R3C 0C4

Dear Mr. Christle:

RE: Manitoba Hydro 2015/16 & 2016/17 General Rate Application – MHEB Quarterly Report and Depreciation Directives

On February 4, Manitoba Hydro filed with the Public Utilities Board of Manitoba ("PUB") Minimum Filing Requirements ("MFRs") as Tab 11 of its 2015/16 & 2016/17 General Rate Application ("Application").

As part of Financial Information MFR 4, Manitoba Hydro indicated that it would file the Manitoba Hydro-Electric Board Quarterly Report for the nine months ended December 31, 2014 once it is publicly released. Please find nine (9) copies of the Quarterly Report which has been incorporated in Appendix 11.10 of Tab 11. Please include the paper copy of this Quarterly Report behind Appendix 11.10.

As part of Capital Expenditures-Depreciation MFR 7, Manitoba Hydro indicated that it anticipates filing with the PUB its response to Directives 8 and 9 of Order 43/13 by the end of February 2015. Please find nine (9) copies of Appendix 11.49 which provides a comparison of the impacts of using the Equal Life Group ("ELG") and Asset Service Life ("ASL") depreciation methodologies. Manitoba Hydro has also included as part of Appendix 11.49 correspondence related to these directives.

Should you have any questions with respect to the foregoing, please do not hesitate to contact the writer at 204-360-3257.

Yours truly,

MANITOBA HYDRO LAW DIVISION
Per:

BRENT A. CZARNECKI
Barrister & Solicitor

cc: All Registered Interveners

Att.

The Manitoba Hydro-Electric Board

QUARTERLY REPORT

for the nine months ended December 31, 2014

Comments by

THE CHAIR OF THE BOARD

and by

THE PRESIDENT AND CHIEF EXECUTIVE OFFICER

FINANCIAL OVERVIEW

Manitoba Hydro's consolidated net income from electricity and natural gas operations was $42 million for the first nine months of the 2014-15 fiscal year compared to a net income of $72 million for the same period last year. The decrease in net income was primarily attributable to higher financing expenses partially offset by increased revenues from domestic electricity sales.

Consolidated net income was comprised of a $53 million profit in the electricity sector and an $11 million loss in the natural gas sector. The loss in the natural gas sector is the result of seasonal variations in the demand for natural gas and is expected to be recouped over the winter heating season.

Based on the continuation of current water flow and export market conditions and assuming normal winter weather, Manitoba Hydro is forecasting that financial results will improve over the balance of the fiscal year and net income should exceed $120 million by March 31, 2015.

Electricity Operations

Revenues from electricity sales within Manitoba totaled $991 million for the nine-month period, which was $27 million or 3% higher than same period last year. The increase in domestic revenue was primarily attributable to electricity rate increases and an increase in customers, partially offset by warmer weather compared to the prior year, which reduced the heating load. Extraprovincial revenues of $318 million were $14 million or 4% lower than the same period last year reflecting lower sales volumes as a result of a U.S. transmission line outage partially offset by favourable foreign exchange rates on U.S. sales. Energy sold in the export market was 8.2 billion kilowatt-hours compared to 9.2 billion kilowatt-hours sold in the same period last year.

Expenses attributable to electricity operations totaled $1 322 million for the nine-month period, an increase of $38 million or 3% higher than the same period last year. The increase was the result of a $46 million increase in finance expense, a $10 million increase in fuel and power purchased costs and a $6 million increase in capital and other taxes, partially offset by an $11 million decrease in depreciation and amortization expense, a $9 million decrease in operating and administrative expenses, a $3 million decrease in water rental and assessments and a $1 million decrease in other expenses. Finance expense increased primarily as a result of higher debt levels to finance capital asset additions as well as lower realized foreign exchange gains on U.S. debt and gains on the sale of U.S. sinking fund investments compared to the prior year. Fuel and power purchased increased as a result of higher system merchant costs due to increased arbitrage opportunities between markets and an increase in wind generation purchases. Capital and other taxes increased primarily as a result of higher capital taxes due to additions to capital assets. Depreciation and amortization expense decreased primarily as a result of revised depreciation rates partially offset by the Riel 230 kilovolt (kV) station and the Pointe du Bois spillway coming into service in the current year. Operating and administrative expenses decreased due to a greater focus on capital requirements relating to investment in new and existing infrastructure partially offset by costs required for storm restoration activities.

The net loss attributable to non-controlling interest represents Taskinigahp Power Corporation's 33% share of the Wuskwatim Power Limited Partnership's operating results for the first nine months of the 2014-15 fiscal year.

Capital expenditures for the nine-month period amounted to $1 372 million compared to $1 037 million for the same period last year. Expenditures during the current period included $553 million related to future Keeyask generation, $207 million for Bipole III projects, $127 million for Pointe du Bois projects, $31 million for future Conawapa generation and $31 million for the Riel Station. The remaining capital expenditures were incurred for ongoing system additions and modifications necessary to meet the electrical service requirements of customers throughout the province. The Corporation also incurred $23 million for electric demand-side management (DSM) programs.

Natural Gas Operations

In the natural gas sector, a net loss of $11 million was incurred for the nine-month period, compared to the net loss of $6 million in the same period last year. Revenue, net of cost of gas sold, was $97 million which is $2 million lower than the same period last year. The decrease in net revenues was primarily related to warmer weather compared to the prior year which reduced the heating load. Delivered gas volumes were 1 249 million cubic metres compared to 1 362 million cubic metres in the prior year.

Expenses attributable to natural gas operations amounted to $108 million as compared to $105 million for the same period last year. The increase was the result of a $2 million increase in operating and administrative expenses and a $1 million increase in depreciation and amortization expense. Operating and administrative expenses increased due to greater activity in various programs such as customer inspections and distribution maintenance. Depreciation and amortization increased as a result of additions to capital assets.

Capital expenditures in the natural gas sector were $25 million for the current nine-month period compared to $26 million for the same period last year. Capital expenditures are related to system improvements and other expenditures necessary to meet the natural gas service requirements of customers throughout the province. The Corporation also incurred $7 million for gas DSM programs.

New Riel Terminal Station Improves Reliability of Electricity Supply in Manitoba

Enhancements to the reliability and security of Manitoba's electricity supply were made with the completion of Manitoba Hydro's new Riel Terminal Station, located just east of Winnipeg, which was placed in service in October of 2014.

Riel Station will improve the reliability of the transmission system serving Winnipeg and southern Manitoba by providing a second location where electricity imported from the U.S. on an existing 500 kV transmission line can be fed into Manitoba Hydro's power grid. The transmission line to the U.S. is an important component of Manitoba Hydro's system as it delivers surplus electricity for sale to the U.S. and provides access to an alternate supply of energy for import in the event of an emergency or prolonged drought. The 500 kV transmission line runs from Dorsey Converter Station, northwest of Winnipeg, to Minnesota. Construction of Riel Station began after studies concluded it was necessary to reduce dependence on the existing end-point of the line at Dorsey.

Manitoba Hydro Wins Conservation Award for Top Performance in North America

Manitoba Hydro won a prestigious achievement award in October of 2014 for generating energy savings for natural gas customers. Awarded by E Source, an independent U.S. firm that provides research and advisory services to utilities on DSM and improving customer service, Manitoba Hydro was ranked as achieving the highest natural gas savings per customer among 53 utilities across North America.

Customers across Manitoba continue to reap the benefits of Manitoba Hydro's Power Smart* initiatives, such as the Home Insulation Program. The average residential customer participating in the Power Smart Home Insulation Program saves nearly 530 cubic metres in natural gas or $154 on their energy bill per year based on current rates. Total energy savings for Manitoba Hydro's customers last year under this program alone was nearly 717 000 cubic metres, which represents a reduction of over $209 000 in their energy bills.

Customers who heat with electricity also see major savings with the Power Smart Home Insulation Program. The average electrically-heated home saves about 4 300 kilowatt hours per year once they take advantage of this program, which works out to a saving of about $300 annually. In total, participating customers who heat with electricity saved over $327 000 last year.

The E Source award confirms Manitoba Hydro's commitment to aggressive energy conservation. This commitment is being continued through investments in the utility's Power Smart programs that will more than double over the next three years.

By 2017 cumulative energy savings since the inception of Power Smart will equal 905 megawatts of capacity and 3 358 gigawatt hours of electricity — equivalent to about half the current electrical needs of all residential and commercial customers in the city of Winnipeg. Over the same period natural gas use will be reduced by 133 million cubic metres — equivalent to twice the current natural gas needs of Brandon's commercial and residential customers.

Natural Gas Rate Increase

In accordance with Manitoba Hydro's methodology to change natural gas rates every quarter depending on the price of gas purchased from Alberta, rates for residential customers increased on November 1, 2014 by 5.0% or approximately $43 per year. Rate changes for larger volume customers ranged from an increase of 3.2% to 12.5% depending on the customer class and consumption levels. The bill impacts are the result of an increase in the price that Manitoba Hydro pays for gas from Alberta as well as the implementation of rate adjustments associated with gas costs that resulted from extreme weather and market circumstances experienced over the 2014 winter.

William Fraser, FCA
Chair of the Board

Scott Thomson, CA
President and
Chief Executive Officer
February 13, 2015

*Manitoba Hydro is a licensee of the Trademark and Official Mark.

Consolidated Statement of Income

In Millions of Dollars (Unaudited)

	Nine Months Ended December 31		*Three Months Ended December 31*	
	2014	**2013**	**2014**	**2013**
Revenues				
Electric – Manitoba	991	964	379	375
– Extraprovincial	318	332	77	90
– Other	48	49	19	16
Gas – Commodity	154	126	96	81
– Distribution	97	99	47	50
	1 608	1 570	618	612
Cost of gas sold	154	126	96	81
	1 454	1 444	522	531
Expenses				
Operating and administrative	398	405	134	132
Finance expense	395	349	137	120
Depreciation and amortization	324	334	96	112
Water rentals and assessments	92	95	30	32
Fuel and power purchased	109	99	43	34
Capital and other taxes	90	84	30	26
Other expenses	22	23	9	7
	1 430	1 389	479	463
Net Income before non-controlling interest	24	55	43	68
Net Loss attributable to non-controlling interest	18	17	5	6
Net Income	42	72	48	74

Consolidated Balance Sheet

In Millions of Dollars (Unaudited)

	As at December 31 **2014**	*As at December 31* **2013**
Assets		
Capital assets	14 819	13 323
Current assets	939	798
Other assets	1 190	1 100
	16 948	15 221
Liabilities and Equity		
Long-term debt (net)	11 641	10 187
Current liabilities	1 009	956
Other liabilities	1 006	847
Contributions in aid of construction	420	369
Non-controlling interest	107	78
Retained earnings	2 758	2 613
Accumulated other comprehensive income	7	171
	16 948	15 221

Consolidated Cash Flow Statement

In Millions of Dollars (Unaudited)

	Nine Months Ended December 31		*Three Months Ended December 31*	
	2014	**2013**	**2014**	**2013**
Operating Activities				
Cash receipts from customers	1 724	1 608	529	520
Cash paid to suppliers and employees	(923)	(723)	(267)	(220)
Net interest	(354)	(327)	(45)	(37)
	447	558	217	263
Financing Activities	1 150	976	265	464
Investing Activities	(1 360)	(1 289)	(410)	(508)
Net increase in cash	237	245	72	219
Cash at beginning of period	142	32	307	58
Cash at end of period	379	277	379	277

Consolidated Statement of Comprehensive Income

In Millions of Dollars (Unaudited)

	Nine Months Ended December 31		*Three Months Ended December 31*	
	2014	**2013**	**2014**	**2013**
Net Income (Loss)	42	72	48	74
Other Comprehensive Income (Loss)				
Unrealized foreign exchange losses on debt in cash flow hedges	(86)	(85)	(60)	(60)
Realized foreign exchange gains on debt in cash flow hedges reclassified to income	(3)	(20)	(3)	(6)
Unrealized fair value losses on available-for-sale U.S. sinking fund investments	-	(11)	-	(2)
Realized gains on redemption of U.S. sinking fund investments	-	(13)	-	-
	(89)	(129)	(63)	(68)
Comprehensive Income (Loss)	(47)	(57)	(15)	6

Segmented Information

In Millions of Dollars (Unaudited)

Nine Months Ended December 31	Electricity		Gas		Total	
	2014	**2013**	**2014**	**2013**	**2014**	**2013**
Revenue (net of cost of gas sold)	1 357	1 345	97	99	1 454	1 444
Expenses	1 322	1 284	108	105	1 430	1 389
Net Income (Loss) before non-controlling interest	35	61	(11)	(6)	24	55
Net Loss attributable to non-controlling interest	18	17	-	-	18	17
Net Income (Loss)	53	78	(11)	(6)	42	72
Three Months Ended December 31						
Revenue (net of cost of gas sold)	475	481	47	50	522	531
Expenses	443	428	36	35	479	463
Net Income before non-controlling interest	32	53	11	15	43	68
Net Loss attributable to non-controlling interest	5	6	-	-	5	6
Net Income	37	59	11	15	48	74
Total Assets	16 221	14 578	727	643	16 948	15 221

Generation and Delivery Statistics

	Nine Months Ended December 31		*Three Months Ended December 31*	
	2014	**2013**	**2014**	**2013**
Electricity in gigawatt-hours				
Hydraulic generation	25 949	26 715	8 392	8 990
Thermal generation	30	80	14	36
Scheduled energy imports	136	212	97	135
Wind purchase (MB)	698	639	278	257
Total system supply	26 813	27 646	8 781	9 418
Gas in millions of cubic metres				
Gas sales	730	767	447	490
Gas transportation	519	595	206	229
	1 249	1 362	653	719

For further information contact:

Public Affairs
Manitoba Hydro
PO Box 815 STN Main
Winnipeg, Manitoba, Canada
R3C 2P4
Telephone: 1-204-360-3233

Manitoba Hydro

Cover: Recruits at Manitoba Hydro's Stonewall Training Centre.

Response to Public Utilities Board

Order 43/13, Directives 8 & 9

February 27, 2015

INDEX

1.0 OVERVIEW

The purpose of Appendix 11.48 is to provide additional information to the Public Utilities Board (PUB) to assess the financial impact of a change to the Equal Life Group (ELG) method of depreciation from Manitoba Hydro's existing Average Service Life (ASL) method. This is in response to PUB Order 43/13 following Manitoba Hydro's 2012/13 and 2013/14 General Rate Application (GRA) hearing. The key observations with respect to this Appendix are as follows:

1. International Financial Reporting Standards (IFRS) are more explicit than Canadian Generally Accepted Accounting Principles (CGAAP) for calculating depreciation, requiring a more granular level of asset componentization and recognizing gains and losses on asset retirements into income immediately.

2. The ELG and ASL methods are fundamentally different in terms of how they calculate depreciation expense for an asset component group. The ASL method calculates the annual depreciation expense based on the overall average service life of all the assets in a component group whereas the ELG method sub-divides the assets in a component group into sub-components of assets with very similar service lives and calculates depreciation separately for each sub-component to arrive at the total depreciation for the larger component group.

3. Manitoba Hydro's existing asset component groups include assets with a wide range of service lives which, if applying the ASL method, will not produce an annual depreciation expense that complies with IFRS. To continue to use the ASL method under IFRS, Manitoba Hydro will have to increase the number of its asset components.

4. Manitoba Hydro estimates it would take at least two years to identify and implement the new asset components required to continue with the ASL method under IFRS at a cost in excess of $2 million. These costs can be avoided and compliance with IFRS achieved by adopting the ELG method which calculates depreciation at a more granular level within existing asset component groups; satisfying the componentization requirements of IFRS.

5. The change to the ELG method will result in a similar increase ($36 million) in estimated annual depreciation expense, compared to an IFRS compliant ASL

method ($33 million) for the March 31, 2014 account balances. When the impacts of gains and losses on asset retirements are considered, the total expense could be higher under an ASL method.

6. The analysis performed on the Bipole III and Keeyask capital additions indicates the ELG method annual depreciation expense is $0.7 million lower than the depreciation expense calculated under the ASL method for these projects.

7. The depreciation changes that are proposed by Manitoba Hydro, when considered on the whole, are not driving the need for increases in customer rates. The overall decrease in the test years ranges between $25 to $57 million annually. By the end of the 10-year forecast period, depreciation expense is expected to decrease by more than $100 million annually.

8. 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.

2.0 BACKGROUND

In its 2012/13 and 2013/14 GRA, Manitoba Hydro informed the PUB that it would be changing from the ASL method of group depreciation to the ELG method upon its transition to IFRS for financial reporting purposes in order to facilitate compliance with the requirements of IFRS.

The PUB was concerned that not enough information was provided during the hearings to assess the impact on rate payers of the change to the ELG method. One of the key concerns identified during the hearing was the increase in depreciation expense in the years following the transition to IFRS. At the conclusion of Manitoba Hydro's 2012/13 and 2013/14 General Rate Application hearing process, the PUB found the following (page 18 of PUB Order 43/13):

- *The Board also is concerned that not enough information has been provided to date to assess the true impact on ratepayers of a switch to Equal Life Group. As such, the Board will require Manitoba Hydro to file additional information, including a determination of depreciation rates and schedules based on the Average Service Life methodology, to provide a meaningful comparison between the two approaches. The Board further expects Manitoba Hydro to file, as part of its next General Rate Application, additional information to specify what, if any, increased componentization is required, and at what cost.*

Based on their findings, the PUB issued the following directives to Manitoba Hydro in Order 43/13:

> *8. That Manitoba Hydro file updated depreciation rates and schedules based on an International Financial Reporting Standards-compliant Average Service Life methodology with the next General Rate Application.*
>
> *9. That Manitoba Hydro file with the Board, with the next General Rate Application, a chart showing a comparison of the impact on its Integrated Financial Forecast (i.e. 'Budget') of asset depreciation pursuant to the Average Service Life methodology (without net salvage) and the Equal Life Group methodology (without net salvage), applying both methodologies to all planned major capital additions.*

Subsequent to the receipt of Order 43/13, Manitoba Hydro exchanged correspondence with the PUB to clarify its interpretation of the Order and to inform the PUB that Manitoba Hydro would not be in a position to complete a full depreciation study based on an IFRS compliant ASL methodology in time for its next GRA. Following this exchange, Manitoba Hydro documented its intention to provide a comparison of the ELG and IFRS compliant ASL depreciation methodologies on a representative sample basis in order for the PUB to assess the financial impact of the change in depreciation method. This correspondence is provided in Attachment B of this document.

Included in this response is an identification of the differences between the requirements of CGAAP and IFRS as it pertains to the determination of depreciation expense and the reasons for changing to the ELG method. In addition, Manitoba Hydro has outlined the differences between the ASL and ELG methodologies and explained its reasons for changing to the ELG method upon transition to IFRS. Lastly, Manitoba Hydro has provided an analysis on a representative sample basis, in response to directives #8 & #9 from PUB Order 43/13.

Manitoba Hydro engaged the consulting firm of Gannett Fleming Canada ULC (Gannett Fleming) to calculate the annual depreciation expense for the March 31, 2014 asset groups identified using the ASL method applied to the sample additional asset component groups and using the ELG method based on the current level of asset componentization. Gannett Fleming also calculated ASL and ELG depreciation expense calculations for the sample forecast Bipole III and Keeyask asset component balances in a similar manner as the calculations for the March 31, 2014 asset balances. The study and analysis performed by Gannett Fleming is included in Attachment A of this document.

3.0 COMPARISON OF DEPRECIATION: CGAAP VS. IFRS

Two significant differences exist between CGAAP and IFRS as it applies to the depreciation of property, plant and equipment (PP&E).

1. IFRS is more explicit than CGAAP in terms of how depreciation is to be determined. Under IFRS, a separate component is required when a plant item is comprised of significant individual cost components that are consumed over different periods of time, such that different depreciation rates are appropriate for each component. A separate component may be either physical, such as a runner on a turbine, or non physical, such as a major inspection or overhaul. The general rule when complying with IFRS is that a separate component group is required when an item is material in cost and has a service life different than that of other assets, such that the depreciation on that item will have a material impact on net income.

   Although CGAAP encourages that assets be broken down into separate components for determining annual depreciation, it is much less explicit, such that many utilities, including Manitoba Hydro, have not developed depreciation component groups to the extent required for compliance with IFRS if using the ASL method. As IFRS requires a greater the level of componentization, depreciation expense will be higher for a given group of assets over the first half of the asset group's service life. This occurs because the increase in the annual depreciation expense on assets with a service life less than the average exceeds the decrease in annual expense of assets with a service life longer than the average.

2. IFRS explicitly states that gains and losses on asset retirements are to be recognized immediately to net income. Currently under CGAAP, Manitoba Hydro follows a common industry practice for regulated utilities whereby asset retirement gains and losses are recorded in the accumulated depreciation account for the retired asset's respective component group. Such gains and losses are then factored into future depreciation rate changes for the component group and are recognized in net income over time, as part of future years' depreciation expense.

In order to comply with the componentization requirements of IFRS and to minimize the magnitude of annual asset retirement gains and losses on net income, Manitoba Hydro is changing to the ELG method of depreciation for financial reporting purposes.

The following sections further explain Manitoba Hydro's decision to change to the ELG methodology.

4.0 COMPARISON OF ASL AND ELG DEPRECIATION METHODS

4.1 Group Depreciation:

Generally, the greater the number of separate asset component groups used for calculating depreciation expense, the greater the accuracy of the depreciation expense calculation. With greater accuracy, however, comes an increase in administrative efforts to maintain a larger volume of asset components (e.g. more components to allocate time to, additional asset records to update, larger database files to maintain, etc).

Group depreciation procedures are used to depreciate plant assets when the volume of assets to be depreciated is so large that it is not practical or efficient for an entity to perform depreciation calculations on each individual plant item; such is the case for large utilities. Grouping assets with similar service lives for calculating depreciation allows for a consistent and efficient method of calculating depreciation across a large volume of assets. The group depreciation method recognizes that not all the items in a specific group will have identical service lives, but instead will have lives that are dispersed over a range of time. The extent of dispersion in the services lives of the assets will impact the accuracy of the annual depreciation expense for the individual assets within the group for a given point in time. The two more common group depreciation methods are the Average Service Life and Equal Life Group methods.

4.2 Average Service Life Method:

Under CGAAP, Manitoba Hydro currently uses the ASL method and follows a common industry practice for regulated utilities of recognizing gains and losses on asset retirements in accumulated depreciation. The ASL method calculates depreciation expense based on the average service lives of the assets in a component group. The key advantage of this approach is that it is simple to apply. The extent in which this approach accurately reflects the consumption of an asset component group on an annual basis, however, depends on the extent to which the depreciation from assets that are under-depreciated (i.e. have a shorter life than the average) is balanced by the depreciation on assets that are over depreciated (i.e. have a longer life than the average).

The annual depreciation expense recorded by Manitoba Hydro under CGAAP does not comply with the componentization requirements of IFRS due to the wide dispersion that currently exists in the service lives of many asset groups. In order to be compliant with

IFRS using the ASL method, Manitoba Hydro would have to increase the number of asset component groups of similar lived assets so that the range of service lives in any one group is smaller than currently exists. A larger number of asset component groups would also minimize the extent of gains and losses that must be recognized immediately to net income under IFRS as assets are being amortized over a more representative service life.

4.3 Equal Life Group Method:

The information required to determine annual depreciation under the ELG method is the same as that required for the ASL approach. This information includes the average service life of the assets in the group, retirement dispersion, net salvage and the age distribution of the assets in the component group. The ELG method of group depreciation, however, takes a different approach than the ASL method to calculating depreciation expense for an asset component group by recognizing the existence of retirement dispersion in the group.

The ELG calculation sub-divides the asset group into sub-components of estimated equal life and depreciates these sub-components over their respective service lives as opposed to the average life of the group as applied by the ASL method. The resulting annual depreciation expense for the asset group is the summation of the calculated depreciation based on the service life of each equal life group. This results in a similar depreciation expense to applying the ASL method to a larger number of component groups consisting of assets with the same service lives. This concept is demonstrated in Attachment A to this document where the application of the ASL method to a more componentized Manitoba Hydro asset structure produces comparable results to the ELG method applied to Manitoba Hydro's existing asset components. Where asset service life dispersion does not exist in an asset component group, the ELG and ASL methods will calculate the same depreciation expense.

Effectively, the ELG method is more representative of an asset's annual depreciation than an ASL method when applied to asset groups with a wide dispersion in service lives because the ELG method more accurately allocates the cost of a group of assets to annual expense in accordance with the consumption of the assets. The concept of accurately charging the annual cost of an asset to the ratepayer based on the assets consumption supports the regulatory goal of intergenerational equity in setting customer rates. This is also a fundamental concept of IFRS as published by the International Accounting

Standard Board *"Clarification of Acceptable methods of Depreciation and Amortization, Amendments to IAS 16 Property, Plant & Equipment and IAS 38 Intangible Assets"* which amends the requirements of IAS 16 and IAS 38 to clarify that a depreciation method that is based on revenue is not appropriate because such a method reflects a pattern of generation of economic benefit from an asset rather than the pattern of consumption of an asset's expected future economic benefits.

The following simple example in Figure 1 below demonstrates the difference in the calculation between the ELG and ASL methods of depreciation:

Figure 1

Assumptions:

Component Group A	Cost	Service Life (Years)	Salvage	ASL Depreciation Rate	ELG Depreciation Rate
Asset 1	$ 100	1	0		100%
Asset 2	$ 100	2	0		50%
Asset 3	$ 100	3	0		33%
Average Service Life		2		50%	

ASL Depreciation Calculation	Asset 1	Asset 2	Asset 3	Total Depreciation	Total Loss (Gain) on Retirement	Total Expense
	$ 100	**$ 100**	**$ 100**			
Depreciation Year 1	50	50	50	$ 150		
Retirement	(100)	-	-			
Loss (Gain) on Retirement	50				$ 50	**$ 200**
Depreciation Year 2	-	50	50	$ 100		
Retirement		(100)				
Loss (Gain) on Retirement		-			$ -	**$ 100**
Depreciation Year 3	-	-	50	$ 50		
Retirement			(100)			
Loss (Gain) on Retirement			(50)		$ (50)	**$ -**
Total				$ 300	$ -	**$ 300**

ELG Depreciation Calculation	Sub Component Asset 1	Sub Component Asset 2	Sub Component Asset 3	Total Depreciation	Total Gain (Loss) on Retirement	Total Expense
	$ 100	**$ 100**	**$ 100**			
Depreciation Year 1	100	50	33	$ 183		
Retirement	(100)	-	-			
Loss (Gain) on Retirement	-				$ -	**$ 183**
Depreciation Year 2	-	50	33	$ 83		
Retirement		(100)				
Loss (Gain) on Retirement		-			$ -	**$ 83**
Depreciation Year 3	-	-	33	$ 33		
Retirement			(100)			
Loss (Gain) on Retirement			-		$ -	**$ 33**
Total				$ 300	$ -	**$ 300**

Observations pertaining to the example above are as follows:

- The level of asset componentization impacts annual depreciation expense. Had the assets in **Group A** been divided into three separate component groups based on their service lives, as is required under IFRS, then the annual depreciation expense would have been equal to the expense determined under the ELG method.

- When retirement dispersion exists in a group, there is a deferral and acceleration of depreciation under the ASL procedure as the ASL method depreciates assets with different service lives over the average life for the group. The longer-lived asset must be over depreciated to make up for the under depreciation on the shorter lived asset. The accuracy of the overall depreciation expense depends on the extent to which the over and under depreciation is balanced for the group of assets.

- When applying the ASL method, the combination of a wide range of service life dispersion with the IFRS requirement to immediately recognize asset retirement gains and losses will result in an increase in volatility in net income. In the example, the loss on retirement of asset 1 results in a higher total expense (depreciation plus losses) in the first year under the ASL method compared to the total expense using the ELG method. Under the ELG method, no gains or losses occurred on asset retirements since the assets were being depreciated over their individual service lives. This point demonstrates that although the change to the ELG method results in an increase to depreciation expense in the early years, when asset retirement losses are considered the ASL method can result in an overall higher expense.

- The ELG method better promotes intergenerational equity by matching the cost with the consumption of an asset. As per the example, using the ASL method, intergenerational equity is not met as the rate payer benefited from the use of Asset 3 in year 3, but was not charged for the asset in that year. The $50 depreciation expense is completely offset by the $50 gain that was recognized when the asset was retired at the end of year 3. The $50 gain is the result of the over depreciation on the asset in years 1 and 2.

5.0 ADDITIONAL COMPONENTIZATION REQUIREMENTS FOR MANITOBA HYDRO USING AN IFRS COMPLIANT ASL METHOD

Manitoba Hydro's existing level of componentization does not comply with the requirements of IFRS. Manitoba Hydro can find numerous examples where its current level of depreciable components would need to be broken down into additional components based on asset dollar cost and different service lives in order to continue with the ASL method under IFRS.

Examples where additional component groups could be developed based on estimated asset service lives are provided in Figure 2 below:

Figure 2

Asset Category	Existing Component (Service Life)	Potential New Components (Service Life)
Hydraulic Generation	Water Control Systems (65)	Water Control Systems (65) Trash, Safety & Ice Booms (20)
Hydraulic Generation	Turbines & Generators (60)	Turbine - Primary Structure (75) Turbine - Instrumentation and Electrical (20) Generator – Primary Structure (50) Generator – Instrumentation & Electrical (20)
Hydraulic Generation	A/C Electrical Power Systems (55)	A/C Electrical Power Systems (55) Generator Step up Transformers before 1950 (60) Generator Step up Transformers post1950 (40)
Distribution	Poles and Fixtures (65)	Wood Poles and Fixtures (65) Cross arms (35)
Distribution	Concrete Ductline and Manholes (75)	Concrete Ductline (75) Manholes (60)
Transmission	Poles and Fixtures (55)	Wood Poles (60) Cross Arms & Fixtures (30)
Transmission	Metal Towers & Concrete Poles (85)	Metal Towers and Concrete Poles (85) Concrete Footings (45)
Substations	Other Transformers(50)	Potential & Current Transformers (60) Station Service & Other (40)
Substations	Interrupting Equipment (50)	Vacuum Circuit Breakers (20) Min oil and SF6 Breakers (40) Air Magnetic Breakers (50) Air Blast & Oil Bulk Breakers (100) Other Interrupting Equipment (50)

Asset Category	Existing Component (Service Life)	Potential New Components (Service Life)
HVDC	Synchronous Condensers & Unit Transformers (65)	Synchronous Condensers (65 yrs) Unit Transformers (40 yrs)
Communication	Carrier Equipment (20)	Power Line Carrier, Microwave & Optical Transport (20) VHF Network (15) Standby Power Systems – Diesel (30) Standby Power Systems – Batteries & Auxiliaries (18) Span Line & High Voltage interface (35)
Buildings	360 Portage Electro/Mechanical	Finishes (20) Windows and Other (40) Millwork and Elevators (60) Interior Glaze/Drywall and Electrical (75)

The process for identifying and developing new asset component groups based on materiality of cost and differences in service life is complicated with regards to determining the actual historical costs and age for the assets that are included in the component groups. Cost and age information is required for each asset within a component group in order to determine the depreciation period, rates and the calculation of future gains and losses when the assets are retired.

Manitoba Hydro's historical asset cost and age information is comprised of thousands of transactions per year that were not captured at the level of detail required to readily develop new asset component groups. Such records date back over 70 years and are not available electronically for anything that was placed in service prior to the adoption of SAP in 1998. As a result, conversion into IFRS compliant components would require an extensive manual effort by both finance and engineering staff. For example, the records for a particular project may have captured only the total cost of a generator from the supplier as opposed to separately identifying the costs of the generator and its instrumentation and electrical components. Manitoba Hydro estimates that it would take at least two years to identify and implement the appropriate historical opening cost balances for newly identified asset components in order to continue to use the ASL method and comply with the requirements of IFRS.

This issue is not unique to Manitoba Hydro as identified by the accounting firm Price Waterhouse Coopers in their May 2014 document titled, ***"Financial reporting in the power and utilities industry, International Financial Reporting Standards, Identifying components of an asset:*** *Generating assets might comprise a significant number of components, many of which will*

have differing useful lives. The significant components of these types of assets must be separately identified. This can be a complex process, particularly on transition to IFRS, because the detailed record keeping needed for componentisation might not have been required in order to comply with national generally accepted accounting principles (GAAP). This can particularly be an issue for older power plants."

Manitoba Hydro estimates that the cost to the rate payer to identify, develop, and convert existing asset component groups into additional groups for compliance with IFRS (assuming the ASL method) would cost in excess of $2 million, depending on the level of detail in the accounting records. The majority of these costs would include analyzing historical project and operational records, performing a detailed depreciation study (including consulting services), converting existing accounting records and related IT systems, and change management activities associated with training staff on the new components.

6.0 ANALYSIS: COMPARISON OF ELG AND AN IFRS COMPLIANT ASL METHOD

In response to PUB Order 43/13, directives #8 & #9, which requested additional information to compare a change to the ELG method to a change to an IFRS-compliant ASL method, Manitoba Hydro developed two representative samples of additional asset component groups for significant asset categories. One representative sample is based on the March 31, 2014 asset component balances and a second representative sample is based on significant forecast asset additions (Bipole III and Keeyask) over the ten year forecast period. The additional components were developed through discussions with Manitoba Hydro engineering staff, Gannett Fleming and through a review of available historical asset records and project estimates.

The additional sample asset components developed for the analysis are listed in Figure 1, page II-5 of the Gannett Fleming report in Attachment A.

The results of the comparison performed by Gannett Fleming in Attachment A indicate that an IFRS-compliant ASL approach will produce a comparable depreciation expense to the ELG method applied to a fewer number of asset components. The results are summarized in Figure 2, page III-3 of Attachment A.

March 31, 2014 Account Balances:

The analysis performed on the March 31, 2014 account balances results in a $0.7 million difference, for the sample, between an IFRS-compliant ASL and ELG method. Extrapolating the $0.7 million difference to 100% of the asset balances indicates that that an IFRS compliant ASL approach would result in a lower annual depreciation expense of approximately $3.5 million. The implementation of an IFRS compliant ASL method would result in an increase in overall annual depreciation expense of approximately $33 million, compared to a $36 million increase under the ELG method, without consideration for the impacts of gains and losses on asset retirements. The analysis performed demonstrates that compliance with the depreciation requirements of IFRS will result in a similar increase in depreciation expense, regardless of the depreciation method used.

Capital Expenditure Forecast (CEF-14):

The analysis performed on a sample of forecast additions for the Bipole III and Keeyask projects results in a $0.1 million difference, between an IFRS-compliant ASL and ELG method. Extrapolating the $0.1 million difference to 100% of forecast additions for those projects indicates that that an IFRS compliant ASL approach would result in a higher annual depreciation expense of approximately $0.7 million.

The analysis demonstrates that an increase in annual depreciation expense will occur as a result of the need for Manitoba Hydro to comply with the more explicit componentization requirements of IFRS; regardless of whether the ELG or ASL method is applied. Overall, the differences calculated between the ASL and ELG approaches, is not significant enough to impact customer electricity rates.

Moreover, Manitoba Hydro wishes to emphasize to the PUB that on an overall basis, the proposed changes to depreciation are significantly reducing the Corporation's depreciation expense. The overall decrease in the test years ranges between $25 to $57 million annually. By the end of the 10-year forecast period, depreciation expense is expected to decrease by more than $100 million annually. Please refer to the following table, which is an excerpt from Schedule A of Appendix 5.7 of the Application.

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Electric only (in millions of $'s)										
DEPRECIATION EXPENSE										
Average Service Life Changes (2014 Depreciation Study)	(25)	(29)	(30)	(30)	(34)	(38)	(43)	(41)	(43)	(42)
Administrative Overhead		(0)	(2)	(4)	(6)	(7)	(9)	(11)	(13)	(14)
Meter Compliance, Exchange and Sampling		0	0	0	0	0	0	1	1	1
Removal of Net Salvage		(60)	(63)	(67)	(86)	(96)	(107)	(117)	(117)	(119)
Change to IFRS Compliant Depreciation		36	38	41	49	55	63	67	68	69
Subtotal Depreciation Changes	**(25)**	**(53)**	**(57)**	**(60)**	**(76)**	**(86)**	**(96)**	**(101)**	**(103)**	**(105)**

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.

The depreciation changes that are proposed by Manitoba Hydro, when considered on the whole, are not driving the need for increases in customer rates. As such, Manitoba Hydro sees no incremental benefit to the rate payer of incurring additional costs to further componentize its assets to continue with the ASL depreciation method under IFRS. Additional componentization would be very costly and would require additional administrative efforts to maintain.

GANNETT FLEMING RESPONSE TO PROVIDE COMPLIANCE WITH MANITOBA PUBLIC UTILITIES BOARD DECISION 43/13

Prepared by:

Excellence Delivered ***As Promised***

MANITOBA HYDRO

Winnipeg, Manitoba

GANNETT FLEMING RESPONSE TO PROVIDE COMPLIANCE WITH MANITOBA PUBLIC UTILITIES BOARD DECISION 43/13

GANNETT FLEMING CANADA ULC

Calgary, Alberta

TABLE OF CONTENTS

MANITOBA HYDRO

GANNETT FLEMING RESPONSE TO PROVIDE
COMPLIANCE WITH MANITOBA PUBLIC UTITLTIES BOARD
DECISION 43/13

EXECUTIVE SUMMARY

Gannett Fleming Canada ULC ("Gannett Fleming") was retained by Manitoba Hydro for assistance in responding to directives #8 and #9 from Public Utilities Board Order 43/13 for Manitoba Hydro's 2014/15 and 2015/16 General Rate Application (GRA). The directives requested information with respect to an analysis of the level of asset componentization that would be required to develop IFRS – compliant depreciation rates using the ASL procedure and an analysis comparing the depreciation expense resulting from the conversion to the ELG procedure as compared to the depreciation expense resulting from the use of an IFRS compliant ASL procedure.

In order to strictly comply with Directive #8, a detailed analysis of virtually all of the current Manitoba Hydro accounts would be required which, given the extreme volume of account information, could not be completed in time for the current GRA. In order to reasonably respond to the directives in the time period allotted, Gannett Fleming worked with Manitoba Hydro to develop a representative sample of additional asset component groups for further analysis. Representative sample components and comparisons between ELG and IFRS compliant ASL depreciation calculations were developed for both the March 31, 2014 account balances and the forecasted Bipole III and Keeyask projects. The sample accounts chosen represent approximately 20% of the total March 31, 2014 asset balance and 20% of the 10 year forecast project balances and are thus, sufficiently representative of the investment base being analyzed.

The analysis completed by Gannett Fleming on the March 31, 2014 balances, resulted in a $738,000 difference between the depreciation calculated using the ELG method and the depreciation calculated using the ASL method. Extrapolated across the full March 31, 2014 asset balance, the ELG method is $3.5 million higher on an annual basis than the ASL method applied to more components. The analysis completed on

the forecasted Bipole III and Keeyask projects resulted in a $140,000 difference between the ELG and IFRS-compliant ASL methods where the ELG procedure was lower than the IFRS compliant ASL procedure. Extrapolated across the forecasted asset balances, the ELG method is $0.7 million lower of the analyzed projects than the ASL method.

Based on the results of the testing presented in this report, Gannett Fleming views that the statements made by Manitoba Hydro in its previous GRA proceeding regarding the fact that an IFRS compliant ASL procedure would result in a similar level of depreciation expense as the proposed change to the ELG procedure have been demonstrated.

PART I. INTRODUCTION

MANITOBA HYDRO

GANNETT FLEMING RESPONSE TO PROVIDE

COMPLIANCE WITH MANITOBA PUBLIC UTITLTIES BOARD

DECISION 43/13

PART 1. BACKGROUND AND SCOPE

BACKGROUND

In its 2012/13 and 2013/14 General Rate Application ("GRA"), Manitoba Hydro informed the PUB that it would be changing from the Average Service Life ("ASL") procedure to the Equal Life Group ("ELG") procedure in the calculation of the depreciation rates upon its transition to IFRS in order to facilitate compliance with the requirements of IFRS. Mr. Larry Kennedy of Gannett Fleming Canada ULC ("Gannett Fleming") provided expert testimony relating to the enhanced ability of the ELG procedure to comply with the requirements of the IFRS without the need for additional componentization, as would be required to continue with the ASL procedure under IFRS. One of the key concerns identified during the hearing was the increase in depreciation expense resulting from the change to the ELG method in the years following the transition to IFRS. It was the stated view of Mr. Kennedy that the additional componentization that would be required in order to apply the ASL method under IFRS would result in a similar increase in depreciation expense. The advantage to changing to the ELG method is that very little additional componentization is required which significantly reduces existing and ongoing efforts and costs by Manitoba Hydro to comply with IFRS.

Based on their findings in Manitoba Hydro's GRA, the PUB issued the following directives to Manitoba Hydro as a means to better understand the differences between the ASL and ELG methodologies:

8. *That Manitoba Hydro file updated depreciation rates and schedules based on an International Financial Reporting Standards-compliant Average Service Life methodology with the next General Rate Application.*

9. *That Manitoba Hydro file with the Board, with the next General Rate Application, a chart showing a comparison of the impact on its Integrated Financial Forecast (i.e. 'Budget') of asset depreciation pursuant to the Average Service Life methodology (without net salvage) and the Equal Life Group methodology (without net salvage), applying both methodologies to all planned major capital additions.*

SCOPE OF STUDY

Gannett Fleming was retained by Manitoba Hydro to provide an analysis of the level of asset componentization that would be required to develop IFRS – compliant depreciation rates using the ASL Procedure and to model a comparison of the depreciation expense resulting from the conversion to the ELG procedure as compared to the depreciation expense resulting from the use of an IFRS compliant ASL procedure. This report presents a discussion of the analysis undertaken by Gannett Fleming and provides the comparative results from the analysis.

Strict compliance with Directive 8 from the Public Utilities Board Order 43/13 would require a detailed analysis of virtually all of the current Manitoba Hydro accounts. Such an analysis would require the detailed manual review of over 70 years of detailed project capitalization records, many years of detailed retirement transactions, and a detailed review of the current investment in all accounts. These reviews are required in order to determine the amount of investment by installation year for accounts that could be componentized further, and to appropriately develop a retirement rate analysis for the support of an average life estimate for each of the new components. Additionally, the accumulated depreciation accounts would require the same level of componentization as the related asset accounts.

In order to reasonably respond to PUB Order 43/13, directives #8 and #9 in time for Manitoba Hydro's 2014/15 and 2015/16 GRA, Gannett Fleming worked with Manitoba Hydro to develop a representative sample of additional asset component groups for further review and analysis.

This report outlines the manner in which a representative sample of accounts were selected for analysis and review; presents an overview of the manner in which

each of the components where assigned an average service life estimate for use in this analysis; describes the manner in which the review was undertaken; and will provide a summary of the analysis and the conclusions of Gannett Fleming resulting from the study.

PART II. ANALYSIS AND REVIEW

PART 2. ANALYSIS AND REVIEW

SELECTION OF THE MARCH 31, 2014 COMPONENTS TO REVIEW

Gannett Fleming is a large internationally acclaimed professional engineering firm that has been active in the design, construction and inspection of Dams, Levees and Hydroelectric infrastructure since 1915. Gannett Fleming is a member of the Canadian Dam Association ("CDA") and frequently presents on a number of issues to the membership of the CDA. In addition to reliance on the Manitoba Hydro engineering and operations staff, senior leadership staff of the Gannett Fleming Dam and Earth Sciences group were consulted during various phases of this project to ensure that the Gannett Fleming recommendations regarding componentization reasonably reflect current and historic engineering practices related to dams and levees.

Based on the broad experience of Gannett Fleming developing depreciation practices and policies ensuring compliance with the IFRS for utilities across Canada, Gannett Fleming does not view that the current level of Manitoba Hydro asset componentization is sufficient if using the ASL method for financial statements prepared under IFRS. In the experience of Gannett Fleming, electric generation utilities across Canada that use the ASL procedure have a significantly increased level of componentization for financial reporting purposes[1].

Gannett Fleming views that Manitoba Hydro's current level of depreciable components would need to be broken down into additional components based on asset dollar value, differing service lives and differing forces of retirement in order for Manitoba Hydro to continue using the ASL procedure in the development of depreciation rates under the IFRS.

Gannett Fleming worked with Manitoba Hydro to develop a representative sample of additional asset component groups for further review and analysis based on the following:

- Where it is easily apparent that the current group will not meet the componentization requirements of the IFRS;

[1] Including BC Hydro, Newfoundland and Labrador Hydro and SaskEnergy.

- Where a reasonable estimate of the average service life can be determined by operational staff. In this manner, a reasonable estimate of the service life estimate for the new accounts could be made without the detailed review of all historic retirement information;
- Where the current groups selected will provide a statistically significant sample size such that the results can be considered to be representative of a full review of accounts.
- Where the resultant groups selected represent a reasonable cross sample of accounts and facilities.

Based on the above criteria, the following accounts were selected for analysis:

- Turbines and Generators – Generation
- A/C Electrical Power Systems – Generation
- Poles and Fixtures – Transmission
- Other Transformers – Transmission
- Interrupting Equipment – Substations
- Poles and Fixtures – Distribution
- Buildings – 360 Portage – Electro/mechanical

The data used in the 2014 depreciation study as filed in this application was used for the analysis and componentization. As of March 31, 2014 the above account groups represented $2.9 billion of Manitoba Hydro's total March 31, 2014 cost base of $14.2 billion (or 20%). In the view of Gannett Fleming, a sample size representing 20% of the total investment comprising a broad cross section of asset groups is representative of the investment as a whole.

In order to compare the impacts of the ELG procedure to an IFRS compliant ASL procedure on a large level of new investment as identified in Manitoba Hydro's Capital Expenditure Forecast (CEF-14), current component groups relating to the future investment for the Bipole III and Keeyask Generating Station projects were tested. These two projects represent 55% of the total electric operations capital forecast over the next 10 years and the sample accounts selected represent approximately 20% of

the project's balance. Specifically, the following component groups related to the new investment of the above two projects were identified for specific review:

- Synchronous Condensers and Unit Transformers – Bipole III
- Converter Equipment – Bipole III
- Water control Systems – Keeyask
- Turbines and Generators – Keeyask
- A/C electrical Power Systems – Keeyask

Figure 1, on the following page identifies the current components and the further componentized new groupings used for the purposes of comparative testing. Gannett Fleming notes that this level of componentization and new component development is reasonable for the purposes of testing in order to comply with the PUB directives. However, the continued use of an IFRS compliant ASL procedure would require a significant amount of additional review of the tested components, in addition to a complete review of all components not included in the sample.

Figure 1 – Summary of the Representative Sample of Existing and Additional Components Used in the Gannett Fleming Testing

March 31, 2014 Accounts:

Existing Asset Component	Existing Asset Component
- Turbines and Generators (Generation)	- Turbines - Generators
- A/C Electrical Power Systems (Generation)	- Step-up transformers manufactured before 1950 - Step-up transformers manufactured in 1950 or later - A/C Electrical Power Systems – other equipment
- Poles and Fixtures (Transmission)	- Wood Poles and Fixtures - Cross-arms
- Other Transformers (Substations)	- Other Transformers - Potential and Current Transformers
- Interrupting Equipment (Substations)	- Other Interrupting Equipment - Vacuum Circuit Breakers - Min Oil and SF6 Breakers - Air Magnetic Breakers - Air Blast and Oil Bulk Breakers
Existing Asset Component	**Existing Asset Component**
- Poles and Fixtures (Distribution)	- Wood Poles and Fixtures - Cross-arms
- Buildings (360 Portage) – Electro/mechanical	- Finishes - Mechanical/Windows and Other - Millwork and Elevators - Interior Glaze/Drywall and Electrical

Capital Expenditure Forecast (CEF-14):

Existing Asset Component	Test Sample Asset Component
- Synchronous Condensers and Unit Transformers (Bipole III)	- Synchronous Condensers - Unit Transformers
- Converter Equipment (Bipole III)	- HVDC Converter Valves and Valve Cooling Equipment - HVDC Converter Transformers
- Water Control Systems (Keeyask)	- Water Control Systems - Ice, Debris and Public Safety Booms
- Turbines and Generators (Keeyask)	- Turbines - Generators
- A/C Electrical Power Systems (Keeyask)	- Step-up transformers manufactured in 1950 or later - A/C Electrical Power Systems – other equipment

DEVELOPMENT OF AVERAGE SERVICE LIFE ESTIMATES FOR THE NEW COMPONENT GROUPS

In order to test the impacts of the ELG Procedure to an IFRS compliant ASL procedure, an average service life estimate is required for the additional level of componentization used in the development of the ASL depreciation expense. The average service life estimates as used in the depreciation study filed with Manitoba Hydro's current application were used as the basis for the development of the new more componentized average service life estimates. The comparisons to the ELG procedure used average service lives as used in the current 2014 depreciation study.

Gannett Fleming notes that in the development of the additional components, the componentization used for ELG purposes in the 2014 depreciation study was used as a starting point. Each of the new ASL components were then analyzed to determine if the new component would have a longer or shorter life than the ELG component. In some circumstances, one of the new components represented such a large percentage of investment in the existing account that the larger component has been assigned the same life estimate as the larger ELG component.

The development of the average service life estimates for the IFRS compliant ASL procedure included the following review for each new account:

- Review by Manitoba Hydro Operations staff to provide an indication of the average service life of each of the components;
- Review of the Manitoba Hydro internal estimates by Gannett Fleming;
- Review to determine if the lives for the new components are consistent with the lives as determined for the ELG components in the current depreciation study; and
- The lives of all components were rounded to the nearest 5 years.

The resultant average service life estimates for all new components are identified on the Table of results in Part 3 of this report.

TESTING AND REVIEW

The Gannett Fleming testing was completed in two parts. Firstly, for the investment as of March 31, 2014, Gannett Fleming completed a series of ASL procedure calculations on the increased level of componentization which included the new average service life estimates for each of the components. The ELG calculations were developed in the current depreciation study filed with this application. Secondly, a first year calculation was made for the investment related to the two new capital projects, which required development of detailed depreciation calculations for the ELG and IFRS compliant ASL procedures.

A component of the depreciation rates includes the true-up of accumulated depreciation variances between the level of actual accumulated depreciation balances and the calculated (or theoretical) accumulated depreciation balances. In order to develop the true-up calculations, Gannett Fleming developed an allocation of the accumulated depreciation amounts as of March 31, 2014 for use with the IFRS compliant ASL procedure. For the ELG components, the true up calculations were developed in the current depreciation study.

A table summarizing the results of the analysis is provided in Part 3 of this report.

PART III. RESULTS AND CONCLUSIONS

PART 3. RESULTS AND CONCLUSIONS

RESULTS

Based on the analysis completed by Gannett Fleming on the March 31, 2014 balances, the depreciation expense related to the proposed use of the ELG procedure on the $2.9 billion of original cost is $738,000 higher as compared to the use of the IFRS compliant ASL procedure. Extrapolating the $0.7 million difference to 100% of the March 31, 2014 asset balance equates to an approximately $3.5 million annual difference between the two approaches. However, on the analysis of the forecast Bipole III and Keeyask projects the depreciation expense related to the proposed ELG procedure is $140,000 less than the IFRS compliant ASL procedure. Extrapolating the ($0.1) million difference between the IFRS-compliant ASL method and the ELG method results over the total of the analyzed project additions over the next 10 years, equates to an approximately ($0.7) million annual difference between the two approaches. The results of the Gannett Fleming Analysis is summarized in Table 1 on page III-5 and in more detail by account in Tables 2, 3 and 4 provided at pages III-6, III-7 and III-8 of this report.

Figure 2 - Summary of Differences in Depreciation Procedures

Component	Depreciation Expense ($ millions)		
	ELG Method	ASL Method	Difference
March 31, 2014 Accounts:			
A/C Electrical Power Systems (Generation)	7.16		
- Step-up Transformers Manufactured before 1950		-	
- Step-up Transformers Manufactured in 1950 or later		3.63	
- A/C Electrical Power Systems – Other Equipment		4.35	
Turbines and Generators (Generation)	23.45		
- Turbines		8.80	
- Generators		15.15	
Poles and Fixtures (Transmission)	2.11		
- Wood Poles and Fixtures		1.31	
- Cross-arms		0.42	
Other Transformers (Substations)	2.54		
- Other Transformers		1.61	
- Potential and Current Transformers		0.50	
Interrupting Equipment (Substations)	4.85		
- Other Interrupting Equipment		2.67	
- Vacuum Circuit Breakers		0.73	
- Min Oil and SF6 Breakers		1.09	
- Air Magnetic Breakers		0.44	
- Air Blast and Oil Bulk Breakers		0.09	
Poles and Fixtures (Distribution)	10.59		
- Wood Poles and Fixtures		7.62	
- Cross-arms		1.41	
Buildings (360 Portage)	1.98		
- Electro/mechanical - Finishes		0.73	
- Electro/mechanical – Mechanical/Windows and Other		1.05	
- Electro/mechanical – Millwork and Elevators		0.16	
- Electro/mechanical – Interior Glaze/Drywall and Electrical		0.17	
Sub-Total March 31, 2014 Balances	**52.67**	**51.93**	**0.74**
Capital Expenditure Forecast:			
Synchronous Condensers and Unit Transformers (Bipole III)*	3.66		
- Synchronous Transformers		1.93	
- Unit Transformers		1.68	
Converter Equipment (Bipole III)	14.97		
- HVDC Converter Valves and Valve Cooling Equipment		6.17	
- HVDC Converter Transformers		8.83	
Water Control Systems (Keeyask)**	9.04		
- Water Control Systems		8.15	
- Ice, Debris and Public Safety Booms		0.71	
Turbines and Generators (Keeyask)	9.79		
- Turbines		3.95	
- Generators		6.59	
A/C Electrical Power Systems (Keeyask)	4.77		
- Step-up Transformers Manufactured in 1950 or later		1.03	
- A/C Electrical Power Systems – Other Equipment		3.33	
Sub-Total Forecast Balances	**42.23**	**42.37**	**(0.14)**

** Assumes Fiscal 2019 when Bipole III is fully in service*

*** Assumes 2021 when Keeyask GS is fully in service*

CONCLUSION

The $738,000 difference based on the accounts tested as of March 31, 2014 between an IFRS-compliant ASL and ELG method demonstrates that compliance with the depreciation requirements of IFRS will result in a similar increase in depreciation expense, regardless of the depreciation method used. In Appendix 5.7 of this application, Manitoba Hydro indicates the estimated annual increase in depreciation expense for complying with IFRS by changing to the ELG method is $36 million. This annual increase in depreciation would be approximately $33 million if Manitoba Hydro were to continue with an IFRS compliant ASL method.

The difference of $140,000 resulting from analysis comparing the impact on the two large new capital projects (Bipole III and Keeyask) also demonstrates the convergence of the depreciation expense between the two methods.

Overall, the testing completed by Gannett Fleming indicates that a similar impact will result when the two methods are applied to a significant level of asset costs (both as of March 31, 2014, and on the two large forecasted capital projects). Gannett Fleming strongly cautions that depreciation expense is an estimate, and that this analysis is on a representative sample basis only and it is possible that the results of a complete study of existing and projected asset additions could be smaller or larger than the balances provided in this analysis. Such differences may also be altered by differences between actual and projected levels of capital expenditures and asset retirements.

Based on the results of the testing presented in this report, Gannett Fleming views that the statements made in the 2013/2014 General Rate Application Proceeding regarding the fact that an IFRS compliant ASL Procedure would result in a similar level of depreciation expense as the proposed change to the ELG procedure have been demonstrated. The over-riding benefit of the proposed ELG procedure is the elimination of the need to undertake a very significant effort to develop the level of componentization required for the use of an IFRS compliant ASL procedure.

MANITOBA HYDRO
TABLE 1. SUMMARY OF AVERAGE SERVICE LIFE VERSUS EQUAL LIFE GROUP
PLANT AS OF MARCH 31, 2014

		FILED ELG							ASL - COMPONENTIZATION							
		LIFE SPAN	SURVIVOR	SURVIVING ORIGINAL COST	CALCULATED ANNUAL ACCRUAL		ANNUAL PROVISION	TOTAL DEPRECIATION RELATED TO LIFE		LIFE SPAN	SURVIVOR	SURVIVING ORIGINAL COST	CALCULATED ANNUAL ACCRUAL		ANNUAL PROVISION	TOTAL DEPRECIATION RELATED TO LIFE	
ACCOUNT	ACCOUNT DESCRIPTION	DATE	CURVE	AS OF MARCH 31, 2014	AMOUNT	RATE (%)	FOR TRUE-UP	EXPENSE	RATE (%)	DATE	CURVE	AS OF MARCH 31, 2014	AMOUNT	RATE (%)	FOR TRUE-UP	EXPENSE	RATE (%)
	(1)		(2)	(3)	(4)	(5)=(4)/(3)	(6)	(7)=(4)+(6)	(8)=(7)/(3)		(9)	(10)	(11)	(12)=(11)/(10)	(13)	(14)=(11)+(13)	(15)=(14)/(10)
Great Falls 1105P A/C Electrical Power Systems:																	
1105P1	Step-Up Transformers Manufactured before 1950									2063	60-R4	163,626	2,733	1.67	(25,260)	(22,527)	(13.77)
1105P2	Step-up Transformers Manufactured in 1950 or later									2063	40-R4	3,811,668	95,292	2.50	(7,877)	87,415	2.29
1105P3	A/C Electrical Power Systems - Other Equipment									2063	55-R4	5,517,794	100,696	1.82	(9,812)	90,884	1.65
1105P	**A/C Electrical Power Systems - Total for Parent Account**	2063	55-R4	**9,493,088**	**178,427**	**1.88**	**(20,168)**	**158,259**	**1.67**			**9,493,088**	**198,721**	**2.09**	**(42,949)**	**155,772**	**1.64**
Point du Bois 1110P A/C Electrical Power Systems:																	
1110P1	Step-Up Transformers Manufactured before 1950																
1110P2	Step-up Transformers Manufactured in 1950 or later									2040	40-R4	6,324,690	211,361	3.34	(42,537)	168,824	2.67
1110P3	A/C Electrical Power Systems - Other Equipment									2040	55-R4	1,435,296	49,693	3.46	(6,326)	43,367	3.02
1110P	**A/C Electrical Power Systems - Total for Parent Account**	2040	55-R4	**7,759,986**	**264,381**	**3.41**	**(48,663)**	**215,718**	**2.78**			**7,759,986**	**261,054**	**3.36**	**(48,863)**	**212,191**	**2.73**
Seven Sisters 1115P A/C Electrical Power Systems:																	
1115P1	Step-Up Transformers Manufactured before 1950									2072	60-R4	348,199	5,815	1.67	(11,285)	(5,470)	(1.57)
1115P2	Step-up Transformers Manufactured in 1950 or later									2072	40-R4	4,455,082	111,377	2.50	(18,944)	92,433	2.07
1115P3	A/C Electrical Power Systems - Other Equipment									2072	50-R4	7,120,950	135,967	1.91	(14,934)	121,033	1.70
1115P	**A/C Electrical Power Systems - Total for Parent Account**	2072	55-R4	**11,924,230**	**223,527**	**1.87**	**(37,834)**	**185,693**	**1.56**			**11,924,231**	**253,159**	**2.12**	**(45,163)**	**207,996**	**1.74**
Slave Falls 1120P A/C Electrical Power Systems:																	
1120P1	Step-Up Transformers Manufactured before 1950									2072	60-R4	960,483	16,328	1.70	(827)	15,501	1.61
1120P2	Step-up Transformers Manufactured in 1950 or later																
1120P3	A/C Electrical Power Systems - Other Equipment									2072	55-R4	20,671,367	382,740	1.85	(13,147)	369,593	1.79
1120P	**A/C Electrical Power Systems - Total for Parent Account**	2072	55-R4	**21,631,850**	**421,951**	**1.95**	**(9,787)**	**412,164**	**1.91**			**21,631,850**	**399,068**	**1.84**	**(13,974)**	**385,094**	**1.78**
Pine Falls 1125P A/C Electrical Power Systems:																	
1125P1	Step-Up Transformers Manufactured before 1950									2092	60-R4	350,135	5,847	1.67	(11,236)	(5,389)	(1.54)
1125P2	Step-up Transformers Manufactured in 1950 or later																
1125P3	A/C Electrical Power Systems - Other Equipment									2092	55-R4	4,746,843	86,393	1.82	(11,299)	75,094	1.58
1125P	**A/C Electrical Power Systems - Total for Parent Account**	2092	55-R4	**5,096,978**	**92,115**	**1.81**	**(11,342)**	**80,773**	**1.58**			**5,096,978**	**92,240**	**1.81**	**(22,535)**	**69,705**	**1.37**
McArthur Falls 1130P A/C Electrical Power Systems:																	
1130P1	Step-Up Transformers Manufactured before 1950									2095	60-R4	319,824	5,341	1.67	(8,255)	(2,914)	(0.91)
1130P2	Step-up Transformers Manufactured in 1950 or later																
1130P3	A/C Electrical Power Systems - Other Equipment									2095	55-R4	2,201,937	40,075	1.82	(9,572)	30,503	1.39
1130P	**A/C Electrical Power Systems - Total for Parent Account**	2095	55-R4	**2,521,761**	**43,075**	**1.71**	**(9,746)**	**33,329**	**1.32**			**2,521,761**	**45,416**	**1.80**	**(17,827)**	**27,589**	**1.09**
Kelsey 1135P A/C Electrical Power Systems:																	
1135P1	Step-Up Transformers Manufactured before 1950																
1135P2	Step-up Transformers Manufactured in 1950 or later									2101	40-R4	15,764,992	394,125	2.50	22,946	417,071	2.65
1135P3	A/C Electrical Power Systems - Other Equipment									2101	55-R4	24,729,522	450,077	1.82	30,199	480,276	1.94
1135P	**A/C Electrical Power Systems - Total for Parent Account**	2101	55-R4	**40,494,515**	**779,913**	**1.93**	**42,291**	**822,204**	**2.03**			**40,494,514**	**844,202**	**2.08**	**53,145**	**897,347**	**2.22**
Grand Rapids 1140P A/C Electrical Power Systems:																	
1140P1	Step-Up Transformers Manufactured before 1950																
1140P2	Step-up Transformers Manufactured in 1950 or later									2091	40-R4	2,957,039	73,926	2.50	(4,628)	69,298	2.34
1140P3	A/C Electrical Power Systems - Other Equipment									2091	55-R4	5,283,506	96,160	1.82	(15,370)	80,790	1.53
1140P	**A/C Electrical Power Systems - Total for Parent Account**	2091	55-R4	**8,240,545**	**153,036**	**1.86**	**(16,600)**	**136,436**	**1.66**			**8,240,545**	**170,086**	**2.06**	**(19,998)**	**150,088**	**1.82**
Kettle 1145P A/C Electrical Power Systems:																	
1145P1	Step-Up Transformers Manufactured before 1950																
1145P2	Step-up Transformers Manufactured in 1950 or later									2111	40-R4	36,244,611	906,115	2.50	24,903	931,018	2.57
1145P3	A/C Electrical Power Systems - Other Equipment									2111	50-R4	2,535,002	50,700	2.00	22,041	72,741	2.87
1145P	**A/C Electrical Power Systems - Total for Parent Account**	2111	55-R4	**38,779,613**	**745,736**	**1.92**	**12,798**	**758,534**	**1.96**			**38,779,613**	**956,815**	**2.47**	**46,944**	**1,003,759**	**2.59**
Laurie River 1150P A/C Electrical Power Systems:																	
1150P1	Step-Up Transformers Manufactured before 1950																
1150P2	Step-up Transformers Manufactured in 1950 or later																
1150P3	A/C Electrical Power Systems - Other Equipment									2035	55-R4	1,441,945	39,580	2.74	3,966	43,546	3.02
1150P	**A/C Electrical Power Systems - Total for Parent Account**	2035	55-R4	**1,441,945**	**40,426**	**2.80**	**4,948**	**45,374**	**3.15**			**1,441,945**	**39,580**	**2.74**	**3,966**	**43,546**	**3.02**
Jenpeg 1155P A/C Electrical Power Systems:																	
1155P1	Step-Up Transformers Manufactured before 1950																
1155P2	Step-up Transformers Manufactured in 1950 or later									2118	40-R4	5,710,258	142,756	2.50	(56,656)	86,100	1.51
1155P3	A/C Electrical Power Systems - Other Equipment									2118	55-R4	15,931,351	289,951	1.82	(30,158)	259,793	1.63
1155P	**A/C Electrical Power Systems - Total for Parent Account**	2118	55-R4	**21,641,608**	**394,933**	**1.82**	**(63,837)**	**331,096**	**1.53**			**21,641,609**	**432,707**	**2.00**	**(86,814)**	**345,893**	**1.60**
Churchill River Diversion 1165P A/C Electrical Power Systems:																	
1165P1	Step-Up Transformers Manufactured before 1950																
1165P2	Step-up Transformers Manufactured in 1950 or later																
1165P3	A/C Electrical Power Systems - Other Equipment										55-R4	1,710,889	31,138	1.82	(6,356)	24,782	1.45
1165P	**A/C Electrical Power Systems - Total for Parent Account**		55-R4	**1,710,889**	**31,121**	**1.82**	**(4,201)**	**26,920**	**1.57**			**1,710,889**	**31,138**	**1.82**	**(6,356)**	**24,782**	**1.45**
Long Spruce 1170P A/C Electrical Power Systems:																	
1170P1	Step-Up Transformers Manufactured before 1950																
1170P2	Step-up Transformers Manufactured in 1950 or later									2118	40-R4	19,424,177	485,604	2.50	9,325	494,929	2.55
1170P3	A/C Electrical Power Systems - Other Equipment									2118	55-R4	11,186,563	203,595	1.82	1,202	204,797	1.83
1170P	**A/C Electrical Power Systems - Total for Parent Account**	2118	55-R4	**30,610,740**	**560,009**	**1.83**	**(99,219)**	**460,790**	**1.51**			**30,610,740**	**689,199**	**2.25**	**10,527**	**699,726**	**2.29**

MANITOBA HYDRO
TABLE 1. SUMMARY OF AVERAGE SERVICE LIFE VERSUS EQUAL LIFE GROUP
PLANT AS OF MARCH 31, 2014

		FILED ELG							ASL - COMPONENTIZATION							
		LIFE SPAN	SURVIVOR	SURVIVING ORIGINAL COST	CALCULATED ANNUAL ACCRUAL		ANNUAL PROVISION	TOTAL DEPRECIATION RELATED TO LIFE		LIFE SPAN	SURVIVOR	SURVIVING ORIGINAL COST	CALCULATED ANNUAL ACCRUAL		ANNUAL PROVISION	TOTAL DEPRECIATION RELATED TO LIFE	
ACCOUNT	ACCOUNT DESCRIPTION	DATE	CURVE	AS OF MARCH 31, 2014	AMOUNT	RATE (%)	FOR TRUE-UP	EXPENSE	RATE (%)	DATE	CURVE	AS OF MARCH 31, 2014	AMOUNT	RATE (%)	FOR TRUE-UP	EXPENSE	RATE (%)
	(1)		(2)	(3)	(4)	(5)=(4)/(3)	(6)	(7)=(4)+(6)	(8)=(7)/(3)		(9)	(10)	(11)	(12)=(11)/(10)	(13)	(14)=(11)+(13)	(15)=(14)/(10)
Limestone 1175P A/C Electrical Power Systems:																	
1175P1	Step-Up Transformers Manufactured before 1950																
1175P2	Step-up Transformers Manufactured in 1950 or later									2131	40-R4	43,746,177	1,093,654	2.50	(99,436)	994,218	2.27
1175P3	A/C Electrical Power Systems - Other Equipment									2131	55-R4	100,842,764	1,835,338	1.82	(94,006)	1,741,332	1.73
1175P	**A/C Electrical Power Systems - Total for Parent Account**	2131	55-R4	**144,588,941**	**2,741,516**	**1.90**	**(233,699)**	**2,507,817**	**1.73**			**144,588,941**	**2,928,992**	**2.03**	**(193,442)**	**2,735,550**	**1.89**
Wuskwatim 1180P A/C Electrical Power Systems:																	
1180P1	Step-Up Transformers Manufactured before 1950																
1180P2	Step-up Transformers Manufactured in 1950 or later									2152	40-R4	403,600	10,090	2.50	(71)	10,019	2.48
1180P3	A/C Electrical Power Systems - Other Equipment									2152	55-R4	1,288,063	23,443	1.82	(118)	23,325	1.81
1180P	**A/C Electrical Power Systems - Total for Parent Account**	2152	55-R4	**1,691,663**	**32,649**	**1.93**	**(192)**	**32,457**	**1.92**			**1,691,663**	**33,533**	**1.98**	**(189)**	**33,344**	**1.97**
Wuskwatim Power Limited Partnership ("WPLP") 1181P A/C Electrical Power Systems:																	
1181P1	WPLP - Step-Up Transformers Manufactured before 1950																
1181P2	WPLP - Step-up Transformers Manufactured in 1950 or later									2152	40-R4	11,907,305	297,683	2.50	(2,902)	294,781	2.48
1181P3	WPLP - A/C Electrical Power Systems - Other Equipment									2152	55-R4	38,001,362	691,625	1.82	(4,846)	686,779	1.81
1181P	**A/C Electrical Power Systems - Total for Parent Account**	2152	55-R4	**49,908,667**	**963,237**	**1.93**	**(7,597)**	**955,640**	**1.91**			**49,908,667**	**989,308**	**1.98**	**(7,748)**	**981,560**	**1.97**
1105G1	Turbines									2063	75-S3	14,949,264	250,605	1.68	16,610	267,215	1.79
1105G2	Generators									2063	45-S3	18,869,048	419,849	2.23	27,659	447,508	2.37
1105G	**Turbines and Generators - Total for Parent Account**	2063	60-S3	**33,818,312**	**647,992**	**1.92**	**39,027**	**687,019**	**2.03**			**33,818,312**	**670,454**	**1.98**	**44,269**	**714,723**	**2.11**
Pointe du Bois 1110G:																	
1110G1	Turbines									2040	75-S3	27,977,470	884,721	3.16	(223,804)	660,917	2.36
1110G2	Generators									2040	45-S3	3,921,590	127,123	3.24	(31,420)	95,703	2.44
1110G	**Turbines and Generators - Total for Parent Account**	2040	60-S3	**31,899,060**	**1,036,836**	**3.25**	**(256,998)**	**779,838**	**2.44**			**31,899,060**	**1,011,844**	**3.17**	**(255,224)**	**756,620**	**2.37**
Seven Sisters 1115G:																	
1115G1	Turbines									2072	75-S3	34,324,616	538,754	1.57	(29,435)	509,319	1.48
1115G2	Generators									2072	45-S3	20,124,707	448,104	2.23	(51,168)	396,936	1.97
1115G	**Turbines and Generators - Total for Parent Account**	2072	60-S3	**54,449,323**	**986,438**	**1.81**	**(64,103)**	**922,335**	**1.69**			**54,449,323**	**986,858**	**1.81**	**(80,603)**	**906,255**	**1.66**
Slave Falls 1120G:																	
1120G1	Turbines									2072	75-S3	5,916,360	92,011	1.56	(488)	91,523	1.55
1120G2	Generators									2072	45-S3	6,330,169	140,617	2.22	(1,131)	139,486	2.20
1120G	**Turbines and Generators - Total for Parent Account**	2072	60-S3	**12,246,529**	**224,685**	**1.83**	**(3,206)**	**221,479**	**1.81**			**12,246,529**	**232,628**	**1.90**	**(1,619)**	**231,009**	**1.89**
Pine Falls 1125G:																	
1125G1	Turbines									2092	75-S3	4,890,684	65,401	1.34	(9,048)	56,353	1.15
1125G2	Generators									2092	45-S3	4,427,470	98,290	2.22	(27,038)	71,252	1.61
1125G	**Turbines and Generators - Total for Parent Account**	2092	60-S3	**9,318,154**	**150,312**	**1.61**	**(22,361)**	**127,951**	**1.37**			**9,318,154**	**163,691**	**1.76**	**(36,086)**	**127,605**	**1.37**
McArthur Falls 1130G:																	
1130G1	Turbines									2095	75-S3	2,902,707	38,684	1.33	(16,087)	22,597	0.78
1130G2	Generators									2095	45-S3	2,476,911	54,987	2.22	(59,614)	(4,627)	(0.19)
1130G	**Turbines and Generators - Total for Parent Account**	2095	60-S3	**5,379,618**	**77,690**	**1.44**	**(27,218)**	**50,472**	**0.94**			**5,379,618**	**93,671**	**1.74**	**(75,701)**	**17,970**	**0.33**
Kelsey 1135G:																	
1135G1	Turbines									2101	75-S3	78,758,820	1,077,668	1.37	26,857	1,104,525	1.40
1135G2	Generators									2101	45-S3	67,625,037	1,501,276	2.22	78,692	1,579,968	2.34
1135G	**Turbines and Generators - Total for Parent Account**	2101	60-S3	**146,383,857**	**2,613,973**	**1.79**	**91,265**	**2,705,238**	**1.85**			**146,383,857**	**2,578,944**	**1.76**	**105,549**	**2,684,493**	**1.83**
Grand Rapids 1140G:																	
1140G1	Turbines									2091	75-S3	60,479,918	821,891	1.36	(22,537)	799,354	1.32
1140G2	Generators									2091	45-S3	52,733,707	1,170,688	2.22	(52,693)	1,117,995	2.12
1140G	**Turbines and Generators - Total for Parent Account**	2091	60-S3	**113,213,625**	**2,003,975**	**1.77**	**(36,364)**	**1,967,611**	**1.74**			**113,213,625**	**1,992,579**	**1.76**	**(75,230)**	**1,917,349**	**1.69**
Kettle 1145G:																	
1145G1	Turbines									2111	75-S3	27,147,622	361,172	1.33	3,205	364,377	1.34
1145G2	Generators									2111	45-S3	72,015,762	1,598,750	2.22	8,311	1,607,061	2.23
1145G	**Turbines and Generators - Total for Parent Account**	2111	60-S3	**99,163,384**	**1,693,671**	**1.71**	**23,758**	**1,717,429**	**1.73**			**99,163,384**	**1,959,922**	**1.98**	**11,516**	**1,971,438**	**1.99**
Laurie River 1150G:																	
1150G1	Turbines									2035	75-S3	371,894	10,496	2.82	613	11,109	2.99
1150G2	Generators									2035	45-S3	4,231,242	147,942	3.50	4,990	152,932	3.61
1150G1	Turbines																
1150G	**Turbines and Generators - Total for Parent Account**	2035	60-S3	**4,603,136**	**160,625**	**3.49**	**6,099**	**166,724**	**3.62**			**4,603,136**	**158,438**	**3.44**	**5,603**	**164,041**	**3.56**
Jenpeg 1155G:																	
1155G1	Turbines									2118	75-S3	47,800,851	637,186	1.33	(2,443)	634,743	1.33
1155G2	Generators									2118	45-S3	43,915,520	974,925	2.22	(14,206)	960,719	2.19
1155G	**Turbines and Generators - Total for Parent Account**	2118	60-S3	**91,716,371**	**1,582,037**	**1.72**	**12,804**	**1,594,841**	**1.74**			**91,716,371**	**1,612,111**	**1.76**	**(16,649)**	**1,595,462**	**1.74**
Long Spruce 1170G:																	
1170G1	Turbines									2118	75-S3	63,342,196	842,451	1.33	(17,270)	825,181	1.30
1170G2	Generators									2118	45-S3	79,986,447	1,775,699	2.22	(93,529)	1,682,170	2.10
1170G	**Turbines and Generators - Total for Parent Account**	2118	60-S3	**143,328,643**	**2,453,827**	**1.71**	**(25,472)**	**2,428,355**	**1.69**			**143,328,643**	**2,618,150**	**1.83**	**(110,799)**	**2,507,351**	**1.75**

MANITOBA HYDRO
TABLE 1. SUMMARY OF AVERAGE SERVICE LIFE VERSUS EQUAL LIFE GROUP
PLANT AS OF MARCH 31, 2014

		FILED ELG							ASL - COMPONENTIZATION							
		LIFE SPAN	SURVIVOR	SURVIVING ORIGINAL COST	CALCULATED ANNUAL ACCRUAL		ANNUAL PROVISION	TOTAL DEPRECIATION RELATED TO LIFE		LIFE SPAN	SURVIVOR	SURVIVING ORIGINAL COST	CALCULATED ANNUAL ACCRUAL		ANNUAL PROVISION	TOTAL DEPRECIATION RELATED TO LIFE	
ACCOUNT	ACCOUNT DESCRIPTION	DATE	CURVE	AS OF MARCH 31, 2014	AMOUNT	RATE (%)	FOR TRUE-UP	EXPENSE	RATE (%)	DATE	CURVE	AS OF MARCH 31, 2014	AMOUNT	RATE (%)	FOR TRUE-UP	EXPENSE	RATE (%)
	(1)		(2)	(3)	(4)	(5)=(4)/(3)	(6)	(7)=(4)+(6)	(8)=(7)/(3)		(9)	(10)	(11)	(12)=(11)/(10)	(13)	(14)=(11)+(13)	(15)=(14)/(10)
Limestone 1175G:																	
1175G1	Turbines									2131	75-S3	180,982,160	2,407,063	1.33	43,437	2,450,500	1.35
1175G2	Generators									2131	45-S3	223,347,469	4,958,314	2.22	199,599	5,157,913	2.31
1175G	**Turbines and Generators - Total for Parent Account**	2131	60-S3	**404,329,629**	**7,181,521**	**1.78**	**134,341**	**7,315,862**	**1.81**			**404,329,629**	**7,365,377**	**1.82**	**243,036**	**7,608,413**	**1.88**
Wuskwatim 1180G:																	
1180G1	Turbines									2152	75-S3	2,279,516	30,318	1.33	(170)	30,148	1.32
1180G2	Generators									2152	45-S3	2,372,558	52,671	2.22	(496)	52,175	2.20
1180G	**Turbines and Generators - Total for Parent Account**	2152	60-S3	**4,652,074**	**83,272**	**1.79**	**(581)**	**82,691**	**1.78**			**4,652,074**	**82,989**	**1.78**	**(666)**	**82,323**	**1.77**
Wuskwatim Power Limited Partnership ("WPLP") 1181G:																	
1181G1	WPLP - Turbines									2152	75-S3	73,430,216	976,622	1.33	(95)	976,527	1.33
1181G2	WPLP - Generators									2152	45-S3	76,427,367	1,696,688	2.22	(278)	1,696,410	2.22
1181G	**WPLP - Turbines and Generators - Total for Parent Account**	2152	60-S3	**149,857,582**	**2,682,451**	**1.79**	**(322)**	**2,682,129**	**1.79**			**149,857,583**	**2,673,310**	**1.78**	**(373)**	**2,672,937**	**1.78**
2000J1	Wood Poles and Fixtures										65-R3	98,335,498	1,514,367	1.54	(204,145)	1,310,222	1.33
2000J2	Crossarms										35-R2	18,730,571	535,694	2.86	(117,120)	418,574	2.23
2000J	**Poles and Fixtures - Total for Parent Account**		55-R3	**117,066,069**	**2,279,899**	**1.95**	**(175,193)**	**2,104,706**	**1.80**			**117,066,069**	**2,050,061**	**1.75**	**(321,265)**	**1,728,796**	**1.48**
3100S1	Other Transformers										45-R1.5	80,244,655	1,781,431	2.22	(169,730)	1,611,701	2.01
3100S2	Potential and Current Transformers										60-S0.5	32,245,815	538,505	1.67	(42,387)	496,118	1.54
3100S	**Other Transformers - Total for Parent Account**		50-S1	**112,490,470**	**2,488,670**	**2.21**	**48,344**	**2,537,014**	**2.26**			**112,490,470**	**2,319,936**	**2.06**	**(212,117)**	**2,107,819**	**1.87**
3100T1	Other Interrupting Equipment										50-R2.5	128,502,890	2,570,058	2.00	104,140	2,674,198	2.08
3100T2	Vacuum Circuit Breakers										20-R2.5	13,442,631	664,282	4.94	68,600	732,882	5.45
3100T3	Min Oil and SF6 Breakers										40-R2.5	41,157,542	1,028,939	2.50	59,529	1,088,468	2.64
3100T4	Air Magnetic Breakers										50-R2.5	18,181,824	363,636	2.00	71,600	435,236	2.39
3100T5	Air Blast and Oil Bulk Breakers										100-R2.5	8,760,820	87,608	1.00	6,290	93,898	1.07
3100T	**Interrupting Equipment - Total for Parent Account**		50-R2.5	**210,045,708**	**4,428,834**	**2.11**	**418,260**	**4,847,094**	**2.31**			**210,045,707**	**4,714,523**	**2.24**	**310,159**	**5,024,682**	**2.39**
4000J1	Wood Poles and Fixtures										65-S1	601,525,314	9,263,490	1.54	(1,648,252)	7,615,238	1.27
4000J2	Crossarms										35-R2.5	67,430,774	1,928,520	2.86	(516,735)	1,411,785	2.09
4000J	**Poles and Fixtures - Total for Parent Account**		65-S0.5	**668,956,088**	**11,903,877**	**1.78**	**(1,315,678)**	**10,588,200**	**1.58**			**668,956,088**	**11,192,010**	**1.67**	**(2,164,987)**	**9,027,023**	**1.35**
Breakdown for Existing Account 8000E - 360 Portage - Electro/Mechanical																	
Account#	**Account Description**																
8000E1	360 Portage - Electro/mechanical - Finishes										20-R2.5	13,901,418	695,071	5.00	30,470	725,541	5.22
8000E2	360 Portage - Electro/mechanical - Mechanical/Windows & Other										40-R3	41,266,289	1,031,657	2.50	21,210	1,052,867	2.55
8000E3	360 Portage - Electro/mechanical - Millwork & Elevators										60-R2	9,262,022	154,676	1.67	1,879	156,555	1.69
8000E4	360 Portage - Electro/mechanical - Interior Glaze/Drywall & Electrical										75-R1.5	12,909,669	171,699	1.33	1,544	173,243	1.34
8000E	**360 Portage - Total for Parent Account**		45-R3	**77,339,398**	**1,937,503**	**2.51**	**39,260**	**1,976,763**	**2.56**			**77,339,398**	**2,053,103**	**2.65**	**55,103**	**2,108,206**	**2.73**
				2,887,794,051	**54,284,140**	**1.88**	**(1,617,187)**	**52,666,953**	**1.82**			**2,887,794,050**	**54,895,817**	**1.90**	**(2,967,360)**	**51,928,457**	**1.80**

Note:
Totals May Not Sum Due To Rounding

MANITOBA HYDRO
TABLE 2. SUMMARY OF AVERAGE SERVICE LIFE VERSUS EQUAL LIFE GROUP
NEW PLANT ADDITIONS IN 2019

				FILED ELG					ASL - COMPONENTIZATION				
ACCOUNT	ACCOUNT DESCRIPTION	FORECAST CAPITAL ADDITIONS	ESTIMATED AVERAGE SERVICE LIFE	LIFE SPAN DATE	SURVIVOR CURVE	SURVIVING ORIGINAL COST AS OF MARCH 31, 2019	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE (%)	LIFE SPAN DATE	SURVIVOR CURVE	SURVIVING ORIGINAL COST AS OF MARCH 31, 2019	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE (%)
					(2)	(3)	(4)	(5)=(4)/(3)		(6)	(7)	(8)	(9)=(8)/(7)
BiPole III - Future HVDC Converter Stations - Riel and Keetawinohk:													
SubStations 3200M Synchronous Condensers and Unit Transformers:													
3200M1	Synchronous Condensers	125,600,000	65 Years						65	R4	125,600,000	1,934,240	1.54
3200M2	Unit Transformers	67,000,000	40 Years						40	R4	67,000,000	1,675,000	2.50
		192,600,000		56	R4	**192,600,000**	**3,659,400**	**1.90**			**192,600,000**	**3,609,240**	**2.00**
SubStations 3200P Converter Equipment			25 Years										
3200P1	HVDC Converter Valves and Valve Cooling Equipment	154,300,000	40-50 Years						25	S4	154,300,000	6,172,000	4.00
3200P2	HVDC Converter Transformers	353,300,000							40	S4	353,300,000	8,832,500	2.50
		507,600,000		35	S4	**507,600,000**	**14,974,200**	**2.95**			**507,600,000**	**15,004,500**	**3.00**
Other Components		**1,974,900,000**											
CEF14	BiPole III Converter Stations	**2,675,100,000**											
		26% *											
	TOTAL BIPOLE III AND KEEYASK FORECAST ADDITIONS					**700,200,000**	**18,633,600**	**2.66**			**700,200,000**	**18,613,740**	**2.66**

* Percentage of Forecast Item for Which Component Breakdown Provided

MANITOBA HYDRO
TABLE 3. SUMMARY OF AVERAGE SERVICE LIFE VERSUS EQUAL LIFE GROUP
NEW PLANT ADDITIONS IN 2020

				FILED ELG					ASL - COMPONENTIZATION				
ACCOUNT	ACCOUNT DESCRIPTION	FORECAST CAPITAL ADDITIONS	ESTIMATED AVERAGE SERVICE LIFE	LIFE SPAN DATE	SURVIVOR CURVE	SURVIVING ORIGINAL COST AS OF MARCH 31, 2020	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE (%)	LIFE SPAN DATE	SURVIVOR CURVE	SURVIVING ORIGINAL COST AS OF MARCH 31, 2020	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE (%)
					(2)	(3)	(4)	(5)=(4)/(3)		(6)	(7)	(8)	(9)=(8)/(7)
BiPole III - Future HVDC Converter Stations - Riel & Keetawinohk:													
SubStations 3200M Synchronous Condensers and Unit Transformers:													
3200M1	Synchronous Condensers	125,600,000	65 Years						65	R4	125,600,000	1,934,240	1.54
3200M2	Unit Transformers	67,000,000	40 Years						40	R4	67,000,000	1,675,000	2.50
		192,600,000		56	R4	**192,600,000**	**3,659,400**	1.90			**192,600,000**	**3,609,240**	**2.00**
SubStations 3200P Converter Equipment													
3200P1	HVDC Converter Valves and Valve Cooling Equipment	154,300,000	25 Years						25	S4	154,300,000	6,172,000	4.00
3200P2	HVDC Converter Transformers	353,300,000	40-50 Years						40	S4	353,300,000	8,832,500	2.50
		507,600,000		35	S4	**507,600,000**	**14,974,200**	2.95			**507,600,000**	**15,004,500**	**3.00**
Other Components		**1,974,900,000**											
CEF14	BiPole III Converter Stations	**2,675,100,000**											
		26% *											
Keeyask - Future Hydraulic Generating Station													
Manitoba Hydro Owned Assets (Interest Capitalized on MH Equity in KHLP Physical Assets)													
Keeyask 1185E Water Control Systems													
1185E1	Water Control Systems	30,700,000	65 Years						65	R4	21,900,000	337,260	1.54
1185E2	Ice, Debris and Public Safety Booms	1,200,000	30 Years						30	R4	1,200,000	39,960	3.33
		31,900,000		65	R4	**23,100,000**	**378,840**	1.64			**23,100,000**	**377,220**	**2.00**
Keeyask 1185G Turbines and Generators													
1185G1	Turbines	17,200,000	75 Years						75	S3	7,400,000	98,420	1.33
1185G2	Generators	17,200,000	50 Years						45	S3	7,400,000	164,280	2.22
		34,400,000		65	S3	**14,800,000**	**244,200**	1.65			**14,800,000**	**262,700**	**2.00**
Keeyask 1185P A/C Electrical Power Systems													
1185P2	Step-up Transformers Manufactured in 1950 or later	2,400,000	40 Years						40	R4	1,000,000	25,000	2.50
1185P3	A/C Electrical Power Systems - Other Equipment	10,600,000	55 Years						55	R4	4,500,000	81,900	1.82
		13,000,000		50	R4	**5,500,000**	**117,150**	2.13			**5,500,000**	**106,900**	**2.00**
Other Components		**286,000,000**											
CEF14	Keeyask GS - Interest on MH Equity	**365,300,000**											
		22% *											
Keeyask Hydropower Limited Partnership Assets (tangible)													
Keeyask (KHLP) 1186E Water Control Systems													
1186E1	KHLP - Water Control Systems	498,800,000	65 Years						65	R4	356,300,000	5,487,020	1.54
1186E2	KHLP - Ice, Debris and Public Safety Booms	20,200,000	30 Years						30	R4	20,200,000	672,660	3.33
		519,000,000		65	R4	**376,500,000**	**6,174,600**	1.64			**376,500,000**	**6,159,680**	**2.00**
Keeyask (KHLP) 1186G Turbines and Generators													
1186G1	Turbines	279,500,000	75 Years						75	S3	119,800,000	1,593,340	1.33
1186G2	Generators	279,500,000	50 Years						45	S3	119,800,000	2,659,560	2.22
		559,000,000		65	S3	**239,600,000**	**3,953,400**	1.65			**239,600,000**	**4,252,900**	**2.00**

MANITOBA HYDRO
TABLE 3. SUMMARY OF AVERAGE SERVICE LIFE VERSUS EQUAL LIFE GROUP
NEW PLANT ADDITIONS IN 2020

				FILED ELG					ASL - COMPONENTIZATION				
ACCOUNT	ACCOUNT DESCRIPTION	FORECAST CAPITAL ADDITIONS	ESTIMATED AVERAGE SERVICE LIFE	LIFE SPAN DATE	SURVIVOR CURVE	SURVIVING ORIGINAL COST AS OF MARCH 31, 2020	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE (%)	LIFE SPAN DATE	SURVIVOR CURVE	SURVIVING ORIGINAL COST AS OF MARCH 31, 2020	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE (%)
					(2)	(3)	(4)	(5)=(4)/(3)		(6)	(7)	(8)	(9)=(8)/(7)
Keeyask (KHLP) 1186P A/C Electrical Power Systems													
1186P2	Step-up Transformers Manufactured in 1950 or later	38,800,000	40 Years						40	R4	16,600,000	415,000	2.50
1186P3	A/C Electrical Power Systems - Other Equipment	172,200,000	55 Years						55	R4	73,800,000	1,343,160	1.82
		211,000,000		50	R4	**90,400,000**	**1,925,520**	2.13			**90,400,000**	**1,758,160**	**2.00**
Other Components		**4,639,600,000**											
CEF14	Keeyask GS - Interest on MH Equity	**5,928,600,000**											
		22% *											
	TOTAL PLANT					**1,450,100,000**	**31,427,310**	**2.17**			**1,450,100,000**	**31,531,300**	**2.17**

* Percentage of Forecast Item for Which Component Breakdown Provided

MANITOBA HYDRO
TABLE 4. SUMMARY OF AVERAGE SERVICE LIFE VERSUS EQUAL LIFE GROUP
NEW PLANT ADDITIONS IN 2021

				ELG (AGGREGATE LEVEL - COMPARABLE ACCOUNTS)					ASL (COMPONENTIZATION - COMPARABLE SUB-COMPONENTS FOR ACCOUNTS)				
ACCOUNT	ACCOUNT DESCRIPTION	FORECAST CAPITAL ADDITIONS	ESTIMATED AVERAGE SERVICE LIFE	LIFE SPAN DATE	SURVIVOR CURVE	SURVIVING ORIGINAL COST AS OF MARCH 31, 2021	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE (%)	LIFE SPAN DATE	SURVIVOR CURVE	SURVIVING ORIGINAL COST AS OF MARCH 31, 2021	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE (%)
					(2)	(3)	(4)	(5)=(4)/(3)		(6)	(7)	(8)	(9)=(8)/(7)
BiPole III - Future HVDC Converter Stations - Riel & Keetawinohk:													
SubStations 3200M Synchronous Condensers and Unit Transformers:													
3200M1	Synchronous Condensers	125,600,000	65 Years						65	R4	125,600,000	1,934,240	1.54
3200M2	Unit Transformers	67,000,000	40 Years						40	R4	67,000,000	1,675,000	2.50
		192,600,000		56	R4	**192,600,000**	**3,659,400**	1.90			**192,600,000**	**3,609,240**	**2.00**
SubStations 3200P Converter Equipment													
3200P1	HVDC Converter Valves and Valve Cooling Equipment	154,300,000	25 Years						25	S4	154,300,000	6,172,000	4.00
3200P2	HVDC Converter Transformers	353,300,000	40-50 Years						40	S4	353,300,000	8,832,500	2.50
		507,600,000		35	S4	**507,600,000**	**14,974,200**	2.95			**507,600,000**	**15,004,500**	**3.00**
Other components		**1,974,900,000**											
CEF14	BiPole III Converter Stations	**2,675,100,000**											
		26% *											
Keeyask - Future Hydraulic Generating Station													
Manitoba Hydro Owned Assets (Interest Capitalized on MH Equity in KHLP Physical Assets)													
Keeyask 1185E Water Control Systems													
1185E1	Water Control Systems	30,700,000	65 Years						65	R4	30,700,000	472,780	1.54
1185E2	Ice, Debris and Public Safety Booms	1,200,000	30 Years						30	R4	1,200,000	39,960	3.33
		31,900,000		65	R4	**31,900,000**	**523,160**	1.64			**31,900,000**	**512,740**	**2.00**
Keeyask 1185G Turbines and Generators													
1185G1	Turbines	17,200,000	75 Years						75	S3	17,200,000	228,760	1.33
1185G2	Generators	17,200,000	50 Years						45	S3	17,200,000	381,840	2.22
		34,400,000		65	S3	**34,400,000**	**567,600**	1.65			**34,400,000**	**610,600**	**2.00**
Keeyask 1185P A/C Electrical Power Systems													
1185P2	Step-up Transformers Manufactured in 1950 or later	2,400,000	40 Years						40	R4	2,400,000	60,000	2.50
1185P3	A/C Electrical Power Systems - Other Equipment	10,600,000	55 Years						55	R4	10,600,000	192,920	1.82
		13,000,000		50	R4	**13,000,000**	**276,900**	2.13			**13,000,000**	**252,920**	**2.00**
Other components		**286,000,000**											
CEF14	Keeyask GS - Interest on MH Equity	**365,300,000**											
		22% *											
Keeyask Hydropower Limited Partnership Assets (tangible)													
Keeyask (KHLP) 1186E Water Control Systems													
1186E1	KHLP - Water Control Systems	498,800,000	65 Years						65	R4	498,800,000	7,681,520	1.54
1186E2	KHLP - Ice, Debris and Public Safety Booms	20,200,000	30 Years						30	R4	20,200,000	672,660	3.33
		519,000,000		65	R4	**519,000,000**	**8,511,600**	1.64			**519,000,000**	**8,354,180**	**2.00**

MANITOBA HYDRO
TABLE 4. SUMMARY OF AVERAGE SERVICE LIFE VERSUS EQUAL LIFE GROUP
NEW PLANT ADDITIONS IN 2021

				ELG (AGGREGATE LEVEL - COMPARABLE ACCOUNTS)					ASL (COMPONENTIZATION - COMPARABLE SUB-COMPONENTS FOR ACCOUNTS)				
ACCOUNT	ACCOUNT DESCRIPTION	FORECAST CAPITAL ADDITIONS	ESTIMATED AVERAGE SERVICE LIFE	LIFE SPAN DATE	SURVIVOR CURVE	SURVIVING ORIGINAL COST AS OF MARCH 31, 2021	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE (%)	LIFE SPAN DATE	SURVIVOR CURVE	SURVIVING ORIGINAL COST AS OF MARCH 31, 2021	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE (%)
					(2)	(3)	(4)	(5)=(4)/(3)		(6)	(7)	(8)	(9)=(8)/(7)
Keeyask (KHLP) 1186G Turbines and Generators													
1186G1	Turbines	279,500,000	75 Years						75	S3	279,500,000	3,717,350	1.33
1186G2	Generators	279,500,000	50 Years						45	S3	279,500,000	6,204,900	2.22
		559,000,000		65	S3	**559,000,000**	**9,223,500**	1.65			**559,000,000**	**9,922,250**	**2.00**
Keeyask (KHLP) 1186P A/C Electrical Power Systems													
1186P2	Step-up Transformers Manufactured in 1950 or later	38,800,000	40 Years						40	R4	38,800,000	970,000	2.50
1186P3	A/C Electrical Power Systems - Other Equipment	172,200,000	55 Years						55	R4	172,200,000	3,134,040	1.82
		211,000,000		50	R4	**211,000,000**	**4,494,300**	2.13			**211,000,000**	**4,104,040**	**2.00**
Other components		**4,639,600,000**											
CEF14	Keeyask GS - Interest on MH Equity	**5,928,600,000**											
		22% *											
	TOTAL PLANT					**2,068,500,000**	**42,230,660**	**2.04**			**2,068,500,000**	**42,370,470**	**2.05**

* Percentage of Forecast Item for Which Component Breakdown Provided

*Excellence Delivered **As Promised***

Gannett Fleming Canada ULC

Suite 277 • 200 Rivercrest Drive S.E. • Calgary, AB T2C 2X5 • Canada
t: 403.257.5946 • f: 403.257.5947
www.gannettfleming.com www.gfvrd.com

Manitoba Hydro

PO Box 815 • Winnipeg Manitoba Canada • R3C 2P4
Street Location for DELIVERY: 22rd floor – 360 Portage Avenue
Telephone / N° de téléphone : (204) 360-3257 • Fax / N° de télécopieur : (204) 360-6147 • baczarnecki@hydro.mb.ca

May 6, 2014

THE PUBLIC UTILITIES BOARD OF MANITOBA
400-330 Portage Avenue
Winnipeg, Manitoba
R3C 0C4

ATTENTION: Mr. H. Singh, Board Secretary and Executive Director

Dear Mr. Gosselin:

RE: Directive 8 and 9 of Order 43/13 re: Average Service Life and Equal Life Group Methods of Depreciation

As part of its 2012/13 & 2013/14 General Rate Application ("GRA"), Manitoba Hydro filed its most recent depreciation study, which included International Financial Rreporting Standards ("IFRS") compliant depreciation rates. Manitoba Hydro will transition to IFRS for its fiscal year beginning April 1, 2015, with comparative information required for the previous fiscal year 2014/15. Upon conversion to IFRS, Manitoba Hydro is moving from the Average Service Life ("ASL") method of depreciation to the Equal Life Group ("ELG") method for finanicial reporting purposes.

On April 26, 2013, the Public Utilities Board ("PUB") issued Order 43/13 with respect to Manitoba Hydro's 2012/13 & 2013/14 GRA. Directives 8 and 9 of this Order are related to the use of the ASL and ELG methods of depreciation, as follows:

> *8. That Manitoba Hydro file updated depreciation rates and schedules based on an International Financial Reporting Standards-compliant Average Service Life methodology with the next General Rate Application.*
>
> *9. That Manitoba Hydro file with the Board, with the next General Rate Application, a chart showing a comparison of the impact on its Integrated Financial Forecast (i.e. 'Budget') of asset depreciation pursuant to the Average Service Life methodology (without net salvage) and the Equal Life Group methodology (without net salvage), applying both methodologies to all planned major capital additions.*

Manitoba Hydro is of the view that the ELG methodology will produce an equivalent annual depreciation expense as compared to an IFRS compliant ASL methodology applied to more asset components.

To respond to Directives 8 and 9 of Order 43/13, Manitoba Hydro has developed an approach that will provide a comparison of the two IFRS compliant depreciation methodologies in the timeframe directed given the size of its property, plant and equipment (approximately $19 billion as at March 31, 2014). As part of this approach, Manitoba Hydro will first develop new asset component groups for each significant asset category (eg. generation, transmission, sub-stations) consistent with an IFRS compliant ASL methodology. The expanded list of asset component groups will be applied to a representative sample of physical facilities. Historical asset records will be analyzed for the selected sample in order to allocate vintaged asset costs and historical retirements between the existing and new components. The results of the asset re-componization from the selected sample will then be extrapolated to the entire asset category.

In developing the IFRS compliant ELG methodology, Manitoba Hydro required approximately two years to review the past 70 years of historical work to be in a position to quantify and vintage the existing asset costs that were allocated between new and existing components. An IFRS compliant ASL method will require additional component groups, and as such the effort required will be significant. By extrapolating the results of a representative sample over each asset category, Manitoba Hydro will be in a position to respond to the directive by Manitoba Hydro's next GRA.

Rather than replicating a full depreciation study, this approach will identify additional asset components for each asset category, which will then be used to produce a set of IFRS compliant ASL depreciation rates that will be used to provide a comparison to the ELG depreciation expense, as sought in Directives 8 and 9 of Order 43/13.

For example, additional components will be identified for hydro electric generating stations. A representative sample of generating station assets will then be selected, analyzed and re-componentized. A representative sample of generating stations would include an older plant, mid-life plant, and a newer plant, such as Wuskwatim. The total cost for each new and existing component will be determined for each representative sample through a review of historic asset records in order to allocate vintaged asset costs and historical retirements between the existing and new components. The total cost by asset component group will be determined by extrapolating the results of the analysis performed on the selected sample for each of the additional generating stations, resulting in the total original cost as of March 31, 2013 being re-allocated to a new set of asset component groups for all generating stations. New depreciation rates will be determined for the new components, and an annual expense impact will be estimated for all generating stations. The annual total depreciation expense for generating stations under the IFRS compliant ASL methodology will then be compared to the annual total depreciation expense under the ELG methodology. This procedure will be performed for each significant asset category and will provide the PUB with a realistic comparison of the differences in depreciation expense between the two IFRS compliant

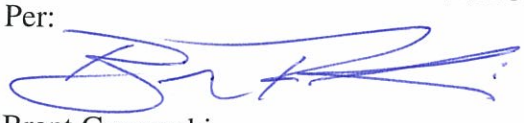
methodologies.

Manitoba Hydro has engaged Gannett Fleming to perform this work. The cost to engage Gannett Fleming for this purpose is expected to be $225,000 including disbursements.

Should you have any questions, please contact the writer at (204) 360-3257 or Greg Barnlund at (204) 360-5243.

Yours truly,

MANITOBA HYDRO LAW DIVISION
Per:



Brent Czarnecki
Barrister & Solicitor

The Public Utilities Board
400 – 330 Portage Avenue
Winnipeg, Manitoba, Canada R3C 0C4
T 204-945-2638 / 1-866-854-3698
F 204-945-2643
Email : publicutilities@gov.mb.ca
Website : www.pub.gov.mb.ca

Régie des services publics
330, avenue Portage, pièce 400
Winnipeg (Manitoba) Canada R3C 0C4
Tél. 204-945-2638 / 1-866-854-3698
Téléc. 204-945-2643
Courriel : publicutilities@gov.mb.ca
Site Web: www.pub.gov.mb.ca

July 8, 2014

Mr. Brent Czarnecki
Law Department
Manitoba Hydro
22nd floor
360 Portage Avenue
Winnipeg MB R3C 0G8

Dear Mr. Czarnecki:

RE: Directive 8 & 9 of Order 43/13
Average Service Life (ASL) and Equal Life Group (ELG) Methods of Depreciation

In Order 43/13, dated April 26, 2013, the Board did not approve Manitoba Hydro's (MH's) proposed change to the ELG method of depreciation for rate setting purposes. In that Order the Board expressed concern that not enough information had been provided to assess the financial consequences on ratepayers, of a change to the ELG method. To address that deficiency, the Board issued Directives 8 & 9 of Order 43/13:

8. *That Manitoba Hydro file updated depreciation rates and schedules based on an International Financial Reporting Standards-compliant Average Service Life methodology with the next General Rate Application.*

9. *That Manitoba Hydro file with the Board, with the next General Rate Application, a chart showing a comparison of the impact on its Integrated Financial Forecast (i.e. 'Budget') of asset depreciation pursuant to the Average Service Life methodology(without net salvage) and the Equal Life Group methodology (without net salvage), applying both methodologies to all planned major capital additions.*

From Manitoba Hydro's May 6, 2014 letter, (a copy of which is attached) the Board understands that Manitoba Hydro has proposed meeting the above directives by developing new asset component groups for each significant asset category consistent with an IFRS compliant ASL Methodology. This expanded list of asset component groups will then be applied to a representative sample of physical facilities.

...2

The results of the asset re-componentization from the selected sample will then be extrapolated to the entire asset category. Rather than replicating a full depreciation study, this approach will identify additional asset components for each asset category. Manitoba Hydro will produce a set of IFRS compliant ASL depreciation rates that will be used to provide a comparison to the ELG depreciation expense.

The Board has not approved Manitoba Hydro's change to the use of the ELG methodology for rate-setting purposes. The depreciation methodology is expected to be addressed in Manitoba Hydro's next General Rate Application (GRA), to be filed later this year or early in 2015. To that end, the Board expects that to meet Directives 8 and 9 of Order 43 /13, Manitoba Hydro will file its GRA with fully IFRS compliant ASL based depreciation rates and schedules (that can be compared to fully IFRS compliant ESL based depreciation rates and schedules). The Board will expect Manitoba Hydro to file sufficient evidence to support the implementation of IFRS compliant ASL based depreciation rates (if so Ordered by the Board) for rate-setting purposes.

The Board will also expect Manitoba Hydro to provide a concise comparative analysis of the impact of Major new Generation and Transmission investments (including Wuskwatim G.S.; Bipole III; Keeyask G.S. and 750 Interconnection and GNTL) on future depreciation expense utilizing both the ELG methodology (without net salvage) and the ASL methodology (without net salvage) based on fully IFRS compliant ASL methodology rates.

The specifics of the engagement of external consultants by Manitoba Hydro, if required, are to be determined by Manitoba Hydro so as to be in a position to provide the Board with the required evidence as indicated above.

Sincerely,

"Original Signed By"

Kurt Simonsen, P. Eng.
Associate Secretary

KS/nac

c.c. Mr. Bob Peters, Board Counsel
Mr. Roger Cathcart, Board Advisor
Mr. Greg Barnlund, Manitoba Hydro
Interveners of Record, 2013/14 GRA and NFAT Review

Manitoba Hydro

PO Box 815 • Winnipeg Manitoba Canada • R3C 2P4
Street Location for DELIVERY: 22rd floor – 360 Portage Avenue
Telephone / N° de téléphone : (204) 360-3257 • Fax / N° de télécopieur : (204) 360-6147 • baczarnecki@hydro.mb.ca

October 22, 2014

THE PUBLIC UTILITIES BOARD OF MANITOBA
400-330 Portage Avenue
Winnipeg, Manitoba
R3C 0C4

ATTENTION: Mr. H. Singh, Board Secretary and Executive Director

Dear Mr. Singh:

RE: Directives 8 and 9 of Order 43/13 re: Average Service Life and Equal Life Group Methods of Depreciation

On May 6, 2014, Manitoba Hydro filed a letter with the Public Utilities Board of Manitoba ("PUB") providing an update in response to Directives 8 and 9 of Order 43/13. These directives required Manitoba Hydro to file updated depreciation rates based on an International Financial Reporting Standards ("IFRS") compliant Average Service Life ("ASL") methodology, and to file a comparison of the impact on the Corporation's Integrated Financial Forecast of using the ASL methodology versus the Equal Life Group ("ELG") method of depreciation. In its letter, Manitoba Hydro indicated that it has developed a representative sampling approach that would provide a comparison of the two IFRS compliant depreciation methodologies in time for Manitoba Hydro's next General Rate Application ("GRA").

By letter of July 8, 2014, the PUB indicated that to meet Directives 8 and 9 of Order 43/13, it expects Manitoba Hydro to file its next GRA with fully IFRS compliant ASL depreciation rates and schedules that can be compared to fully IFRS compliant ELG depreciation rates and schedules.

As the PUB is aware, upon conversion to IFRS, Manitoba Hydro is moving from the ASL method of depreciation to the ELG method for financial reporting purposes. Manitoba Hydro understands that the PUB has not yet accepted the use of the ELG methodology for rate-setting purposes, and that the PUB is seeking additional information in order to assess the impact of the change in methodology on ratepayers.

As noted in its May 6, 2014 letter, in developing IFRS compliant ELG rates, Manitoba Hydro required approximately two years to review the past 70 years of historical asset records to be in a position to quantify and vintage the existing asset costs that were allocated between new and existing asset components. An IFRS compliant ASL method would require the development of additional asset component groups, which would entail a similar effort in time (i.e. two years) and resources to complete. As such, Manitoba Hydro will not be in a position to complete a full depreciation study based on an IFRS compliant ASL methodology in time for the next GRA.

In order to provide the PUB with information to assess the financial impact of the change in depreciation methodology in time for the next GRA, Manitoba Hydro has proposed a representative sampling approach. This approach would identify additional asset components for each significant asset category as would be required for an IFRS compliant ASL methodology; recognizing that the existing Canadian Generally Accepted Accounting Principles ("CGAAP") asset component groupings are not sufficient for an IFRS compliant ASL methodology. For the sample selected, Manitoba Hydro will develop IFRS compliant ASL depreciation rates. The resultant impacts from using these depreciation rates would then be extrapolated to produce a comparison of the annual depreciation expense between the IFRS compliant ASL and ELG methodologies. Manitoba Hydro believes that this analysis would support the move to the ELG methodology for rate setting purposes.

In the event that the PUB determines that the ELG method should not be used for rate-setting purposes, Manitoba Hydro could continue to use the existing CGAAP ASL depreciation rates for setting customer rates. However, in consideration of Manitoba Hydro's existing asset component structure, Manitoba Hydro is adopting the ELG method for IFRS compliant financial reporting purposes (as opposed to rate setting purposes). In this circumstance, Manitoba Hydro would be required, for financial reporting purposes, to establish a rate-regulated account to capture the difference between depreciation expense recorded for rate-setting purposes (existing CGAAP ASL methodology) and depreciation expense that will be recorded for financial reporting purposes (ELG methodology). The approach to capture the differences in a rate-regulated account is an interim measure for rate-setting purposes and would subsequently have to be re-examined at a future GRA.

In an effort to further the mutual understanding between Manitoba Hydro and the PUB on these technical financial issues, Manitoba Hydro is prepared to meet with the PUB's technical financial/accounting advisor. Should you have any questions, please contact the writer at (204) 360-3257 or Greg Barnlund at (204) 360-5243.

Yours truly,

MANITOBA HYDRO LAW DIVISION

Per:

Brent Czarnecki
Barrister & Solicitor

cc. Mr. R. Cathcart, Cathcart Advisors Inc.