2.2.3 Manitoba Hydro's Proposed Change to ELG is Appropriate for an Electric Utility

Mr. Bowman's evidence states that ELG is not well suited to Manitoba Hydro's operations and that no other Canadian Crown utility nor hydro-dominated utility is cited as making use of the ELG approach. This includes the following Canadian utilities as set out in Attachment C, Table C-1 of Mr. Bowman's evidence: BC Hydro and BC Transmission and Corporation; Newfoundland and Labrador Hydro; Northwest Territories Power Corporation; Qulliq Energy Corporation; SaskPower and Yukon Energy Corporation.

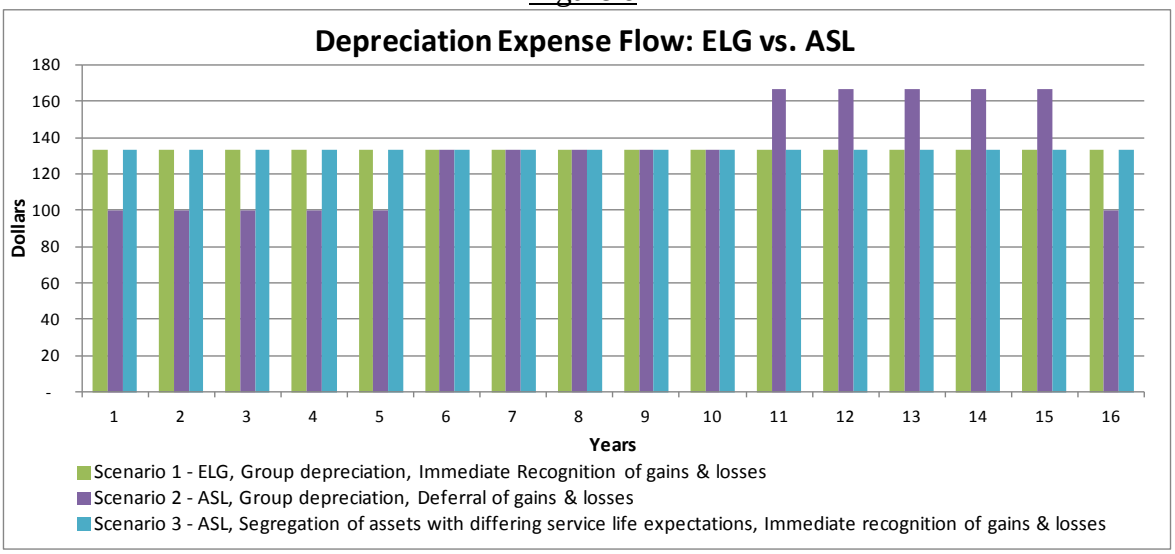
It should be noted that the nature and level of component breakdown varies between utilities, and that the larger Crown Utilities cited in Mr. Bowman's evidence have implemented ASL differently than Manitoba Hydro, in that they have divided their depreciable assets into a much more granular set of components and use a 'unit' accounting rather than a 'group' accounting depreciation approach. For Newfoundland and Labrador Hydro, this is confirmed in the latest negotiated settlement agreement referenced by Mr. Bowman. The increased level of componentization is evident from a review of the BC Hydro[2] and the Newfoundland and Labrador Hydro[3] documents referred to in Mr. Bowman's evidence. It is Manitoba Hydro's understanding that SaskPower and Hydro Quebec also use ASL with a unit accounting depreciation methodology.

Due to the differences in implementation approach, the depreciation expense recorded by Manitoba Hydro using a group accounting approach under ASL (Scenario 2) is not directly comparable with that of entities using a unit accounting approach under ASL (Scenario 3). Manitoba Hydro's proposed use of ELG (Scenario 1) produces results that are more consistent with that of utilities which use ASL in a unit accounting approach. The following chart provides a comparison of the relevant scenarios. Supporting calculations for the scenarios illustrated in this chart (Figure 6) may be found in Attachment B:

[2] BC Hydro and Power Authority F2012 - 2014 Revenue Requirements Application; Appendix G: Review of BC Hydro's Implementation of International Financial Reporting Standards by Gannett Fleming. Pages 14-20 (January 24, 2011).
http://www.bchydro.com/etc/medialib/internet/documents/planning_regulatory/rev_req/amended_bch_f12_f14_rra_appendices.Par.0001.File.amended_bch_f12_14_rra_appendices.pdf

[3] Newfoundland and Labrador Hydro Depreciation Study. Pages III-4 & III-5 (September 7, 2011) http://www.pub.nf.ca/applications/NLH2012Depreciation/files/applic/NLH2012DepreciationApplication.pdf

Figure 6



While Manitoba Hydro could implement a level of componentization at a much more granular level together with use of an ASL depreciation methodology, the increased administrative costs would have to ultimately be borne by customers and this is unnecessary as comparable results can be achieved with use of ELG as proposed by Manitoba Hydro.

2.2.4 Changes to Manitoba Hydro's Depreciation Methodology are required for IFRS Compliance

Mr. Bowman's evidence claims that Manitoba Hydro has overstated the degree to which accounting standards are driving the changes that have been proposed by the Corporation. Under IFRS, per IAS 16, Property Plant and Equipment is treated as follows:

> ***43 Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item shall be depreciated separately.***
>
> *45 A significant part of an item of property, plant and equipment may have a useful life and a depreciation method that are the same as the useful life and the depreciation method of another significant part of that same item. Such parts may be grouped in determining the depreciation charge.*
>
> *46 To the extent that an entity depreciates separately some parts of an item of property, plant and equipment, it also depreciates separately the remainder of the item.*

ATTACHMENT A: COMPARISON OF ASL AND ELG SCENARIOS FOR A DECLINING ASSET POOL

Asset Cost and Retirement Assumptions

A $100,000 investment is made in a group of like assets with an average life of 5.5 years and a simple step-function survivor curve (i.e., $10,000 of gross plant retired each year). Retirements occur at the end of each year.

Annual Expense: ELG procedure for group depreciation

	Cost			Accumulated Depreciation			Annual Expense			
Year	Cost at Beginning of Year	Assets Retired	Cost at End of Year	Depreciation Taken	Depreciation Retired	Accumulated Depreciation at End of Year	Depreciation Rate	Depreciation Expense	(Gain) / Loss on Assets Retired	Total Expense
1	$ 100,000	$ (10,000)	$ 90,000	$ (29,290)	$ 10,000	$ (19,290)	29.3%	$ 29,290	$ -	$ 29,290
2	90,000	(10,000)	80,000	(19,290)	10,000	(28,579)	21.4%	19,290	-	19,290
3	80,000	(10,000)	70,000	(14,290)	10,000	(32,869)	17.9%	14,290	-	14,290
4	70,000	(10,000)	60,000	(10,956)	10,000	(33,825)	15.7%	10,956	-	10,956
5	60,000	(10,000)	50,000	(8,456)	10,000	(32,282)	14.1%	8,456	-	8,456
6	50,000	(10,000)	40,000	(6,456)	10,000	(28,738)	12.9%	6,456	-	6,456
7	40,000	(10,000)	30,000	(4,790)	10,000	(23,528)	12.0%	4,790	-	4,790
8	30,000	(10,000)	20,000	(3,361)	10,000	(16,889)	11.2%	3,361	-	3,361
9	20,000	(10,000)	10,000	(2,111)	10,000	(9,000)	10.6%	2,111	-	2,111
10	10,000	(10,000)	-	(1,000)	10,000	-	10.0%	1,000	-	1,000
		$ (100,000)		$ (100,000)	$ 100,000			$ 100,000	$ -	$ 100,000

Depreciation Rate:

Year 1: [($10,000 / 10 years) + ($10,000 / 9 years) + … + ($10,000 / 1 year)**]** / $100,000

Year 2: [($10,000 / 10 years) + ($10,000 / 9 years) + … + ($10,000 / 2 year)**]** / $90,000

…

Year 10: ($10,000 / 10 years) / $10,000

Asset Retirement Calculations: Gains and losses on disposition of assets are recognized immediately. The amount of accumulated depreciation retired is calculated as: Cost of item(s) retired x number of years depreciated / expected life of item(s) retired.

Year 1: $10,000 x 1 year / 1 year

Year 2: $10,000 x 2 years / 2 years

…

Annual Expense: ASL procedure for group depreciation with recognition of gains and losses

	Cost			Accumulated Depreciation			Annual Expense			
Year	Cost at Beginning of Year	Assets Retired	Cost at End of Year	Depreciation Taken	Depreciation Retired	Accumulated Depreciation at End of Year	Depreciation Rate	Depreciation Expense	(Gain) / Loss on Assets Retired	Total Expense
1	$ 100,000	$ (10,000)	$ 90,000	$ (18,182)	$ 1,818	$ (16,364)	18.2%	$ 18,182	$ 8,182	$ 26,364
2	90,000	(10,000)	80,000	(16,364)	3,636	(29,091)	18.2%	16,364	6,364	22,727
3	80,000	(10,000)	70,000	(14,545)	5,455	(38,182)	18.2%	14,545	4,545	19,091
4	70,000	(10,000)	60,000	(12,727)	7,273	(43,636)	18.2%	12,727	2,727	15,455
5	60,000	(10,000)	50,000	(10,909)	9,091	(45,455)	18.2%	10,909	909	11,818
6	50,000	(10,000)	40,000	(9,091)	10,909	(43,636)	18.2%	9,091	(909)	8,182
7	40,000	(10,000)	30,000	(7,273)	12,727	(38,182)	18.2%	7,273	(2,727)	4,545
8	30,000	(10,000)	20,000	(5,455)	14,545	(29,091)	18.2%	5,455	(4,545)	909
9	20,000	(10,000)	10,000	(3,636)	16,364	(16,364)	18.2%	3,636	(6,364)	(2,727)
10	10,000	(10,000)	-	(1,818)	18,182	-	18.2%	1,818	(8,182)	(6,364)
		$ (100,000)		$ (100,000)	$ 100,000			$ 100,000	$ -	$ 100,000

Depreciation Rate: (1 / Average Service Life) = 1/ 5.5 years = 18.181 %

Asset Retirement Calculations: Gains and losses on disposition of assets are recognized immediately. The amount of accumulated depreciation retired is calculated as: Cost of item(s) retired x depreciation rate x number of years depreciated.

Year 1: $10,000 x 18.181% x 1 year

Year 2: $$10,000 x 18.181% x 2 years

…

Annual Expense: ASL Procedure for group depreciation with deferral of gains and losses, and with depreciation studies every three years

	Cost			Accumulated Depreciation			Annual Expense				
							Depreciation Rate				
Year	Cost at Beginning of Year	Assets Retired	Cost at End of Year	Depreciation Taken	Depreciation Retired	Accumulated Depreciation at End of Year	Base	True-up	Depreciation Expense	(Gain) / Loss on Assets Retired	Total Expense
1	$ 100,000	$ (10,000)	$ 90,000	$ (18,182)	$ 10,000	$ (8,182)	18.2%	0.0%	$ 18,182	$ -	$ 18,182
2	90,000	(10,000)	80,000	(16,364)	10,000	(14,545)	18.2%	0.0%	16,364	-	16,364
3	80,000	(10,000)	70,000	(14,545)	10,000	(19,091)	18.2%	0.0%	14,545	-	14,545
4	70,000	(10,000)	60,000	(20,364)	10,000	(29,455)	18.2%	10.9%	20,364	-	20,364
5	60,000	(10,000)	50,000	(17,455)	10,000	(36,909)	18.2%	10.9%	17,455	-	17,455
6	50,000	(10,000)	40,000	(14,545)	10,000	(41,455)	18.2%	10.9%	14,545	-	14,545
7	40,000	(10,000)	30,000	(9,455)	10,000	(40,909)	18.2%	5.5%	9,455	-	9,455
8	30,000	(10,000)	20,000	(7,091)	10,000	(38,000)	18.2%	5.5%	7,091	-	7,091
9	20,000	(10,000)	10,000	(4,727)	10,000	(32,727)	18.2%	5.5%	4,727	-	4,727
10	10,000	(10,000)	-	14,545	18,182	-	18.2%	-163.6%	(14,545)	(8,182)	(22,727)
		$ (100,000)		$ (108,182)	$ 108,182				$ 108,182	$ (8,182)	$ 100,000

Base Depreciation Rate: (1 / Average Service Life) = 1/ 5.5 years = 18.181 %

True-Up Depreciation Rate:

Year 4 – 6 True-up (Based on balances at end of Year 3):

Expected accumulated Depreciation = Surviving assets x age / average service life = $70,000 x 3 / 5.5 = $ 38,182

Accumulated depreciation variance = $38,182 - $19,091 = $19,091 shortfall

Average Expected Remaining Life = Average service life – age = 5.5 – 3 = 2.5 years

Required annual adjustment to depreciation expense = variance / average remaining life = $19,091 / 2.5 years = $7,636

True-up Depreciation Rate = annual adjustment / total depreciable cost = $7,636 / $70,000 = **10.9%**

Year 7 – 9 True-up (Based on balances at end of Year 6):

Expected accumulated Depreciation = Surviving assets x age / average service life = $40,000 x 6 / 5.5 = $ 43,636

Accumulated depreciation variance = $43,636 - $41,455 = $2,182 shortfall

Average Expected Remaining Life = is assumed to be 1 year as the actual age of the asset exceeds the average life

Required annual adjustment to depreciation expense = variance / average remaining life = $2,182 / 1 year = $2,182

True-up Depreciation Rate = annual adjustment / total depreciable cost = $(2,182) / $40,000 = **5.5%**

Year 10 True-up (Based on balances at end of Year 9):

Expected accumulated Depreciation = Surviving assets x age / average service life = $10,000 x 9 / 5.5 = $ 16,364

Accumulated depreciation variance = $16,364 - $32,727 = $(16,364), an over-accrual

Average Expected Remaining Life = is assumed to be 1 year as the actual age of the asset exceeds the average life

Required annual adjustment to depreciation expense = variance / average remaining life = $(16,364) / 1 years = $16,364

True-up Depreciation Rate = annual adjustment / total depreciable cost = $(16,364) / $10,000 = **-163.6%**

Asset Retirement Calculations: As all gains and losses on disposition of assets are deferred until the last items are retired, an amount equal to cost is removed from accumulated depreciation with each interim retirement. All remaining accumulated depreciation is retired in year 10, generating a gain on the final disposition for the asset group.

ATTACHMENT B: COMPARISON OF ASL AND ELG SCENARIOS FOR AN ASSET POOL WITH A CONSTANT LEVEL OF INVESTMENT

In this attachment, four scenarios are provided to illustrate showing the different impact in the flow of expenses to the income statement that would result from the use of the Average Service Life (ASL) procedure for group depreciation with differing implementation patterns, versus the Equal Life Group (ELG) procedure for group depreciation.

Asset Cost and Retirement Assumptions

An identical asset pool is considered in each of the following four scenarios. For Simplicity, the effects of inflation are ignored. The asset pool consists of:

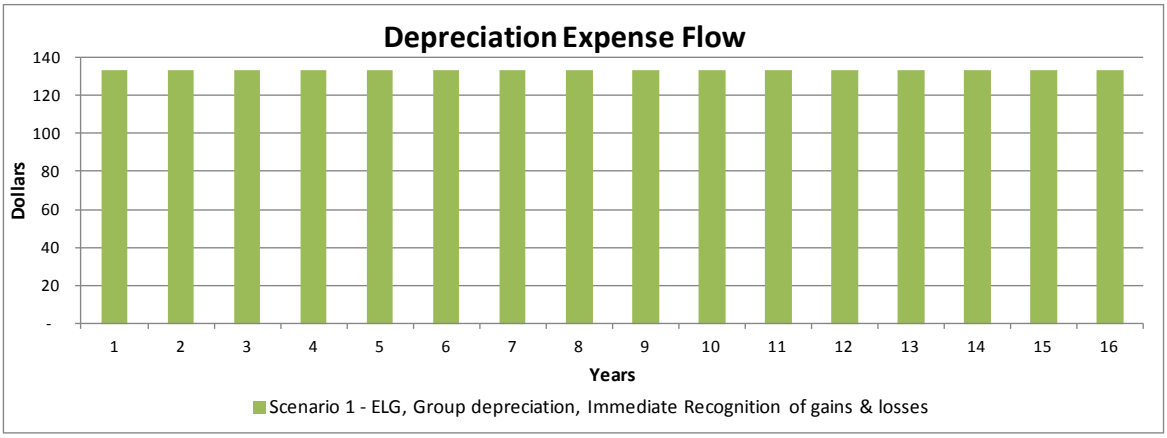
- Five units each costing $100, which have a service life of five years, and which will be replaced immediately on retirement with five more units.
- Five units each costing $100, which have an expected service life of fifteen years, and which will be replaced immediately on retirement.
- All asset retirements and additions occur at the end of the year expected.
- At any point in time:
  - The assets have a combined cost of $1,000;
  - One half of the asset base is expected to last five years and one half of the asset base is expected to last fifteen years; and,
  - The weighted average expected service life of the combined asset group is ten years.

Asset Cost Continuity Schedule

	Asset Sub-Group 1 (5 year life)				Asset Sub-Group 2 (15 year life)				Combined Asset Group			
Year	Cost at Beginning of Year	Assets Retired	Assets Added	Cost at End of Year	Cost at Beginning of Year	Assets Retired	Assets Added	Cost at End of Year	Cost at Beginning of Year	Assets Retired	Assets Added	Cost at End of Year
0	$ -		$ 500	$ 500	$ -		$ 500	$ 500	$ -		$1,000	$1,000
1	500			500	500			500	1,000			1,000
2	500			500	500			500	1,000			1,000
3	500			500	500			500	1,000			1,000
4	500			500	500			500	1,000			1,000
5	500	(500)	500	500	500			500	1,000	(500)	500	1,000
6	500			500	500			500	1,000			1,000
7	500			500	500			500	1,000			1,000
8	500			500	500			500	1,000			1,000
9	500			500	500			500	1,000			1,000
10	500	(500)	500	500	500			500	1,000	(500)	500	1,000
11	500			500	500			500	1,000			1,000
12	500			500	500			500	1,000			1,000
13	500			500	500			500	1,000			1,000
14	500			500	500			500	1,000			1,000
15	500	(500)	500	500	500	(500)	500	500	1,000	(1,000)	1,000	1,000
16	500			500	500			500	1,000			1,000
		$(1,500)	$2,000			$ (500)	$1,000			$(2,000)	$3,000	

<u>Scenario 1: ELG; Group depreciation; Immediate recognition of gains and losses.</u>

This scenario is comparable to the ELG implementation which has been proposed for use by Manitoba Hydro for IFRS and regulatory reporting purposes.



Scenario 1 - Annual Expense & Accumulated Depreciation Continuity Schedule

		Depreciation				Expenses Recognized				Accumulated Depreciation
Year	Cost	Base Rate	Base Expense	True-Up Rate	True-Up Expense	Total Depreciation	(Gain) / Loss on Asset	Total Annual	Depreciation Retired	at End of Year
1	$ 1,000	13.3%	$ 133		$ -	$ 133	$ -	$ 133	$ -	$ (133)
2	1,000	13.3%	133		-	133	-	133	-	(267)
3	1,000	13.3%	133		-	133	-	133	-	(400)
4	1,000	13.3%	133		-	133	-	133	-	(533)
5	1,000	13.3%	133		-	133	-	133	500	(167)
6	1,000	13.3%	133	0.0%	-	133	-	133	-	(300)
7	1,000	13.3%	133	0.0%	-	133	-	133	-	(433)
8	1,000	13.3%	133	0.0%	-	133	-	133	-	(567)
9	1,000	13.3%	133	0.0%	-	133	-	133	-	(700)
10	1,000	13.3%	133	0.0%	-	133	-	133	500	(333)
11	1,000	13.3%	133	0.0%	-	133	-	133	-	(467)
12	1,000	13.3%	133	0.0%	-	133	-	133	-	(600)
13	1,000	13.3%	133	0.0%	-	133	-	133	-	(733)
14	1,000	13.3%	133	0.0%	-	133	-	133	-	(867)
15	1,000	13.3%	133	0.0%	-	133	-	133	1,000	-
16	1,000	13.3%	133	0.0%	-	133	-	133	-	(133)
			$ 2,133		$ -	$ 2,133	$ -	$ 2,133	$ 2,000	

Scenario 1 Calculations:

Base Depreciation Rate: [($500 / 5 years) + ($500 / 15 years)] / $1000

Asset Retirement Calculations: Gains and losses on disposition of assets are recognized immediately in this scenario. Accumulated depreciation retired is calculated as Cost of item(s) retired x number of years depreciated / expected life of items retired

- Year 5: $500 x 5 years / 5 years = $500 accumulated depreciation, $0 loss.
- Year 10: $500 x 5 years / 5 years = $500 accumulated depreciation, $0 loss.
- Year 15: [Sub-Group 1: $500 x 5 years / 5 years = $500 accumulated depreciation, $0 loss] plus [Sub-Group 2: $500 x 15 years / 15 years = $500 accumulated depreciation, $0 loss]

Depreciation Adjustment – True-up Rates: There is no need for a true-up rate in this scenario to correct depreciation expense, as the accumulated depreciation balance at the end of each 5 year interval matches the expected accumulated balance for the underlying assets:

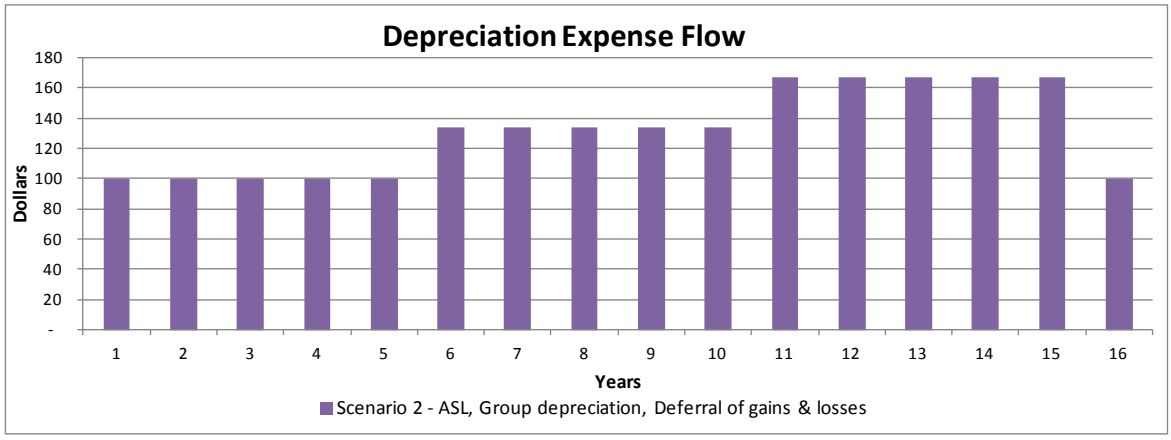
- Year 5: Sub Group 1: $500 x (0 / 5) years + Sub-Group 2 $500 x (5 / 15) years = $167
- Year 10: Sub Group 1: $500 x (0 / 5) years + Sub-Group 2 $500 x (10 / 15) years = $333
- Year 15: Sub Group 1: $500 x (0 / 5) years + Sub-Group 2 $500 x (0 / 15) years = $0

Suitability for Use in Rate Setting: This scenario is acceptable for rate setting as the equal expense pattern matches the assets available for use in each year.

IFRS Compliance: Scenario 1 is IFRS compliant as the pattern of depreciation expense matches the expected life for all assets, and gains and/or losses are realized immediately in income.

Scenario 2: ASL; Group depreciation; Deferral of gains and losses

This scenario is comparable to the ASL implementation which is currently used by Manitoba Hydro for Canadian GAAP and regulatory reporting purposes.



Gains or losses on disposition of assets are deferred, and are recovered over the remaining life of the assets in the group through the use of a “true-up” depreciation adjustment which is determined at each depreciation study.

The scenario assumes a five year interval between depreciation studies, which is consistent with the approach taken by Manitoba Hydro.

Scenario 2 - Annual Expense & Accumulated Depreciation Continuity Schedule

		Depreciation				Expenses Recognized				
Year	Cost	Base Rate	Base Expense	True-Up Rate	True-Up Expense	Total Depreciation Expense	(Gain) / Loss on Asset Disposal	Total Annual Expense	Depreciation Retired	Accumulated Depreciation at End of Year
1	$ 1,000	10.0%	$ 100		$ -	$ 100	$ -	$ 100	$ -	$ (100)
2	1,000	10.0%	100		-	100	-	100	-	(200)
3	1,000	10.0%	100		-	100	-	100	-	(300)
4	1,000	10.0%	100		-	100	-	100	-	(400)
5	1,000	10.0%	100		-	100	-	100	500	-
6	1,000	10.0%	100	3.3% **A**	33	133	-	133	-	(133)
7	1,000	10.0%	100	3.3%	33	133	-	133	-	(267)
8	1,000	10.0%	100	3.3%	33	133	-	133	-	(400)
9	1,000	10.0%	100	3.3%	33	133	-	133	-	(533)
10	1,000	10.0%	100	3.3%	33	133	-	133	500	(167)
11	1,000	10.0%	100	6.7% **B**	67	167	-	167	-	(333)
12	1,000	10.0%	100	6.7%	67	167	-	167	-	(500)
13	1,000	10.0%	100	6.7%	67	167	-	167	-	(667)
14	1,000	10.0%	100	6.7%	67	167	-	167	-	(833)
15	1,000	10.0%	100	6.7%	67	167	-	167	1,000	-
16	1,000	10.0%	100	0.0% **C**	-	100	-	100	-	(100)
			$ 1,600		$ 500	$ 2,100	$ -	$ 2,100	$ 2,000	

Scenario 2 Calculations:

Base Depreciation Rate: (1 / Average Service Life) = (1 / 10) = 10%

Asset Retirement Calculations: As the gains or losses on disposition of assets are deferred in this scenario, the accounting entry posted is to reduce both cost and accumulated depreciation by the full original cost of the assets to be retired, in this scenario, $500 at the end of years 5 and 10, and $1,000 at the end of year 15.

Depreciation Adjustment – True-up Rates:

A) Scenario 2 - True-Up Rate Calculation - End of Year 5:

Age	Cost	Average Expected Life (Years)	Age as a % of Expected Life	Expected Remaining Life (Years)	Expected Accumulated Depreciation
0	$ 500	10	0.000	10	$ 0
5	500	10	0.500	5	(250)
10	-	10	1.000	0	-
	$ 1,000 a				($ 250) b
Actual Accumulated Depreciation					- c
Accumulated Depreciation Variance				(b - c)	($ 250) d
Weighted Average Remaining Life: (sum of % total cost x remaining life for each age)					7.5 e
Annual depreciation true-up required:				(d / e)	($ 33) f
Depreciation True-up Rate:				(f / a)	**3.3%**

B) Scenario 2 - True-Up Rate Calculation - End of Year 10:

Age	Cost	Expected Life (Years)	Age as a % of Expected Life	Expected Remaining Life (Years)	Expected Accumulated Depreciation
0	$ 500	10	0.000	10	$ 0
5	-	10	0.500	5	-
10	500	10	1.000	0	(500)
	$ 1,000 a				($ 500) b
Actual Accumulated Depreciation					(167) c
Accumulated Depreciation Variance				(b - c)	($ 333) d
Weighted Average Remaining Life: (sum of % total cost x remaining life for each age)					5 e
Annual depreciation true-up required:				(d / e)	($ 67) f
Depreciation True-up Rate:				(f / a)	**6.7%**

C) Scenario 2 - True-Up Rate Calculation - End of Year 15:

Age	Cost	Expected Life (Years)	Age as a % of Expected Life	Expected Remaining Life (Years)	Expected Accumulated Depreciation	
0	$ 1,000	10	0.000	10	$ 0	
5	-	10	0.500	5	-	
0	-	10	0.000	10	-	
	$ 1,000	a			$ 0	b
Actual Accumulated Depreciation					-	c
Accumulated Depreciation Variance				(b - c)	$ 0	d

As there is no Accumulated Depreciation Variance at the end of year 15, the true-up rate = **0%**

Suitability for Use in Rate Setting: From a rate setting perspective, this scenario is not ideal, as it produces a shifting pattern of depreciation expense, where the costs for an unchanging asset base increase over time until the longer lived assets in the group are retired.

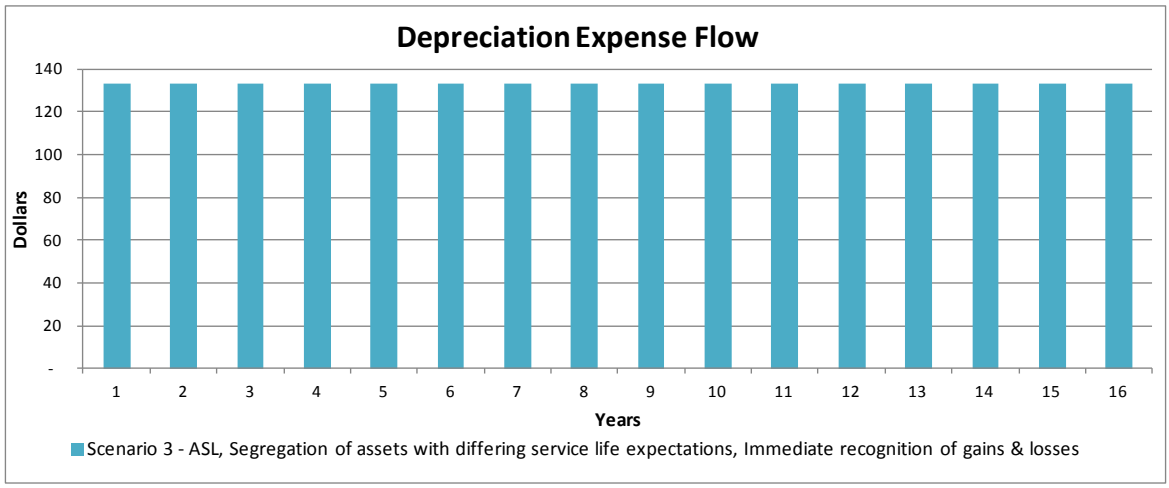
- In the example, ratepayers in years 6 – 10 are appropriately charged 1/3 of the total costs, while ratepayers in years 1 – 5 would benefit from lower depreciation rates, and ratepayers in years 10 – 15 would be burdened by higher depreciation rates.

IFRS Compliance: In Scenario 2, the retirement entry at the end of year 5 fully extinguishes the accumulated depreciation balance of the account, leaving no remaining balance to be associated with the longer lived items in the group. Scenario 2 fails to meet IFRS requirements in two areas:

- Treatment of gains and losses: IFRS specifically states that gains and losses on the disposition of assets are to be recognized as incurred.
- Pattern of depreciation expense: Following the retirement at the end of year 5, the group still contains 5 units which have an individual expected life of 15 years, and which has been depreciating for 1/3 of their expected lives, but the accumulated depreciation balance does not reflect this. As such, this method does not generate a depreciation expense pattern which is true to the useful lives of the parts included in the group.

Scenario 3: ASL; Segregation of assets with differing service life expectations; Immediate recognition of gains and losses.

This scenario is comparable to Manitoba Hydro's understanding of the ASL implementation in use by BC Hydro, Newfoundland and Labrador Hydro, SaskPower and Hydro Quebec, whereby a significantly greater level of componentization is used in combination with individual asset depreciation and with immediate recognition of gains & losses on retirement of assets.



In this scenario, the sub-groups of assets with different expected service lives are separately depreciated, and gains or losses are taken into income in the year the assets are retired.

Scenario 3 - Annual Expense & Accumulated Depreciation Continuity Schedule

	Asset Group 1 (5 year life)						
		Depreciation		(Gain) / Loss on			Accumulated Depreciation
Year	Cost	Rate	Expense	Asset Disposal	Annual Expense	Depreciation Retired	After Retirement
1	$ 500	20.0%	$ 100		$ 100		$ (100)
2	500	20.0%	100		100		(200)
3	500	20.0%	100		100		(300)
4	500	20.0%	100		100		(400)
5	500	20.0%	100	-	100	500	-
6	500	20.0%	100		100		(100)
7	500	20.0%	100		100		(200)
8	500	20.0%	100		100		(300)
9	500	20.0%	100		100		(400)
10	500	20.0%	100	-	100	500	-
11	500	20.0%	100		100		(100)
12	500	20.0%	100		100		(200)
13	500	20.0%	100		100		(300)
14	500	20.0%	100		100		(400)
15	500	20.0%	100	-	100	500	-
16	500	20.0%	100		100		(100)
			$ 1,600	-	$1,600	$ 1,500	

Scenario 3 - Annual Expense & Accumulated Depreciation Continuity Schedule

	Asset Group 2 (15 year life)							Total Annual Expense		
		Depreciation		(Gain) / Loss on			Accumulated Depreciation			
Year	Cost	Rate	Expense	Asset Disposal	Annual Expense	Depreciation Retired	After Retirement	Depreciation Expense	(Gain) / Loss on Asset Disposal	Total Expense
1	$ 500	6.7%	$ 33		$ 33		$ (33)	$ 133	$ -	$ 133
2	500	6.7%	33		33		(67)	133	-	133
3	500	6.7%	33		33		(100)	133	-	133
4	500	6.7%	33		33		(133)	133	-	133
5	500	6.7%	33		33		(167)	133	-	133
6	500	6.7%	33		33		(200)	133	-	133
7	500	6.7%	33		33		(233)	133	-	133
8	500	6.7%	33		33		(267)	133	-	133
9	500	6.7%	33		33		(300)	133	-	133
10	500	6.7%	33		33		(333)	133	-	133
11	500	6.7%	33		33		(367)	133	-	133
12	500	6.7%	33		33		(400)	133	-	133
13	500	6.7%	33		33		(433)	133	-	133
14	500	6.7%	33		33		(467)	133	-	133
15	500	6.7%	33	-	33	500	-	133	-	133
16	500	6.7%	33		33		(33)	133	-	133
			$ 533	-	$ 533	$ 500		$ 2,133	$ -	$2,133

Scenario 3 Calculations:

Base Depreciation Rate:

- Asset Group 1: (1 / Average Service Life) = (1 / 5) = 20.0%
- Asset Group 2: (1 / Average Service Life) = (1 / 15) = 6.7%

Depreciation Adjustment – True-up Rates: There are no need for depreciation true-up rates in this scenario, as there is no variation in age, in the expected service life, or in the realization of the service life of the assets within each of the independently depreciated asset groups.

Asset Retirement Calculations: Gains and losses on disposition of assets are recognized immediately in this scenario. Accumulated depreciation retired is calculated as Cost of item(s) retired x depreciation rate in use x number of years depreciated:

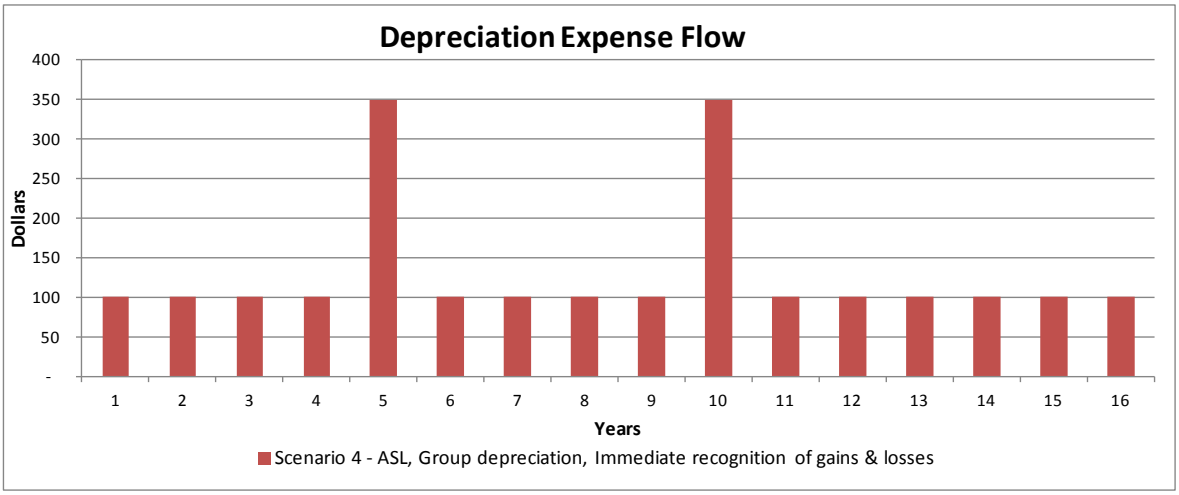
- Asset Group 1:
  - Year 5: $500 x 20% x 5 years = $500 accumulated depreciation, $0 loss.
  - Year 10: $500 x 20% x 5 years = $500 accumulated depreciation, $0 loss.
  - Year 15: $500 x 20% x 5 years = $500 accumulated depreciation, $0 loss.
- Asset Group 2:
  - Year 15: $500 x 6.7% x 15 years = $500 accumulated depreciation, $0 loss.

Suitability for Use in Rate Setting: This scenario is acceptable for rate setting as the equal expense pattern matches the assets available for use in each year.

IFRS Compliance: Scenario 3 is IFRS compliant as the pattern of depreciation expense matches the expected life for all assets, and gains and/or losses are realized immediately in income.

Scenario 4: ASL; Group Depreciation; Immediate recognition of gains and losses

This scenario reflects the impact on net expense of using ASL with group accounting and immediate recognition gains and losses on disposal of assets.



Gains or losses on disposition of assets are taken into income in the year the assets are retired.

The scenario assumes a five year interval between depreciation studies, which is consistent with the approach taken by Manitoba Hydro.

Scenario 4 - Annual Expense & Accumulated Depreciation Continuity Schedule

		Depreciation				Expenses Recognized				
Year	Cost	Base Rate	Base Expense	True-Up Rate	True-Up Expense	Total Depreciation Expense	(Gain) / Loss on Asset Disposal	Total Annual Expense	Depreciation Retired	Accumulated Depreciation at End of Year
1	$ 1,000	10.0%	$ 100		$ -	$ 100	$ -	$ 100	$ -	$ (100)
2	1,000	10.0%	100		-	100	-	100	-	(200)
3	1,000	10.0%	100		-	100	-	100	-	(300)
4	1,000	10.0%	100		-	100	-	100	-	(400)
5	1,000	10.0%	100		-	100	250	350	250	(250)
6	1,000	10.0%	100	0.0%	-	100	-	100	-	(350)
7	1,000	10.0%	100	0.0%	-	100	-	100	-	(450)
8	1,000	10.0%	100	0.0%	-	100	-	100	-	(550)
9	1,000	10.0%	100	0.0%	-	100	-	100	-	(650)
10	1,000	10.0%	100	0.0%	-	100	250	350	250	(500)
11	1,000	10.0%	100	0.0%	-	100	-	100	-	(600)
12	1,000	10.0%	100	0.0%	-	100	-	100	-	(700)
13	1,000	10.0%	100	0.0%	-	100	-	100	-	(800)
14	1,000	10.0%	100	0.0%	-	100	-	100	-	(900)
15	1,000	10.0%	100	0.0%	-	100	-	100	1,000	-
16	1,000	10.0%	100	0.0%	-	100	-	100	-	(100)
			$ 1,600		$ -	$ 1,600	$ 500	$ 2,100	$ 1,500	

Scenario 4 Calculations:

Base Depreciation Rate: (1 / Average Service Life) = (1 / 10) = 10%

Asset Retirement Calculations: Gains and losses on disposition of assets are recognized immediately in this scenario. Accumulated depreciation retired is calculated as Cost of item(s) retired x depreciation rate in use x number of years depreciated:

- Year 5: $500 x 10% x 5 years = $250 accumulated depreciation, $250 loss.
- Year 10: $500 x 10% x 5 years = $250 accumulated depreciation, $250 loss.
- Year 15: [Group 1: $500 x 10% x 5 years = $250 accumulated depreciation, $250 loss] plus [Group 2: $500 x 10% x 15 years] = $750 accumulated depreciation, $250 gain]

Depreciation Adjustment – True-up Rates: There is no need for a true-up rate in this scenario to correct depreciation expense, as the accumulated depreciation balance at the end of each 5 year interval matches the expected accumulated balance as calculated for Scenario 2:

- Year 5: $ (250)
- Year 10: $ (500)
- Year 15: $ 0

Suitability for Use in Rate Setting: From a rate setting perspective, this scenario is deficient for the following reasons:

- The pattern of expense recognition is very uneven, with large corrections required in years 5 and 10.
- Although there is an equal availability and use of assets in each year, the expense pattern does not reflect that, as higher expense recognition in years 1 – 10 as compared to years 11 – 15
    - Expense for years 1 – 5 equals $750
    - Expense in years 6 – 10 equals $750
    - Expense in years 11 – 15 equals $500

I**FRS Compliance:** In Scenario 4, a loss is realized on the retirement of assets with lives shorter than the average and a gain is realized on the retirement of assets with lives longer than the average. Scenario 4 fails to meet IFRS requirements as the pattern of depreciation expense is not true to the expected useful lives of the items included in the group, which is evident from the fact that none of the assets in this scenario are fully depreciated when retired. Those with a 5 year life are under-depreciated when retired and those with a 15 year life are over-depreciated.