MANITOBA HYDRO

2012/13 & 2013/14 ELECTRIC GENERAL RATE APPLICATION

UNDERTAKING PROVIDED BY: L. KENNEDY

Manitoba Hydro Undertaking #39

Please provide a copy of the presentation made to the Canadian Electricity Association in December 2008.

Response:

Please see the attachment to this response.

Accounting for PPE
Group Accounting in the World of IFRS

CANADIAN ELECTRICITY ASSOCIATION

Finance & Accounting Committee
Fredericton, New Brunswick
December 1, 2008

Presented by Larry Kennedy
Gannett Fleming, Inc.

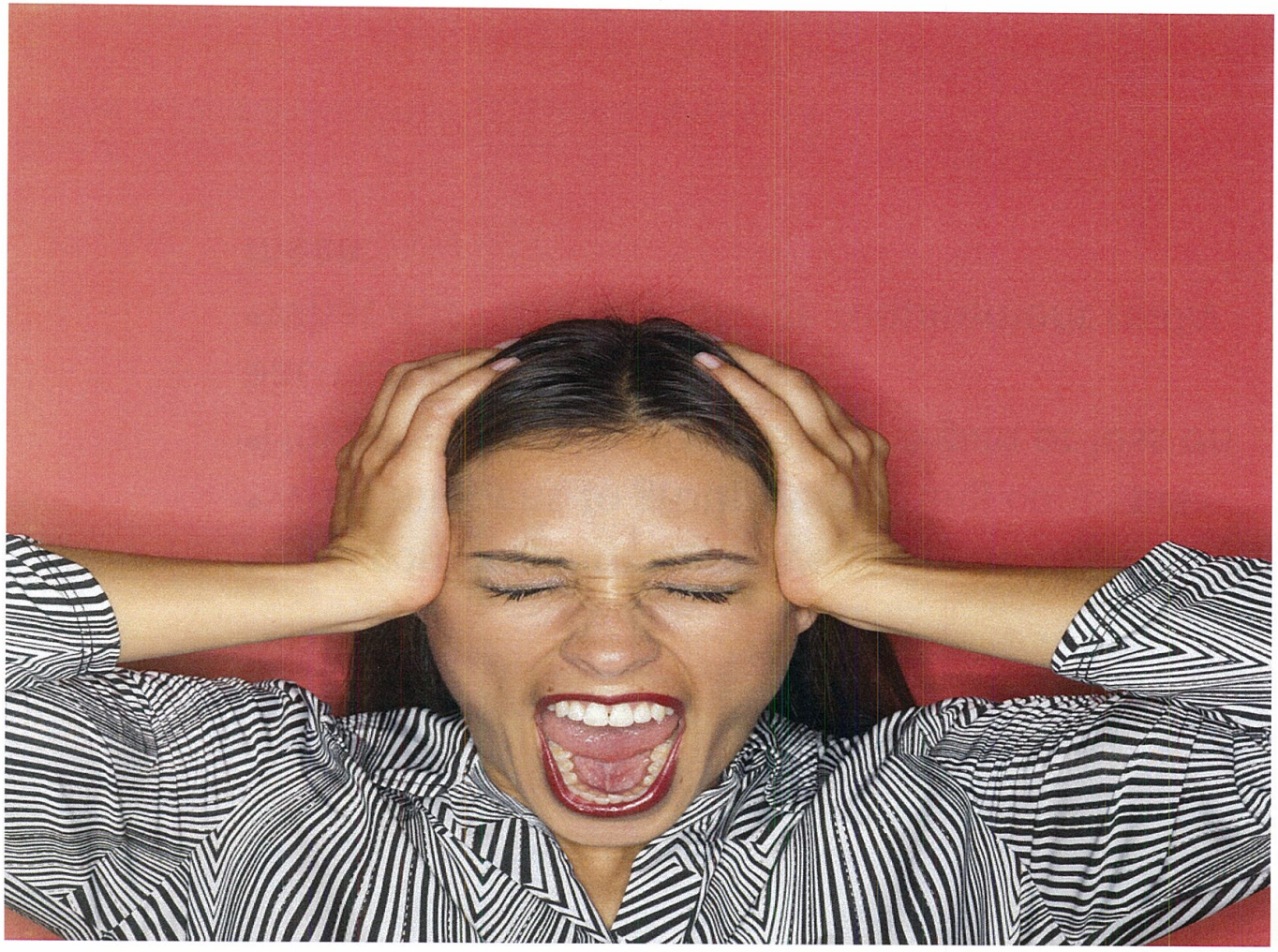
IAS 16
(in part)

- Assets must componentized
- Each asset (or component) to be depreciated over its estimated useful life
- Provision for net salvage should be segregated
- Gains or Losses shall be recorded on all retirements

FIRST GROUP OF QUESTIONS

- How componentized do we really need to be
- What happens to group accounting concepts
- How are we going to calculate a gain or loss on each retirement
- What does this net salvage requirement really mean

CAN I RETIRE BEFORE THIS GETS IMPLEMENTED



SO NOW WHERE

- GROUP ACCOUNTING CONCEPTS
- GROUP DEPRECIATION CONCEPTS
- GAIN AND LOSS CALCULATIONS
- ANY CHANGES TO ARO CALCULATIONS – not going to deal with today unless we have time at end

GROUP ACCOUNTING CONCEPTS

TENS OR HUNDREDS OF THOUSANDS OF ASSETS

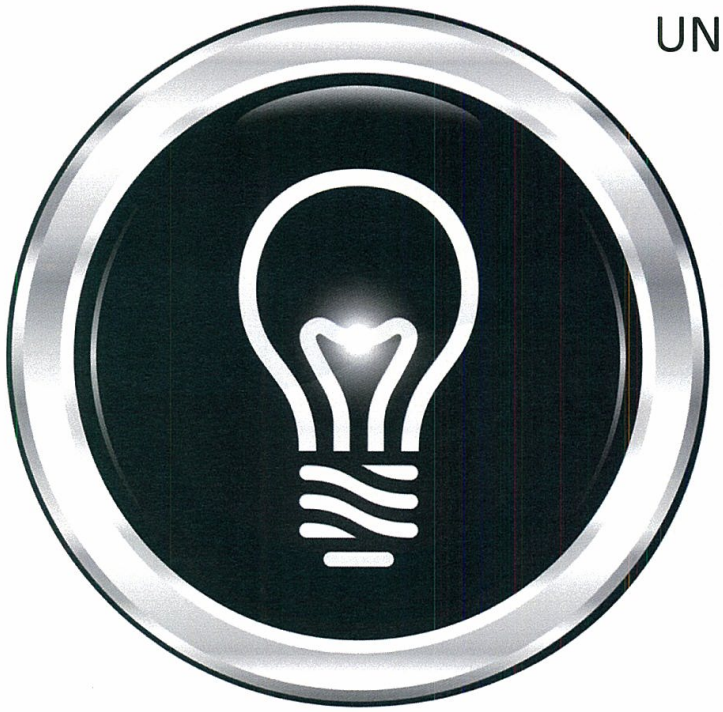
MANY FORCES OF RETIREMENT

MANY DIVERSE AGES OF RETIREMENT

ASSETS USUALLY GROUPED INTO HOMOGENOUS GROUPS

GROUPINGS ARE CONTROLLED BY REGULATORS

GROUP ACCOUNTING CONCEPTS



UNIFORM SYSTEM OF ACCOUNTS

PERHAPS COMPONENTIZATION ALREADY EXITS

- System of Accounts are reviewed by regulatory authorities
- Represent homogenous groups of assets with similar average life characteristics
- System of accounts such as the Alberta Utilities Commission, the NEB, the Ontario Energy Board, etc. seem to generally meet the componentization rules
- Some small amount of refinement may be required

GROUP DEPRECIATION CONCEPTS

- Generally a unique concept to utilities
- Not really understood by those outside the utility industry

AT FIRST LOOK IT APPEARS THAT ASSETS ARE GROUPED AND NOT UNIQUELY DEPRECIATED OVER ASSET SPECIFIC AVERAGE SERVICE LIVES

THEREFORE IT MAY NOT BE COMPLIANT WITH IFRS

WHAT IS GROUP DEPRECIATION

Depreciates a group of homogenous assets at a common rate rather than requiring a separate depreciation calculation for the tens or hundreds of thousands of assets within the group.

WHAT IS GROUP DEPRECIATION

Depreciates a group of homogenous assets at a common rate rather than requiring a separate depreciation calculation for the tens or hundreds of thousands of assets within the group.

HOWEVER

GROUP DEPRECIATION

THE LIVES USED IN THE DETERMINATION OF THE RATE ARE NOT COMMON TO ALL OF THE ASSETS WITHIN THE GROUP

IN FACT
THE USE OF A COMMON RATE IS USED PURELY FOR CONVENIANCE

The calculation of a rate is only a means to simplify the posting of the annual accrual amount and does not reflect the actual recovery of the investment in each of the assets

CALCULATION OF DEPRECIATION RATE

$$\text{Rate\%} = \frac{100\% - \text{Salvage}}{\text{Life}}$$

REQUIRES

- ESTIMATED LIFE
- ESTIMATED SALVAGE PERCENTAGE

FORCES OF RETIREMENT

- Utility assets retire over a wide band of ages
- Many forces of retirement due to the large number of assets
- Most forces of retirement occur annually or at least periodically
- A specific force of retirement cannot be assigned to a specific asset

FORCES OF RETIREMENT

ASSUME

- Installation of 1,000 pole top transformers in a rural distribution system in any one year
- No economic life considerations

WHAT WILL CAUSE THE TRANSFORMERS TO RETIRE?

THIRD PARTY STRIKES

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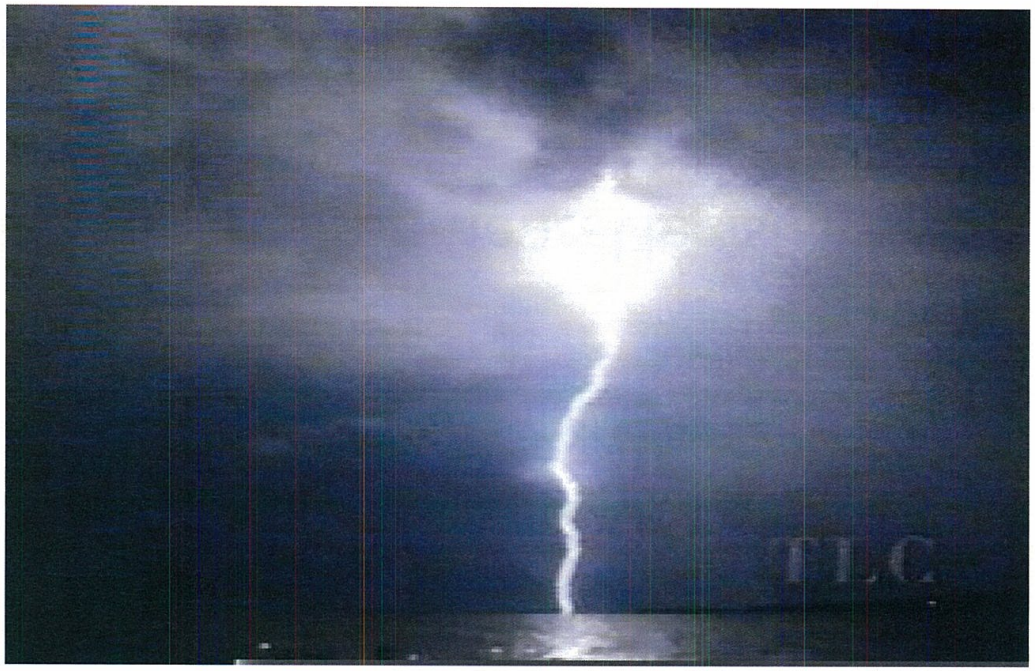
STORMS

LIGHTENING STRIKES



OTHER

- Replacement due to changes in capacity requirements
- Technology changes
- Changes in environmental legislation (i.e. PCB contamination)
- Physical Age and Condition

Estimated Life Considerations

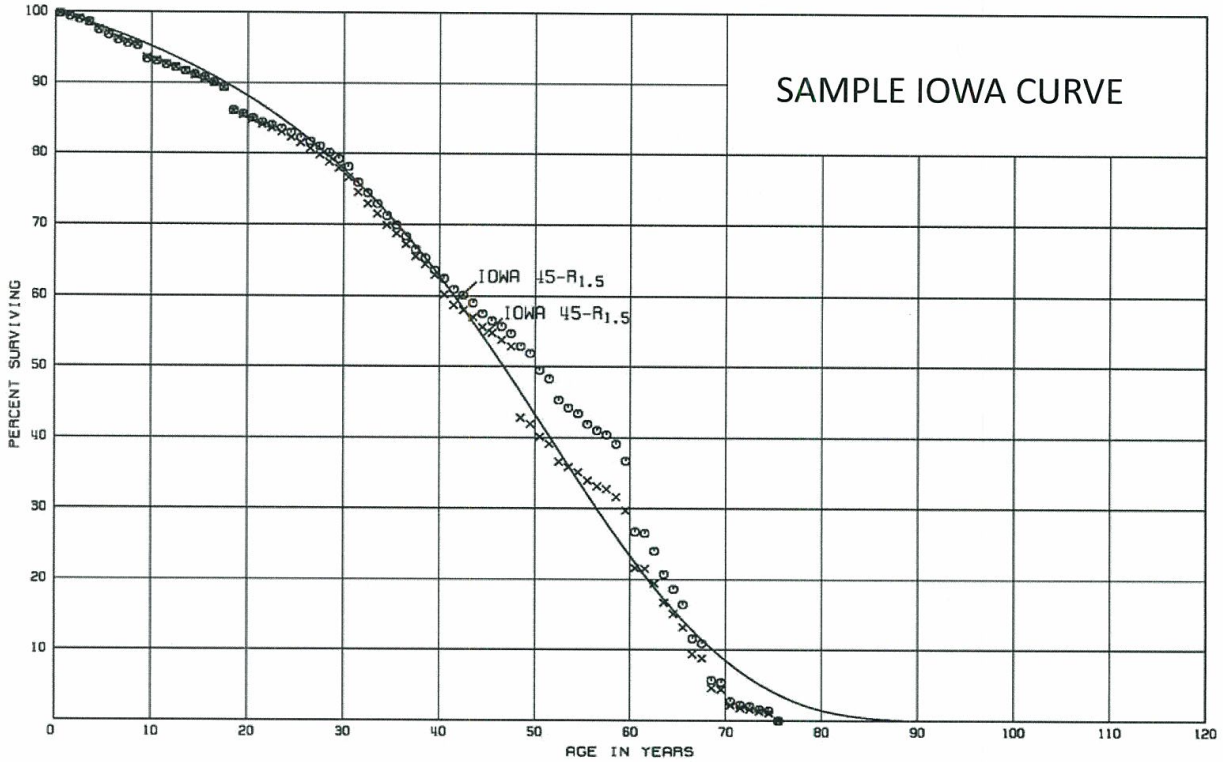
Most of the forces of retirement can occur at any age

Not all transformers installed in any given year will retire due to the same force of retirement

Not possible to isolate which specific transformer will be retired due to storms, third party hits, etc.

History tells us that some assets from the original 1,000 installations will retire most years

Estimated Life Considerations



IOWA Curves

- The X and O points represent actual retirement experience
- There is an estimated retirement amount in each year of the accounts life in both the actual retirements and in the smoothed curve
- The IOWA curve represents all forces of retirements at all ages

IOWA Curves

TWO ways to use the IOWA curve in Depreciation Rate Calculations

THE AVERAGE SERVICE LIFE PROCEDURE (ASL OR AGL)

THE EQUAL LIFE GROUP (ELG) PROCEDURE

AVERAGE SERVICE LIFE PROCEDURE

$$\text{RATE\%} = \frac{\text{100\% - SALVAGE}}{\text{AVERAGE SERVICE LIFE}}$$

- Complete area under the IOWA curve is used in the calculation
- The average age calculation incorporates all forces of retirement
- The average life estimate is in fact reduced due to the early retirement experience

Equal Life Group Procedure

$$\text{Rate} = \sum \frac{\text{Investment of each retirement group - Salvage}}{\text{Age estimate of each retirement group}}$$

Equal Life Group Procedure

$$\text{Rate} = \sum \frac{\text{Investment of each retirement group - Salvage}}{\text{Age estimate of each retirement group}}$$

SIMPLIFIED EXAMPLE

ASL vs. ELG

Two Units:

$1,000 Each

1 - 5 Year Life

1 - 15 Year Life

ASL (AGL) PROCEDURE

$$\text{Average Life} = \frac{5 + 15}{2} = 10$$

Depreciation Rate = 10%

ASL PROCEDURE

$$10\% \text{ X } \$2{,}000 \text{ X } 5 = \$1{,}000$$

$$10\% \text{ X } \$1{,}000 \text{ X } 10 = \$1{,}000$$

$$\$2{,}000$$

EQUAL LIFE GROUP

Annual Accrual, Years 1- 5

$$\frac{\$1{,}000}{5} + \frac{\$1{,}000}{15} = 200 + 67 = \$267$$

Depreciation rate = $267/$2,000 = 13.35%

EQUAL LIFE GROUP

Annual Accrual, Years 6-15

$$\frac{\$1{,}000}{15} = \$67$$

Depreciation rate = $67/$1,000 = 6.7%

ELG EXAMPLE

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

ASL vs. ELG
ACCUMULATED DEPRECIATION
AFTER 5 YEARS

ASL $1,000 Accruals
-1,000 Retirements
-0-

Equal Life Group $1,333 Accruals
-1,000 Retirements
$ 333

KEY POINTS

- In both procedures the total original cost is recovered
- With ASL there is no provision for accumulated depreciation for the second asset after the retirement of the first unit
- ELG is based on the life estimate of each group, leaving a provision for accumulated depreciation for the second asset at the point in time of retirement of the first asset

Thoughts on Gains or Losses in this simplified example

ASL

At Retirement the accumulated depreciation related to the 5 year asset is equal to ($1,000 X 10%) X 5 years = $500

Loss might be considered to be equal $1,000 - $500 = $500

Up until now, regulated utilities have been allowed to amortize this loss into accumulated depreciation over the remaining life of the remaining asset

Not sure this can be done with IAS 16

Thoughts on Gains or losses in this simplified example

ELG

At Retirement the accumulated depreciation related to the 5 year asset might be considered equal to ($1,000 X 13.35%) X 5 years = $667.50

Loss might be considered to be equal $1,000 - $667.50 = $332.50

Thoughts on Gains or losses in this simplified example

ELG

At Retirement the accumulated depreciation related to the 5 year asset might be considered equal to ($1,000 X 13.35%) X 5 years = $667.50

Loss might be considered to be equal $1,000 - $667.50 = $332.50

WRONG!!!!!!!

Remember…….

IN FACT
THE USE OF A COMMON RATE IS USED PURELY FOR CONVENIANCE

The calculation of a rate is only a means to simplify the posting of the annual accrual amount and does not reflect the actual recovery of the investment in each of the assets

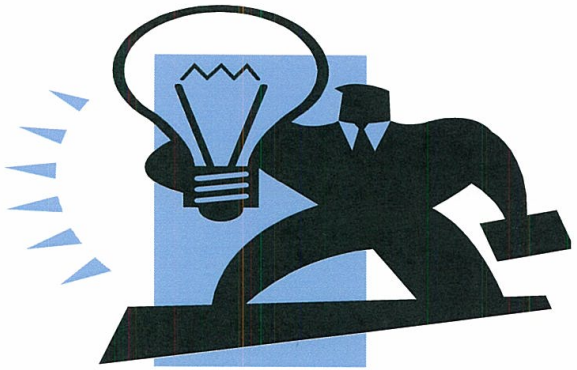
In Fact with ELG

The first asset retired at age 5 has built up accumulated depreciation at the rate of $1,000/5 yrs or 20%

Therefore the accumulated depreciation related to the first asset = ($1,000 x 20%) X 5 years = $1,000

Loss = $0.

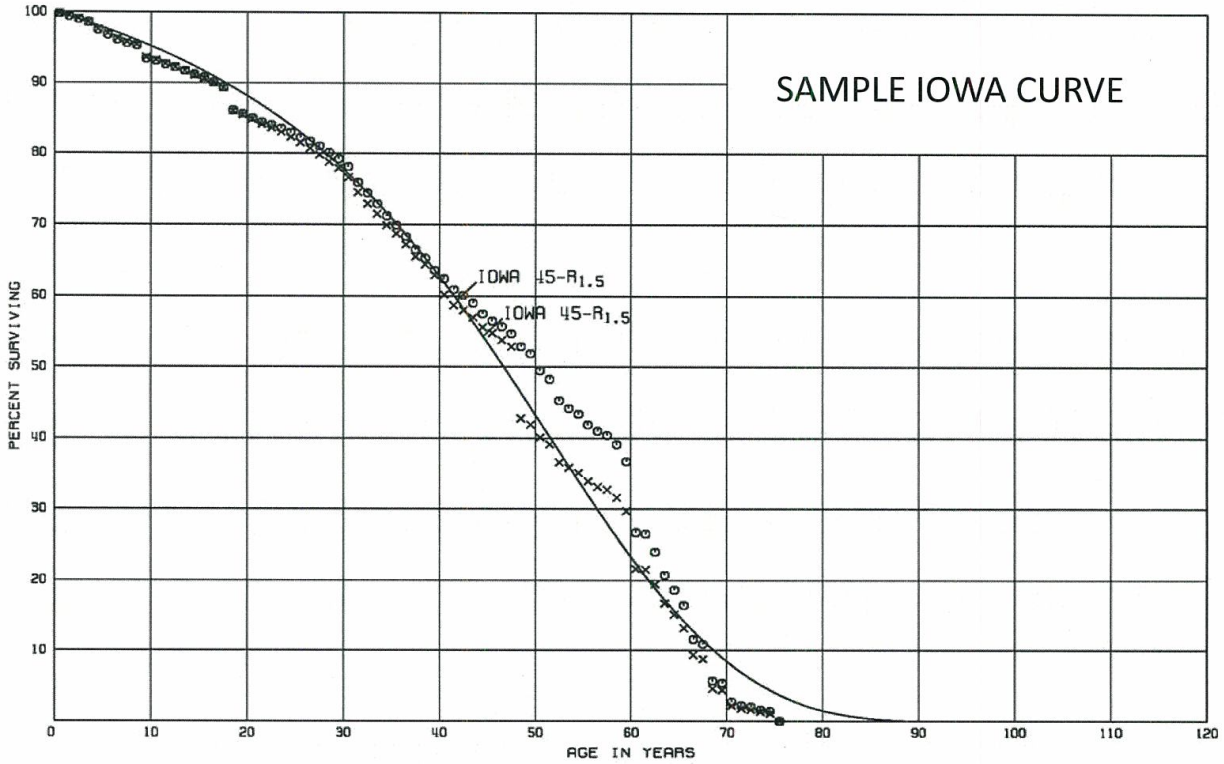
Even with IAS 16, there is no gain or loss to take to income



BUT …….WHAT ABOUT THAT MORE COMPLEX TRANSFORMER EXAMPLE

REMEMBER THAT SAMPLE IOWA CURVE ?

Estimated Life Considerations



ELG and IOWA Curves

- Sample curve has approximately 90 equal life groups - one for year within the curve
- ELG procedure would have approximately 90 calculations – one for each year within the curve
- The depreciation accrual is equal to (the investment in the group of assets retiring in first year X100%) + (group of assets retiring in second year X50%).....

ELG and IOWA Curves

- The result of the above calculation is a depreciation rate applied to all assets only for convenience.
- Same result would occur if we had 90 separate accounts and depreciation rates for the same group of assets.

WHAT ABOUT IAS 16?

WITH ELG THE ASSETS ARE CLEARLY DEPRECIATED OVER EACH ASSETS AVERAGE LIFE ESTIMATE

SOME ARGUMENT THAT THE AVERAGE LIFE ESTIMATE USED WITH ASL ALSO CONSIDERS THE SPECIFIC LIFE OF EACH ASSET

Does this mean that ELG complies with IAS 16

In my view

YES.....

Provided that actual retirements match the retirement anticipated within the IOWA curve used for the depreciation rate calculation

Needs to be tested periodically

Depreciation rates will need to be updated periodically through a annual technical update

Anybody else believe you?

We are starting to see some understanding from most of the Large Four Audit firms

The Fortis group has received confirmation from their auditors that ….

- With minor amounts of modifications the charts of accounts are compliant with the componentization requirements
- With the ELG procedure assets can be considered fully depreciated at time of retirement **provided that documented evidence of the compliance of actual retirements to the IOWA curve estimated retirement pattern can be developed.**

Regulator Acceptance

- Jurisdictions that have historically accepted ELG are further along understanding IFRS implementation
- Other Jurisdictions have indicated a willingness to review ELG again, but seem to be waiting for confirmation that ELG resolves IFRS issues