**IN THE MATTER OF** the *Electrical Control Act*, RSNL 1994, Chapter E-5.1 (the "EPCA") and the *Public Utilities Act*, RSNL 1990, Chapter P-47 (the "Act"), as amended, and their subordinate regulations;

**IN THE MATTER OF** an Application by Newfoundland and Labrador Hydro pursuant to subsection 68 of the Act, for the approval of changes in depreciation methodology and assets service lives.

BEFORE THE NEWFOUNDLAND AND LABRADOR BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

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# Direct Testimony

*of*

Patricia Lee

*On behalf of*

Island Industrial Customers

BCRI Valuation Services
808 Heatherwood Circle
Birmingham, AL 35244

October 3, 2012

**IN THE MATTER OF** the *Electrical Control Act*, RSNL 1994, Chapter E-5.1 (the "EPCA") and the *Public Utilities Act*, RSNL 1990, Chapter P-47 (the "Act"), as amended, and their subordinate regulations;

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## I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Patricia S. Lee. My address is 116 SE Villas Court, Unit C, Tallahassee, Florida 32303.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by BCRI Inc. as a BCRI associate.

Q. PLEASE DESCRIBE BCRI.

A. BCRI is a consulting and research company founded in 1998 by Stephen Barreca. The company specializes in assessing technological change and appraising utility property.

Q. PLEASE DESCRIBE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I graduated from Appalachian State University in Boone, North Carolina in December 1970, receiving a Bachelor's degree in mathematics. I was employed as a high school mathematics teacher from 1971-1974, when I began working in the area of statistical analysis for the State of Florida. I joined the Public Service Commission staff in 1978. While my position changed over the years, my areas of primary focus were depreciation and capital recovery. I also reviewed and analyzed cost studies for the purpose of determining unbundled network element prices and universal service cost levels as well as for the purpose of determining the appropriate nuclear decommissioning and fossil dismantlement annual accrual levels. In that regard, I was responsible for depreciation issues and other issues such as determining the appropriate cost

model inputs. I retired after over 30 years of service on September 30, 2011. In March 2012, I began working with BCRI Inc., d/b/a BCRI Valuation Services.

Q. WHAT WERE YOUR DUTIES AT THE FLORIDA PUBLIC SERVICE COMMISSION?

A. I reviewed, analyzed, and presented testimony and recommendation concerning depreciation rates and the capital recovery positions of Florida regulated utilities and the valuation of assets in a competitive market. In this capacity, I investigated, analyzed, and evaluated valuation and depreciation methods and concepts. The determination of appropriate depreciation lives and salvage values requires an understanding of the plans, needs, and pressures facing an individual company. It also requires knowledge of the various types of plant under study or review and the various factors impacting the depreciation parameters, such as competition and technological advancements.

I also assisted in the promulgation of Florida Public Service Commission rules regarding depreciation study requirements, depreciation sub-account requirements, capitalization and expensing requirements, and dismantlement and decommissioning study requirements. Additionally, I conducted various Public Service Commission staff training sessions regarding depreciation.

Additionally, I conferred with company officials, other state and federal agency personnel, and consulting firms on capital recovery matters in both the regulated and deregulated environments. On behalf of the Commission, I participated as a faculty member of the National Association of Regulatory Utility Commissioners (NARUC) Annual Regulatory Studies Program and as a trainer for the Society of Depreciation Professionals in the area of depreciation. I was also a member of the NARUC Staff Subcommittee on Depreciation and Technology. In this regard, I co-authored the NARUC 1996 Public utility Depreciation Practices manual and three

NARUC papers that addressed the impact of depreciation on infrastructure development, economic depreciation, and stranded investment. Two of these papers were published in the 1996-1997 and 1998 SDP Journals.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE?

A. Yes, I have. I proffered testimony in telecommunications, electric, and gas cases regarding depreciation-related issues before the Public Service Commission. A complete list of all dockets in which I was assigned or in which I presented testimony is currently be compiled and will be filed as Exhibit PSL-1 to this testimony.

Q. ON WHOSE BEHALF ARE YOU PROVIDING TESTIMONY IN THIS CURRENT PROCEEDING?

A. I am testifying on behalf of the Industrial Island Customers.

## II. PURPOSE OF TESTIMONY AND SUMMARY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony in this proceeding is to provide the results of my review and analysis of Hydro's 2009 Depreciation Study.

Q. DO YOU HAVE ANY EXHIBITS ACCOMPANYING YOUR TESTIMONY?

A. Yes. Attached to my testimony is Exhibits PSL-1 and PSL-2.

Q. CAN YOU PROVIDE A BRIEF OVERVIEW OF THE RELATIVE DEPRECIATION-RELATED MATTERS IN THIS PROCEEDING?

A. Yes. In my testimony I will present the results of my analysis of Hydro's depreciation study. I will provide examples where the Company has understated its reserve and overstated its proposed depreciation rates and resulting estimated expenses. Considering the number of accounts involved, I only address five. This should not be taken to mean, however, that I agree with Hydro's proposals for the remaining accounts. Due to fact that Hydro was not forthcoming with adequate responses to the numerous requests for information, I focused on those accounts that appear to be the most egregious. My adjustments amount to approximately $2 million additional decrease in annual depreciation expense as shown on Exhibit PSL-2.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. I will begin with a general background regarding the concept of depreciation, in which I will define and describe the nature and role of depreciation in a regulated electric company. This will be followed by a summary of my analysis. Finally, I will address the issues I have developed through my review as well as an analysis of certain account proposals.

## III. GENERAL BACKGROUND

Q. PLEASE BRIEFLY EXPLAIN THE CONCEPT OF DEPRECIATION.

A. Depreciation is the mechanism through which regulated companies are allowed to include in their operating expenses a percentage of their investment in equipment and facilities used to provide service to the public. Depreciation rates are prescribed on the basis of estimates of the equipment's expected rate of loss in value due to known causes, including wear and tear, obsolescence, and changes in demand. Depreciation expense is part of a company's revenue

requirement and the accumulated depreciation (depreciation reserve) is a deduction from rate base.

Q. WHAT IS THE BASIC PURPOSE OF A DEPRECIATION STUDY?

A. The basic purpose of a depreciation study is to attain the proper depreciation expenses and accumulated reserve level. The prime concerns in developing depreciation rates are life, salvage, and reserve level. In the instant proceeding, Hydro is proposing zero percent net salvage. For this reason, net salvage is not an issue and will not be discussed. It is also important to understand that the life component of the depreciation rate involves the use of estimates and projections. As circumstances change and the company perceives a need to revise its depreciation rates, it behooves both the company and its customers to propose revised depreciation rates.

## IV. SUMMARY

Q. PLEASE SUMMARIZE YOUR MAIN POINTS.

A. Hydro's 2009 depreciation study reflects a change 1) in depreciation methodology, 2) from unit depreciation to group depreciation using the average service life procedure applied using the remaining life technique, and 3) in account lives and Iowa Curve characteristics.

Q. BEFORE PRESENTING YOUR ANALYSIS OF HYDRO'S 2009 DEPRECIATION STUDY, ARE THERE ANY GENERAL OBSERVATIONS YOU WOULD LIKE TO MAKE?

A. Yes.

- On its face, Hydro's 2009 Depreciation Study is comprised mainly of a treatise on depreciation, results from statistical analysis, and a remaining life calculation. The study is devoid of any support or justification for the proposed life/curve combinations. Consequently, many requests for information were necessary in order to gather information that, at least in my opinion, should have been more appropriately filed with the study itself. This could have saved much time on the part of the company staff as well as intervenors in their review.
- Hydro is currently using the sinking fund method of depreciation but the calculations do not appear to be correct. The accumulated depreciation (depreciation reserve) is understated by the miscalculations.
- The 2009 Depreciation Study proposes moving to a straight-line average service life group procedure to determine depreciation rates asserting that this is a common method used by many companies in North America. On the same hand though, the company plans to apply the group depreciation rate to each unit of property within the group account. This is fundamentally inconsistent with the meaning of the group depreciation procedure.
- Hydro incorrectly ceases depreciation on an individual asset when it becomes fully depreciated regardless if the total account reserve is fully depreciated. Under the group depreciation procedure, individual assets within the group should continue to be depreciated until the reserve for the total account is fully depreciated.
- Hydro's proposed lives for many accounts are generally understated.

## CHANGE IN DEPRECIATION METHODOLOGY

Q. WHAT DEPRECIATION METHODOLOGY IS HYDRO CURRENTLY USING AND WHAT METHODOLOGY IS IT PROPOSING?

A. Hydro currently uses the sinking fund method of depreciation for many assets and straight-line depreciation for some assets. It is proposing to move to straight-line depreciation for all assets.

Q. BRIEFLY EXPLAIN THE SINKING FUND METHOD OF DEPRECIATION.

A. The sinking fund method of depreciation is a decelerated method of depreciation in which annual depreciation expense in the early years of life are lower than later in life. An annuity rate is used and interest on the accumulation of depreciation or reserve is added. The formula for the annuity is $i/[(1+i)^n-1]$ where i is the interest rate and n is the life. This means that the net book balance times the annuity rate plus the return compounded annually will fully recover the invested capital in the item or account. Full recovery is achieved only if the interest on the reserve is added as part of the expense. The depreciation expense is the total accrual of the annuity plus interest. This is sometimes called the modified sinking fund method.[1]

Q. CAN YOU GIVE AN EXAMPLE OF THE SINKING FUND?

A. Yes. Let's assume there is investment of $1,000, the life is 5 years, and the interest rate is 10%. The annuity rate is therefore 9.51%.

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[1] Public Utility Depreciation Practices, Compiled and Ed ited by Staff Subcommittee on Depreciation of The Finance and Technology Committee of the National Association of Regulatory Utility Commissioners, Published by National Association of Regulatory Utility Commissioners, pp. 59-61.

| Year | Annuity | Interest | Total Accrual | Reserve |
|---|---|---|---|---|
| 1 | $ 163.80 | - | $ 163.80 | $ 163.80 |
| 2 | 163.80 | $16.38 | 180.18 | 343.98 |
| 3 | 163.80 | 34.40 | 198.20 | 542.18 |
| 4 | 163.80 | 54.22 | 218.02 | 760.20 |
| 5 | 163.80 | 76.02 | 239.80 | 1,000.00 |

As is shown above, the $1,000 is fully accrued when the interest on the reserve is included in the total depreciation accrual or expense. If interest on the reserve is not included, the $1,000 will not be recovered at the end of the five year life. In fact, there will be an under-recovery of $181, the amount of the interest that should have accumulated but did not.

Q. HAS HYDRO BEEN CALCULATING THE DEPRECIATION EXPENSE CORRECTLY IN ACCORD WITH THE SINKING FUND FORMULA?

A. From what I can glean from information request responses, no. In response to RFI CA-NLH-251, it appears as though Hydro calculates the annuity portion of the formula correctly but has not been adding the interest on the reserve for the total monthly or annual depreciation expense. For example, November 1985, the month annuity portion is $0.14. I agree with this but the interest on the reserve should be calculated and added to the annuity to get the total depreciation expense. If done correctly, the depreciation expense would be $0.15. Clearly the company is not including the interest on the reserve in the determination of depreciation expense.

Q. WHAT IS THE IMPACT OF NOT INCLUDING INTEREST ON THE RESERVE IN THE DEPRECIATION EXPENSE CALCULATION?

A. The impact is an understatement of depreciation expense as well as an understatement of reserve. In order to determine the magnitude of the understatements would require a recalculation of the depreciation expense and reserve correctly. Many of Hydro's accounts contain both items being depreciated using the sinking fund method as well as assets being depreciated using the straight-line method.[2] Considering the number of accounts in question as well as the number of items in each account and the number of months requiring a recalculation, I was not able to reconstruct the correct expense and reserve for each account. However, Hydro should be asked to review its records and provide the Board with options regarding a correction.

Q. ARE THERE OTHER CONCERNS YOU HAVE WITH HYDRO'S APPLICATION OF THE SINKING FUND METHOD?

A. Yes, another concern is that the monthly interest rate used in the annuity calculation was never revised to reflect lower interest rates or to reflect the weighted average cost of capital established in the 2002 General Rate Application. Once the sinking fund rate was assigned, Hydro did not change that rate for the full life of the asset, regardless of changes in high cost debt. (CA-NLH-252, CA-NLH-253, CA-NLH-254, and CA-NLH-255). Even though Hydro asserts that the weighted cost of capital began to be used in 2002 as the interest rate in the modified sinking fund calculation that only related to new projects, it has been the company's practice

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[2] Additionally, some accounts have a portion of the assets that are currently depreciated using the sinking fund method and a portion that are depreciated using the straight-line method. (IC-NLH-74) This makes it extremely difficult for anyone, other than the Company, to recalculate the reserve with any certainty.

that once the sinking fund interest rate is established, that rate remains never changes, regardless if interest rates decrease or increase. (CA-NLH-252)

Q. WHAT IS THE REASON FOR CHANGING DEPRECIATION METHODOLOGIES FROM SINKING FUND TO STRAIGHT-LINE?

A. The sinking fund method of depreciation is not an acceptable depreciation method under International Financial Reporting Standards (IFRS). IFRS specifically forbids the use of any decelerated method of depreciation, such as the sinking fund, because such typically does not reflect the pattern in which an asset's future benefits are consumed.[3] The method is marked with low depreciation expense in the early years increasing in the later years.

On the other hand, IFRS accepts the straight-line method of depreciation. IFRS has concluded that straight-line depreciation results in a constant rate over the useful life of the asset, thus closely reflecting the expected pattern of consumption of an asset's future benefits. Moreover, straight-line depreciation is the method most commonly used by North American regulated utilities. Because Hydro plans to implement IFRS in 2012, it must revise the depreciation methodology for financial reporting purposes.

It is my understanding that the Board approved Hydro's request to adopt IFRS for regulatory reporting purposes in Order No. P.U. 13 (2012) with principle-based exceptions. Implementing IFRS for regulatory purposes will eliminate the need for Hydro to maintain two separate sets of books.

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[3] IAS 16, paragraph 60, states "The depreciation method used shall reflect the pattern in which the asset's future economic benefits are expected to be consumed by the entity."

Q. WHAT IS THE IMPACT OF MOVING FROM THE SINKING FUND METHOD OF DEPRECIATION TO THE STRAIGHT-LINE METHOD?

A. In response to information request IC-NLH-65, Hydro attests that the change in depreciation methodologies only would result in an increase in annual depreciation expense of approximately $27.3 million in 2011.

Q. DO YOU HAVE ANY OTHER COMMENT REGARDING HYDRO'S IMPLEMENTATION OF IFRS FOR REGULATORY PURPOSES?

A. Yes. According to the response to Hydro's request IC-NLH-66, it restated the original cost of its assets to net book value on January 1, 2011 as part of implementing IFRS. The restatement put the depreciation reserve to zero. Hydro contends that restating original cost to net book value, and moving from sinking fund depreciation to a remaining life technique results in no change to depreciation expense. I disagree. Assume that a given account has investment at original cost of $100,000 and a reserve of $20,000. The restated cost is $80,000 with zero reserve. Also assume for the sake of this example, that a remaining life of 50 years is approved. The remaining life depreciation rate is then calculated to be 1.6 percent [(100% - 20%)/50 yrs]. Applying this rate to the original cost of $100,000, results in annual depreciation expenses of $1,600. However, if applied to the restated cost of $80,000, the annual depreciation expenses are only $1,280. Depreciation expenses are not the same. Moreover, the depreciation rate is understated.

With a restated zero reserve, the remaining life rate should be recalculated to 2.0 percent [(100% - 0%)/50 yrs]. Applying this depreciation rate to the restated net book cost of $80,000, results in annual depreciation expenses of $1,600. Therefore, restating original cost to net book value and moving to a remaining life technique results in a change to depreciation expense

unless the depreciation rate is recalculated. Hydro fails to recognize this fact unless it is intentionally concealing information for which the Board should be aware.

Q. WHAT DO YOU RECOMMEND?

A. I would recommend that the Board have Hydro recalculate the depreciation rates and resulting expenses based on the Gannett Fleming study assuming the restatement of cost and reserve as illustrated in the example given to the previous question. This would give a more accurate picture of the estimated changes in annual depreciation expense resulting from revised depreciation rates and a restatement of cost. I would also recommend that Hydro be ordered to present this recalculation to the parties for review before the Board makes its determination regarding the appropriate lives and resulting depreciation rates.

In the alternative, the Board could ignore the fact that Hydro has restated its costs and go ahead and decide appropriate lives and resulting depreciation rates based on the study before it. In this case however, the Board should make clear that the lives and resulting remaining life rates it approves in this proceeding should be applied against the restated cost to yield the depreciation expense. The depreciation rates will not change until the Board revises depreciation rates again. If the Board decides to proceed with this alternative approach, then it should be recognized that the approved depreciation rates will be based on erroneous parameters of the reserve and cost.

Q. WHAT OTHER CHANGES HAS HYDRO MADE TO COMPLY WITH IFRS?

A. Hydro reviewed its account structure and componentized its assets into a number of revised accounts. (CA-NLH-59)

Q. DO YOU HAVE ANY COMMENT REGARDING HYDRO'S REVISED ACCOUNTS?

A. Companies establish groups or accounts of their property containing homogeneous items that are generally alike in character, used in the same manner, and operated under the same general conditions. However, even within these homogeneous groupings, there will be differences in the lives of the individual units. For example, let's look at Account P07 - Wood Poles. Hydro has componentized its wood poles in one account for IFRS purposes rather than combining them with other types of poles. However, not all the wood poles in this account will live the same. Some poles will retire because of storms or other casualties, some because of decay, and others for other causes of retirement.

**DEPRECIATION SYSTEM MODEL**

Q. Please describe a depreciation system model.

A. A depreciation system is comprised of a depreciation method, procedure, and technique.

Q. WHAT IS A METHOD OF DEPRECIATION?

A. A method of depreciation refers to the pattern of depreciation expense in relation to the accounting periods. The depreciation rate can be constant (straight-line), higher in the early years and lower in the later years (accelerated), or lower in the early years and higher in the later years (decelerated). As noted earlier, Hydro currently utilizes the sinking fund method of depreciation, a decelerated method. The company proposes a move to the straight-line method of depreciation.

Q. WHAT IS THE STRAIGHT-LINE METHOD?

A. Under the straight-line method of depreciation, a constant depreciation rate is applied to the gross or surviving plant balances. As the plant balances change from year to year, so will the resultant annual depreciation expenses.

The straight-line method is the method commonly used by regulated utilities for book depreciation purposes. A major reason for this is that the straight-line method is simple to implement and it closely matches the recovery of prudently invested capital to the period the related assets will be providing service to the public.

Q. WHAT IS A PROCEDURE?

A. A procedure generally refers to the grouping of assets. There are several grouping procedures such as the single unit, the broad group, and the vintage group, to name three. Under the single unit procedure, each unit of property is depreciated separately. At least in the United States, because this procedure requires separate record-keeping for each item of property, unit depreciation has been deemed not practical for most types of property.

Under the broad group procedure, all items within an account are considered to be one group. The Broad Group model treats each vintage in the homogeneous account or category as having the same life and salvage characteristics.[4]

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[4] Depreciation Systems, Frank K. Wolf and W. Chester Fitch, Iowa State University Press, Ames, Iowa, 1994, pp. 139-140.

Under the vintage group procedure, each vintage or placement year within the category is considered a separate group. This requires analyzing each vintage group separately to determine its average life; all vintages are composited to produce the average service life for the plant category.

Under the broad group and vintage group procedures, a constant annual depreciation rate based on the average life of all property in the group is applied to the surviving investment of the group. Some property will retire before the average life while there will be property within the group that will live longer than the average life. However, both short- and long-lived property have the same rate applied. Property having a life shorter than the average will not be fully depreciated by the time of retirement. Because the depreciation rate is based on the average life of the group, the under recovery of the early retirements will be offset by the over recovery of the longer lived assets. The result is that the group will be fully recovered by the time of the final retirement. The average life procedure treats each item of the group as though it is expected to live in the same fashion as the group average. While the items within the group will not actually live in the same fashion, the variances between the items offset each other and as a group it lives an average life.

Q. WHAT IS A TECHNIQUE?

A. A technique references the portion of the average life used in the depreciation calculation. There are two techniques commonly used – Whole Life and Remaining Life. Under the Whole Life technique, the estimated average service life of the category or account is used as the basis for the depreciation rate. However, to the extent the average service life is revised, the resultant depreciation rate cannot recover any inherent reserve imbalance. Under the Remaining Life technique, the undepreciated cost (original cost less reserve less applicable net

salvage) is recovered over the estimated remaining period of service. To the extent lives are revised, the remaining life rate will self-adjust to correct any reserve imbalance over the remaining life.

Q. WHAT IS THE FORMULA FOR THE REMAINING LIFE DEPRECIATION RATE?

A. The formula for straight-line remaining life depreciation is:

$$\frac{(100\% - \text{Future Net Salvage \%} - \text{Reserve \%})}{\text{Average Remaining Life}}$$

The numerator is a measure of the net cost yet to be recovered. From the formula, it is apparent that the reserve percentage has a significant impact on the resulting remaining life depreciation rate. In the instant case with Hydro, a zero net salvage is proposed for each account. (IC-NLH-69)

Q. WHAT PROCEDURE, METHOD, AND TECHNIQUE IS HYDRO USING?

A. Hydro proposes use of the straight-line average life procedure applied on a remaining life basis.

Q. PLEASE EXPLAIN THE AVERAGE LIFE PROCEDURE.

A. The average life procedure designs a depreciation rate based on the average life of all property within a given account or group. The rate is applied to the dollars surviving (plant balance) in the group or account.[5]

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[5] Depreciation Systems, Frank K. Wolf and W. Chester Fitch, Iowa State University Press, Ames, Iowa, 1994, pp. 74-75.

The average life is the life, on average, of all items in a group or account (i.e. all poles in the wood poles account.) By definition, given an average life, there are short-lived units (those that retire before the average life) and long-lived units (those that retire after the average life). In statistical terms, the group or account has an average life and the individual items in the account are distributed around that average.

**GROUP DEPRECIATION VERSUS UNIT DEPRECIATION**

Q. PLEASE EXPLAIN THE DIFFERENCE BETWEEN GROUP DEPRECIATION AND UNIT DEPRECIATION.

A. The difference between group and unit depreciation is based on the definition of the depreciable entity. Unit depreciation is when each unit is maintained in a separate group or account and depreciated by itself. A life is determined for each individual unit. On the other hand, if many similar assets are included in one group or account and depreciation is taken on the total cost of the group, then this is group depreciation. The mechanics of group depreciation are based on the notion of the statistical average of the lives of the various items included in the account and ignore each and every particular item's life.

Q. HOW DOES HYDRO PROPOSE TO APPLY THE DEPRECIATION RATES APPROVED IN THIS PROCEEDING?

A. Hydro is proposing to apply the remaining life approved in this proceeding to each asset as "just a function of 'ease of application.'" Hydro asserts that the resultant depreciation expenses are essentially the same whether the rate is applied to the total surviving plant investment of the account or applied to each individual asset with the account. Hydro states that this concept has been accepted in Canada by a number of regulatory bodies and notes that this approach will

eliminate the need to two sets of books – one financial reporting purposes and one for regulatory purposes. (IC-NLH-51)

Moreover, Hydro states that it currently uses unit depreciation for each of its 41,000 assets. The Company proposes to continue this procedure. Hydro asserts that it is converting to "group accounting" by changing the service lives for each asset to reflect the average remaining life of the applicable unit of property. (IC-NLH-19)

Q. HOW DO YOU RESPOND TO HYDRO'S PROPOSAL?

A. I refer to Hydro's response to CA-NLH-59 where it states the following:

> When more than a single item of property is under consideration, a group procedure for depreciation is appropriate because normally all of the items within a group do not have identical service lives, but have lives that are dispersed over a range of time.

The information request response goes on to state:

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

Mr. Kennedy affirms in response to IC-NLH-4 that the depreciation method recommended in the 2009 Depreciation Study is the Average Service Life method.

I submit that the approach that Hydro describes and proposes is not the group depreciation concept. The group depreciation concept relates to how an "average" life for all property within a given group or account is determined. An "average" life does not relate to the life for each individual asset.

IFRS has found that the use of an average service life based on Iowa curves or other generally accepted curves is compliant. Mr. Kennedy affirms that IFRS allows for the grouping of assets. (CA-NLH-60) Mr. Kennedy affirms that the depreciation method recommended in Gannett Fleming's 2009 Depreciation Study is the average service life method. (IC-NLH-4)

Based on the above, I submit that determination of life characteristics on a group basis is not appropriate to apply on an individual asset basis.

Q. HYDRO CLAIMS THAT IT IS REQUIRED UNDER GENERALLY ACCEPTED ACCOUNTING PRINCIPLES TO CEASE DEPRECIATION WHEN THE ITEM OR ASSET IS FULLY RECOVERED. DO YOU AGREE?

A. No, I do not agree. I suggest that the issue lies with what constitutes the depreciable base. Is it each individual item or is it the group or account that is comprised of many individual items? Where an average life and depreciation rate is established for the account, the measure of recovery is the reserve for the total account, not for each individual asset within the account. As long as the account reserve does not exceed the investment of the account, there is compliance with generally accepted accounting principles. Thus, depreciation of an asset within a group or

account should not cease depreciation unless the reserve for the entire group or account is fully recovered.

Q. HYDRO CLAIMS THAT APPLICATION OF AN AVERAGE SERVICE LIFE TO EACH ASSET WITHIN THE GROUP WILL RESULT IN A SIMILAR LEVEL OF DEPRECIATION EXPENSE. DO YOU AGREE?

A. Yes, but that is not the issue. The issue is that within the account there are units or items that have different life characteristics. Under the Company's proposal, an average life that is representative of all plant in the given account or group is assigned to each asset that may or may not live like the average. Under unit depreciation, a unique life for each and every asset within the account is determined and then applied to the given asset. I submit that the procedure proposed by the Company is not the group depreciation concept. It is using the group depreciation concept in the determination of life characteristics and applying that average life to each asset within the group or account. This is fundamentally incorrect.

## V. LIFE ANALYSIS

Q. WHAT IS THE PURPOSE OF LIFE ANALYSIS?

A. Life analysis determines the appropriate mortality characteristics (average service life and retirement pattern) of a group or account. The primary purpose of a depreciation study is to determine the life and/or salvage for the depreciation rate calculation. Life analyses study retirements by age, defining the service life as well as the pattern of retirement.

Q. HOW ARE MORTALITY CHARACTERISTICS DETERMINED?

A. The average service life and retirement pattern are determined from a company's historical accounting records, using either actuarial or semi-actuarial analysis. Actuarial analysis requires aged data in which the age of each retirement is known. For example, $20,000 that retired in 2009 was originally placed in service in 2000, thus it was 9.5 years of age when it retired. The original placements in 2000 are reduced by the $20,000 retirement.

Q. HOW WERE THE LIFE CHARACTERISTICS DETERMINED IN THE 2009 DEPRECIATION STUDY?

A. Survivor curves were developed using actuarial or aged data. Aged data is when the vintage of the placements is known as well as the age of retirements and transfers. This data is used to develop the plant exposed to retirement. For example, aged data tells you that $10,000 retired in 2000 was originally placed in 1970. The age of that retirement is therefore 30 years. Statistical analysis of the aged data using actuarial techniques results in an Observed Life Table. This table illustrates the rate of retirement over the period of data being analyzed (retirement dispersion or pattern), starting at 100 percent surviving at age 0 and ending at the last age in the band being analyzed. In most cases, this does not translate into a complete curve to 0 percent surviving because the account is still viable in that additions and retirement continue. This curve is called a "stub curve."

Standard curves (Iowa curves) are generally used to visually or mathematically smooth and extend the observed life table to a complete curve. The Iowa curves were developed at Iowa State College in the 1930s. They are designed to predict the retirement patterns of the property being studied based on past observations. The Iowa curves make the calculation of the average service life manageable. The results of any estimation are more reliable if 70 percent of an

observed life table is known and only 30 percent must be assumed. Unfortunately for many of Hydro's accounts, the stub curve indicates very few retirements with more than 80 percent and often times more than 90 percent surviving.[6] This leaves a considerable amount of the curve to be estimated.

Q. WHAT IS A SURVIVOR CURVE?

A. A survivor curve is a graphical picture of the amount of property surviving at each age throughout the life of the property group. The graph plots the percents surviving on the y-axis and the age on the x-axis.

Q. WHAT IS A STUB CURVE?

A. A stub curve is an observed survivor curve that does not reach 0 percent surviving. In such a case, the observed survivor curve must be smoothed and extended to zero. The longer the stub, the more reliable the resulting curve fit. It is considered that reasonably good fits can be obtained for stub curves ending at 70 percent surviving or less. Longer stub curves with 40 percent or less surviving can be fit with a greater degree of accuracy.[7] The average life of the property will only live in a given life-curve combination fashion if the future forces of retirement continue to follow that life-curve.

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[6] An observed life table indicating 90 percent surviving means that 90 percent of the curve must be estimated as there is only 10 percent actual retirement data.

[7] Depreciation Systems, Frank K. Wolf and W. Chester Fitch, Iowa State University Press, Ames, Iowa, 1994, pp. 48-49. The more actual retirement data experienced, the lesser amount of the curve needed to be estimated.

**ACCOUNT ANALYSIS:**

**ACCOUNT G03-GENERATORS**

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT G03 – GENERATORS?

A. The Company proposes a 60S4 life-curve combination resulting in an average remaining life of 36 years. (CA-NLH-9)

Q. WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?

A. In the study itself, the Company provides no basis for its proposal. Only the observed life table, a survivor curve that supposedly visually fits the actuarial data and the remaining life calculation has been provided. There is absolutely no narrative explaining the thought processes used in arriving at the selected life-curve.

Q. WAS THE COMPANY REQUESTED TO PROVIDE THE BASIS AND JUSTIFICATION FOR THE SELECTED LIFE-CURVE COMBINATION?

A. Yes, this information was requested by the Consumer Advocate. More precisely, the Company was requested in RFI CA-NLH-87 to provide all information and documentation it believes is significant or meaningful for the determination of life characteristics. RFI CA-NLH-178 requested a list of capital projects currently planned that will result in retirements. RFI CA-NLH-179 requested support, justification, and documentation why this account's investment is not reasonably represented by a 70S4 life-curve combination.

Q. HOW DID THE COMPANY RESPOND TO THESE REQUESTS FOR INFORMATION?

A. No documentation in support of specific plans to retire the related assets was forthcoming. No information was provided regarding what specifically it believes is significant or meaningful to the determination of life characteristics. In fact, the response simply stated that the account was analyzed in total and asset specific detail was therefore not a consideration.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No. The stub curve indicates more than 95 percent of the investment surviving. It is my opinion that statistical analysis does not produce a reasonably good fit to the data, contrary to the view of Gannett Fleming. The Company appears to believe that because its proposed life represents a 20 percent increase from the previously studied life of 50 years that the data does not support anything longer. The Company asserts that a 70 year life "provides no better fit, and in fact discounts the observed retirement activity at age 27" and "is actually a less precise fit to the life table."

The Company's arguments are without merit. It is difficult to imagine that a longer life is a "less precise fit" given the very minimal retirement activity. Moreover, it should be noted that the retirement ratio at age 27 where the Hydro asserts the 70S4 life-curve combination discounts the retirements is less than one percent and the percent surviving is over 99 percent. Interestingly, Hydro apparently realizes that the life could indeed reasonably be longer as it states that if the indications of a longer life continue in future studies, then that would be the appropriate time for the adjustment. (RFI CA-NLH-179) I disagree with the "wait and see" attitude.

Looking at peer estimates for guidance, the range for the peer companies is 18 years to 75 years, averaging 45 years. (CA-NLH-180) Service life statistics of US companies show lives for generators ranging from 40 years to 100 years, averaging about 80 years. (CA-NLH-157, Attachment 1) A 70 year life is clearly in the range of life estimates of Canadian companies as well as US companies. Hydro has provided no justification or support for its proposed 60S4 life-curve combination. Recognizing the lack of retirement activity, I recommend a 70S4 life-curve combination as being clearly in the range of reasonableness and in line with the observed data.

Q. WHAT DO YOU RECOMMEND?

A. I recommend a 70S4 life-curve combination.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. The resulting remaining life is 46 years and the remaining life depreciation rate is 1.35%. This equates to a decrease in annual depreciation expense of $242,085, based on investments as of December 31, 2009 as shown on Exhibit 1 of the 2009 depreciation study, pp. III-3 and III-4. See also Exhibit PSL-2.

**ACCOUNT P03-PENSTOCK**

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT P03-PENSTOCK?

A. The Company proposes a 70R4 life-curve combination resulting in an average remaining life of 42.4 years.

Q. WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?

A. From the actuarial analysis, the Company assumes its proposed 70R4 life-curve combination. There have been no retirements during the observation period fitting the selected life-curve combination. Other than this, the study itself provided no basis for the Company's proposal.

From responses to requests for information, the Gannett Fleming asserts that discussions with Hydro's operations staff indicated that maintenance has historically been expensed resulting in no retirements. Gannett Fleming believes that penstock structures are likely to require capital upgrades in the future. Additionally, life estimates of peer Canadian companies range from 60 years to 100 years. The 70R4 life-curve combination provides a maximum life estimate of some investment to reach about 100 years and indicates that 55 percent of the investment will still be surviving at age 70. Mr. Kennedy avers that there is no evidence to suggest that penstocks can be expected to live longer than the maximum life underlying the 70R4 life-curve combination.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No I do not. The Company's life is understated. The penstocks owned by Avista Utilities have been in service for almost 100 years and are just being relined.[8] While the relining may result in some investment retiring, the penstock itself will not retire and represents the majority of the account.

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[8] http://lifelast.com/main/wp-content/uploads/2012/09/Avista-Utilities-Long-Lake-Hydro-Penstock-Rehab-Case-History-Web-Res.pdf

It should also be noted that Mr. Kennedy did not provide alternative average service lives for Hydro's staff to review. He only provided his recommended scenario. It is not clear if the operations staff would have found an 85 year average service life just as reasonable because they simply were not asked. (CA-NLH-263; IC-NLH-80) Moreover, Hydro was unable to provide a reason supporting the position that an average service life greater than 70 years is not appropriate. (CA-NLH-97) Indeed, Mr. Kennedy admits that both a 90R4 life-curve combination, a 100R4 life-curve combination, as well as many other combinations would anticipate few retirements through the observation period and also provide a reasonable fit to the observed life table. (CA-NLH-163, 165) Mr. Kennedy asserts that the maximum life of the 70R4 life-curve combination is 107 years. He opines that maximum life indications are important due to the fact that some investment will be recovered over the period to the maximum life. (CA-NLH-167) Considering that it has been shown that penstocks can reasonably be expected to experience a life more than 100 years, a life longer than 70 years is warranted.

Q. WHAT DO YOU RECOMMEND?

A. I propose an 80R4 life-curve combination as a conservative estimate of the morality characteristics of penstocks. I base my recommendation on the fact that there have been no retirements in this account and the peer group ranges indicated lives more than 70 years. Considering that it has been shown that penstocks can reasonably be expected to experience a life more than 100 years, an 80R4 life-curve combination is very conservative and may warrant being increased further in the future.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation yields an average remaining life of 53 years and a 1.60 percent remaining life depreciation rate. This equates to a decrease in annual depreciation expense of

$223,695, based on investments as of December 31, 2009 as shown on Exhibit 1 of the 2009 depreciation study, pp. III-3 and III-4. See also Exhibit PSL-2.

**ACCOUNT P10-POWERHOUSE**

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT P10-POWERHOUSE?

A. Hydro proposes a 75R3 life-curve combination for Account P10-Powerhouse resulting in an average remaining life of 51.6 years.

Q. WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?

A. As with all other accounts, the Company's study provides no basis for its proposal. The study only shows the observed life table, a survivor curve that supposedly visually fits the data, and the remaining life calculation. There is absolutely no narrative explaining the thought processes used in arriving at the selected life-curve.

Q. WAS THE BASIS AND JUSTIFICATION FOR THE COMPANY'S SELECTED LIFE-CURVE COMBINATION REQUESTED?

A. Yes, this information was requested by the Consumer Advocate. Specifically, RFI CA-NLH-19 requested an explanation and justification for the selected 75R3 life-curve combination and why a longer life is not appropriate. RFI CA-NLH-108 specifically requested information that the Company believes is significant or meaningful to the determination of powerhouse life characteristics. RFIs CA-NLH-169 and CA-NLH-171 requested if a 90R3 or 100R3 life-curve combinations would provide a reasonable fit to the observed life table.

Q. HOW DID THE COMPANY RESPOND TO THESE REQUESTS FOR INFORMATION?

A. Basically, the Company asserts that powerhouses are susceptible to being relocated and renovated due to increased capacity demand, changes in technology, or age. For this reason, the Company believes that powerhouses are expected to experience lives shorter than that of Account D01-Dams. (CA-NLH-265)

Mr. Kennedy recognizes that this account has not experienced any retirement activity during the 1991-2009 periods. He notes that in discussions with the Company's operations group, it was determined that maintenance on these facilities has historically been expensed. The view is that powerhouse structures will eventually require capital upgrades. Given that most of Hydro's investment in this account took place some 20 years ago, Mr. Kennedy asserts that the 75R3 proposed life-curve combination reflects that this investment would still be in service so is appropriate. (CA-NLH-109)

Additionally, Mr. Kennedy responds that the powerhouse investment was studied in total rather than on an individual asset basis and therefore asset-specific information was not a consideration. The Company provided no information it believes is significant or meaningful to the determination of life characteristics for this account.

With respect to whether a 90 year or 100 year life would provide a reasonable fit to the observed data, Gannett Fleming affirms that both would provide a reasonable fit. However, it notes that where there is minimal retirement activity, reliance on the views of Hydro's operations staff and peer analysis become primary factors in the life determination process. Mr. Kennedy asserts that at the time of the depreciation study, only one Canadian utility had a life estimate of more than 75 years, indicating a maximum life of 127 years when used with an R3 curve shape.

From this, Mr. Kennedy concludes that a life estimate indicating a maximum life greater than 150 years is not appropriate.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No, I do not. According to Hydro, most of its powerhouses are physically separate structures from the dams. (CA-NLH-265) Of the eight identified powerhouses, seven are constructed of reinforced concrete and steel and one is constructed of steel. (CA-NLH-267) The account has not experienced any retirement activity during the 1991-2009 periods. The life of a concrete and steel powerhouse should be expected to live far longer that a brick structure. Given proper construction and maintenance, brick powerhouses are expected to experience lives in the range of 50 years to 75 years. Reinforced concrete and steel should be expected to live longer than this.

The stub curve indicates more than 99 percent of the investment surviving. It is my opinion that these statistical analysis results do not produce a reasonably good fit to the data, contrary to the view of Gannett Fleming. The Company asserts that its proposed life-curve combination anticipates very few retirements through the observation period and so provides a reasonable fit to the observed life table. The Company also admits that both a 90R3 and 100R3 life-curve combinations would provide a reasonable fit to the observed life table. In fact, as acknowledged by Mr. Kennedy, a number of life-curve combinations would provide an equally good fit simply because of the lack of retirement activity.

RFI CA-NLH-10 and 169 state the sources of information that Mr. Kennedy reviewed in the determination of the proposed 75R3 life-curve combination:

- The results of the retirement rate actuarial analyses;

- A peer review of comparable Canadian Electric Utilities;
- Discussions with Hydro's operations, engineering, and management staff;
- IFRS provisions and requirements; and
- Mr. Kennedy's experience in performing depreciation studies.

For powerhouses, the results of the actuarial analyses are meaningless for the determination of life given the lack of retirement activity. The average age of the account is about 24 years. The 75R4 life-curve combination indicates that at age 24, approximately two to three percent of the investment has retired. This is not the case as shown by the graphic representation in CA-NLH-109, Attachment 1. At about 43 years of age, the actuarial data indicates less than one percent of the account's investment has retired; the 75R3 life-curve combination implies nearly 10% retirements. Mr. Kennedy argues that maintenance has historically been expensed with no retirements recorded but, on a going forward basis, retirements will be booked. Powerhouse upgrades and possible relocations will result in retirement activity. However, when asked for the experience that led to this conclusion, that information was not forthcoming. Additionally, Gannett Fleming has been unable to explain why the experience as it relates to upgrades would not also apply reasonably to 90R3 and 100R3 life-curve combinations. Indeed, no information and documentation the Company believed significant or meaningful to the determination of the life-curve combination was provided even though it was requested. Furthermore, Hydro was unable to provide any support for the position that a life greater than 75 years is not appropriate. (CA-NLH-108) Hydro confirmed that both the 90R3 and 100R3 anticipate few retirements and provide a reasonable fit to the observed life table. Mr. Kennedy asserts that based on the Canadian peer group information, a life-curve combination indicating a maximum life greater than 150 years is not appropriate. (CA-NLH-171)

The majority of the investment in this account is associated with the building or structure itself. As with any building structure, items such as instrumentation, controls, water level equipment, ventilation, air conditioning systems, and sprinkler systems are subject to being replaced over the long haul. These items represent only a relatively small portion of the investment. Moreover, upgrades may or may not include the retirement of existing items. (IC-NLH-79) Even so, any retirements should be of relatively small value.

The range of the life estimates of the peer group range from 65 years to 100 years. The range of life estimates of US companies is 65 years to 130 years, averaging about 95 years. (CA-NLH-156, Attachment 1)

Recognizing the lack of retirement activity, but estimating a maximum life of less than 150 years as Mr. Kennedy asserts would be valid, I recommend an 85R3 life-curve table. The 85 years is within the range of the peer groups and the life-curve combination indicates a maximum life of 143 years.

Q. WHAT IS YOUR RECOMMENDATION?

A. Based on the above analysis, I recommend an 85R3 life-curve combination.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. The resulting average remaining life is 62 years with a remaining life depreciation rate of 1.39%. This equates in a decrease in annual depreciation expense of $257,722, based on investments as of December 31, 2009 as shown on Exhibit 1 of the 2009 depreciation study, pp. III-3 and III-4. See also Exhibit PSL-2.

**ACCOUNT R13 - ROADS**

Q. WHAT DOES THE COMPANY RECOMMEND FOR ACCOUNT R13 – ROADS?

A. The Company proposes a 50R4 life-curve combination.

Q. WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?

A. Gannett Fleming states that there has been no retirement activity in this account during the observation period. It then states that, under IFRS, partial retirements should occur in the future with capital upgrades.

Gannett Fleming identifies two peer companies that use an average service life of 40 years. It concludes that a shortened life for this account is not reasonable so therefore proposes to maintain a 50-year average service life with an R4 Iowa curve shape.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No I do not. The Company's proposal is artificially short. I recommend a 65R4 life-curve combination.

Q. WHAT IS THE BASIS OF YOUR RECOMMENDATION?

A. Investments in roads can and do live longer than 50 years. The lack of retirement activity, as recognized by the Company, indicates longer life spans for such investments. While there may be partial or interim retirements in the future due to upgrades, so much of that is dependent on the upgrade. (IC-NLH-79) If the roads need to widen or the embankments need to be repaired due to erosion problems due to the elements, this will logically result in capital dollars but the

associated retirements I submit will be very small. Indeed, 75 percent of this account's investment is associated with providing access to the CAT Arm powerhouse. These roads were originally placed in 1985 and there is no reason to conclude that they will retire until after the power plant at that location ceases providing service. It is logical to conclude that there will always be a CAT Arm power plant absent a compelling and prudent reason to move the plant to a different location. Indeed, there is no evidence that Hydro has ever moved a power plant. Additionally the range of estimated lives for Canadian companies includes two companies with average service lives of 75 years[9] and the range of lives for US companies is 55 years to 100 years.[10] While it can be argued that the environmental conditions might be different between US company roads and Canadian company roads, I submit that the Florida environmental conditions are also severe due to hurricanes, heat, and salt from the ocean. This data demonstrates that the Company's proposed 50 year average service life is understated.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. The resulting average remaining life is 41 years with a remaining life depreciation rate of 2.32%. This equates in a decrease in annual depreciation expense of $1,061,005. based on investments as of December 31, 2009 as shown on Exhibit 1 of the 2009 depreciation study, pp. III-3 and III-4. See also Exhibit PSL-2.

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9 The average service lives relate to roads for hydraulic plant. The range of lives for Canadian companies also includes a life of 40 years for transmission roads.

10 For example, Florida Power and Light Company currently has a 65-year average service life for transmission Roads (Docket No. 080677), Florida Progress Company has a 90-year life (Docket No. 090079), Tampa Electric has a 65-year life (Docket No. 110131), Gulf Power Company has a 55-year life (Docket No. 090319.)

**ACCOUNT R12 – RIGHTS-OF-WAYS**

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT R12 – RIGHTS-OF-WAYS?

A. Hydro proposes a 55R4 life-curve combination for Account R12, Rights-of-Ways.

Q. WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?

A. The Company performed actuarial analyses on its rights-of-ways investment, but admits that, because of insufficient retirements, the life estimate could not be selected on the basis of that analysis alone. (CA-NLH-116) It goes on to state that it relied on the life estimates of the Canadian company peer group that range from 36 years to 75 years, the previously recommended life estimate of 45 years, and the operations staff views that a 45 year to 50 year life would be reasonable. Based on these things, it concludes that a life no longer than 55 years is appropriate.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No. While rights-of-ways and easements for new transmission lines can be obtained, Hydro has been attempting to obtain formalized easements for some time. It is my understanding that 99 percent of the easements are obtained from the government. Once easements are obtained, existing companies tend to continue to rely on them, renewing as needed. There is no evidence that easements are not renewed or will not be renewed. Moreover, the Company's proposal for this account has a shorter maximum life than it does for some of the equipment that resides on it. This is illogical on its face.

Q. WHAT IS YOUR RECOMMENDATION?

A. I recommend a 75R4 life-curve combination. My recommendation is based on a life equal to the maximum life of the equipment that is installed on it. For example, if the maximum life for overhead facilities located on the easements is more than 90 years, then it follows that easements must be in place for at least that long. Replacing and upgrading transmission lines should use the same easements currently in place. The leases are renewed periodically unless the rights are perpetual, something most companies have these days. The Company implies that lease renewals will result in retirements. I disagree. The cost of the renewal is generally minimal and is expensed, not capitalized. The lease may be for 50 years but that does not mean that it will not be renewed. I have never heard of easement leases not being renewed. Indeed, the Company admits that it has no plans to retire any easements. (CA-NLH-195)

The operations staff was simply provided the Gannett Fleming proposed life-curve combination and asked their opinion on reasonableness. It is unknown what that entailed since it was not based on any specific documentation, simply a reliance on Mr. Kennedy's proposal. (CA-NLH-191; IC-NLH-80) Additionally, the operations staff was not specifically requested to review alternative life-curve combinations. (CA-NLH-191; IC-NLH-80) To this end, we do not know if they would have found other life scenarios reasonable. Moreover, Gannett Fleming's notes from interviews with operations staff are void of any reference to rights-of-ways. (CA-NLH-12, Attachment 1; CA-NLH-268)

The range of life estimates of the peer group is 36 years to 75 years with most having 75 years. (CA-NLH-116; CA-NLH-190) Recognizing the lack of historical retirement activity and the fact that the Company has no future retirement plans, I recommend a conservative 75R4 life-curve

combination. Certainly, the life could reasonably be estimated greater than 75 years given that the property associated with these rights-of-ways has a maximum life greater than 90 years.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in an average remaining life of 49 years and a remaining life depreciation rate of 1.36 percent. This equates to a decrease in annual depreciation expense of $166,520, based on investments as of December 31, 2009 as shown on Exhibit 1 of the 2009 depreciation study, pp. III-3 and III-4. See also Exhibit PSL-2.

## VI. CONCLUSION

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes, it does.

UTILITY PROCEEDINGS
IN WHICH PAT LEE PARTICIPATED OR
PRESENTED TESTIMONY AT THE FLORIDA PUBLIC SERVICE COMMISSION

TO BE FILED LATER

NEWFOUNDLAND AND LABRADOR HYDRO
ISLAND INDUSTRIAL CUSTOMERS RECOMMENDATION
RELATED ESTIMATED ORIGINAL COST AT DECEMBER 31, 2009

| | ACCOUNT | SURVIVOR CURVE | ORIGINAL COST AT December 31, 2009 * | BOOK DEPRECIATION RESERVE * | FUTURE ACCRUALS * | ACCRUAL AMOUNT | DEPRECIATION RATE | COMPOSITE REMAINING LIFE |
|---|---|---|---|---|---|---|---|---|
| G03 | GENERATORS | 70-S4 | 64,312,110.88 | 24,318,003 | 39,994,108 | 868,213 | 1.35 | 46.0 |
| P03 | PENSTOCK | 80-R4 | 56,215,065.27 | 8,625,533 | 47,589,532 | 899,441 | 1.60 | 53.0 |
| P10 | POWERHOUSE | 85-R3 | 93,181,235.98 | 13,007,098 | 80,174,138 | 1,295,219 | 1.39 | 62.0 |
| R12 | RIGHT-OF-WAYS | 75-R4 | 18,020,542.37 | 5,989,582 | 12,030,960 | 245,079 | 1.36 | 49.0 |
| R13 | ROADS | 65-R4 | 80,846,786.54 | 3,979,048 | 76,867,739 | 1,875,645 | 2.32 | 41.0 |
| | | | 312,575,741.04 | 55,919,264.00 | 256,656,477.04 | 5,183,598.55 | | |

NEWFOUNDLAND AND LABRADOR HYDRO
HYDRO RECOMMENDATION
RELATED ESTIMATED ORIGINAL COST AT DECEMBER 31, 2009

| | ACCOUNT | SURVIVOR CURVE | ORIGINAL COST AT December 31, 2009 * | BOOK DEPRECIATION RESERVE * | FUTURE ACCRUALS * | ACCRUAL AMOUNT | DEPRECIATION RATE | COMPOSITE REMAINING LIFE |
|---|---|---|---|---|---|---|---|---|
| G03 | GENERATORS | 60-S4 | 64,312,110.88 | 24,318,003 | 39,994,108 | 1,110,298 | 1.73 | 36.0 |
| P03 | PENSTOCK | 70-R4 | 56,215,065.27 | 8,625,533 | 47,589,532 | 1,123,136 | 2.00 | 42.4 |
| P10 | POWERHOUSE | 75-R3 | 93,181,235.98 | 13,007,098 | 80,174,138 | 1,552,941 | 1.67 | 51.6 |
| R12 | RIGHT-OF-WAYS | 55-R4 | 18,020,542.37 | 5,989,582 | 12,030,960 | 411,599 | 2.28 | 29.2 |
| R13 | ROADS | 50-R4 | 80,846,786.54 | 3,979,048 | 76,867,739 | 2,936,650 | 3.63 | 26.2 |
| | | | 312,575,741.04 | 55,919,264.00 | 256,656,477.04 | 7,134,624.00 | | |

* 2009 Depreciation Study, Exhibit 1, pp. III-4 and III-5.