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May 4, 2016

British Columbia Utilities Commission
Sixth Floor
900 Howe Street
Vancouver, B.C.
V6Z 2N3

Attention: Ms. Laurel Ross, Acting Commission Secretary and Director

Dear Ms. Ross:

Re: FortisBC Energy Inc. (FEI)

Project No. 3698871

Proposal for Depreciation and Net Salvage Rate Changes (the Application)

Response to the British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1

On February 29, 2016, FEI filed the Application referenced above. In accordance with Commission Order G-41-16 setting out the Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to BCUC IR No. 1.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (email only): Registered Parties

1.0 Reference: DEPRECIATION STUDY

Exhibit B-1, Application, Section 1, pp. 1–2; Exhibit A2-2, Depreciation Study, pp. II-4 to II-11, V-31, V-38, V-39

Average service life

On page 2 of the Application, FortisBC Energy Inc. (FEI) states:

> …in the Vehicles fixed asset account where a particular vintage of vehicles is expected to have physical retirements occur in a pre-determined pattern from age 1 to age 20, the average service life of all vehicles in the particular fixed asset account would be, for example, 10 years. In this case, it would be expected that 50% of all the vehicles capitalized in a particular year would retire before the 10 year average service life with the remaining 50% retiring after the 10 year average service life.

On page II-4 of the Depreciation Study, Gannett Fleming states the following with regards to Account 475.00 – Distribution – Systems – Mains:

> Typical service lives for distribution mains range from 50 to 66 years…The retirement rate analysis indicates a significant rate of retirement activity as plant reaches 50 years of age, with large retirement rates through to age 75…In order to better fit this retirement pattern, Gannett Fleming has recommended a slightly higher moded Iowa 64-R2.5 survivor curve to better reflect the experienced retirement rates…

1.1 Please confirm, or explain otherwise, that the Iowa 64-R2.5 survivor curve indicates that the average service life assigned to distribution mains is 64 years.

Response:

The following response has been prepared by Gannett Fleming.

Confirmed.

1.2 Please confirm, or explain otherwise, that based on the Original Life Table provided on pages V-38 and V-39 of the Depreciation Study, distribution main retirements have occurred from age 0.0 through to age 73.5.

Response:

The following response has been prepared by Gannett Fleming.

Confirmed.

On page II-7 of the Depreciation Study, Gannett Fleming recommends the Iowa 45-R1 survivor curve for Account 473 – Distribution – Services and states: "The retirement rate analysis indicates a significant rate of retirement activity as plant reaches 35 years of age, with large retirement rates through to age 75."

On page V-31 of the Depreciation Study, Gannett Fleming provides the Original Life Table for Account 473 – Distribution plant – Services.

1.3 Please explain why there is such a large retirement amount for Account 473 at age 0.0 (i.e. $11,950,824 per the Original Life Table) and why this retirement amount is significantly higher than in any of the subsequent years.

Response:

The following response has been prepared by Gannett Fleming.

In providing a response to this question, Gannett Fleming noticed an error in the reported amount of $11,950,824. The restated amount should instead be $1,226,837.

With this correction, Gannett Fleming reviewed its selection for Account 473.00 – Distribution Plant Services. Although the $11,950,824 is a large retirement amount, it is reviewed in the context of over $1.1 billion of plant exposed to retirement at that age interval. Given the very large amount of dollars exposed to retirement, the $10 million error at age interval 0.0 had only minimal impact of the retirement ratios at age zero and therefore had no effect on the recommended life parameter.

1.4 Please discuss the differences in characteristics of the assets in Account 475 (distribution system mains) compared to the assets in Account 473 (distribution services). As part of this discussion, please explain which differences in characteristics/factors between the two asset classes contribute to the dispersion patterns being different by an order of 1.5 (i.e. R2.5 for Account 475 compared to R1 for Account 473).

Response:

The following response has been jointly prepared by Gannett Fleming and FEI.

The characteristics of the assets in Account 475 (distribution mains) differ from those in Account 473 (distribution services) in a number of ways.

Physically, distribution service pipe tends to be smaller in size (the size of distribution service pipe typically ranges from 26mm to 42mm in diameter), have a lesser wall thickness, and on average, are approximately 20 metres in length. Distribution mains tend to be larger in size (ranging from 26mm up to 168mm in diameter, and in some instances even larger), have a greater wall thickness than distribution service pipe, and the length of distribution mains varies from a few metres to hundreds of metres.

Another difference between distribution services and distribution mains is the location in which they are installed. As a distribution main's primary purpose is to transport gas from a common supply source to a number of services, and those services are typically the homes and businesses in a particular municipality, the mains are typically installed along the road network of that municipality. Distribution services, on the other hand, are installed to transport gas from a distribution main to a customer's meter, and are therefore typically installed from some point in that road network (i.e., starting at the main) to the customer's meter that is located on his/her property. And it is this difference that has the greatest contribution to the different dispersion patterns between these two asset classes.

Construction activities such as the renovation of homes, landscaping of property, and also the demolition and rebuilding of homes lead to an elevated risk of early retirement for distribution services relative to distribution mains. When homes are demolished, service lines are typically renewed. These activities also lead to an elevated risk of 3rd party damage, which does not typically lead to a complete renewal of a distribution service, but does lead to a portion of a distribution service being replaced. Finally, due to the fact that these types of activities tend to occur within property boundaries as opposed to along the road network of the municipalities in which FEI operates, they do not tend to impact the distribution mains, only the services.

All of the above differences in the characteristics contribute to the dispersion patterns being different by an order of 1.5.

Typically services can reflect retirements over a wider range of lives when compared to retirements for mains. An Iowa R1 retirement dispersion pattern reflects retirements from ages of 0 to approximately 90 years of age. The Iowa R1 also reflects a more widely dispersed retirement pattern around the average service life with fairly equal retirements over the maximum 90 year service life. The Iowa R1 retirement pattern is typical of retirement that is caused by more non-capacity reasons such as customer requests, move activity, and accidental incidents. This contrasts to the Iowa R2.5 retirement dispersion pattern which has a more narrow retirement dispersion (compared to the Iowa R1) around the average service life. With the Iowa 64-R2.5 curve, a small amount of retirements occur up to age 40 with an increased rate of retirement to approximately age 90 years of age. Retirements then occur gradually to the maximum age of 110 years. The Iowa R2.5 pattern is more typical (as compared to the Iowa R1) of program nature type causes (road and highway moves, capacity upgrades, etc.) rather than non-capacity reasons as typically required for individual customers. In other words, program nature types of causes for retirements are more prevalent with the higher ordered Iowa R2.5 than the lower ordered Iowa R1.

On page II-8 of the Depreciation Study, Gannett Fleming states the following regarding Account 478.10 – Distribution – Meters:

> Interviews with the operational metering staff have indicated that the implementation of the new Measurement Canada requirements will result in residential meters being retired before they reach 20 years of age. In the experience of Gannett Fleming, this assumption is consistent with the metering experts across Canada, all of whom have indicated that residential meters will no longer be tested when they reach 15 to 20 years of age…
>
> …Since the previous Gannett Fleming study, which recommended an Iowa 20-R2.5 curve to represent the retirement characteristics for this account, FortisBC has continued the program to replace older electro-mechanical meters with newer technology digital metering equipment…
>
> …Therefore, given the future expectation that residential meters will be retired prior to reaching an age of 20 years, Gannett Fleming is recommending a small reduction in the average service from the Iowa 20-R2.5 to the Iowa 18-R2.5 to represent future life expectations for the equipment in this account.

1.5 Please explain the implications of the statement that “residential meters will no longer be tested when they reach 15 to 20 years of age.” For instance, does this indicate that going forward most residential meters will be retired before they reach the age range of 15 to 20 years?

Response:

The statement that "residential meters will no longer be tested when they reach 15 to 20 years of age" means that given the new Measurement Canada requirements for testing of meters that came into effect January 1, 2014, when residential meters reach 15 to 20 years of age, the meters will no longer be subject to the testing and sampling process and instead will be retired as part of the meter recall process. Most residential meters will not be retired before they reach the age range of 15 to 20 years. Instead, residential meters are expected to last on average 18 years, with some meters lasting longer and some shorter.

The new sampling plan, referred to as SS-06, incorporates tighter tolerance and stricter criteria for allowing meters to remain in service. Therefore, by applying this new approach to determine meter performance, the potential for a given group of meters to fall outside of Measurement Canada's requirements increases. As a result of the new sampling plan, gas utilities across Canada are expected to experience a requirement to increase the number of scheduled meter exchanges and resulting higher number of meters being retired.

1.6 Given the significant change in the technology being experienced and FEI's ongoing program to replace the electro-mechanical meters, why has Gannett Fleming recommended only a "small reduction" in the average service life from 20 to 18 years?

Response:

The following response has been prepared by Gannett Fleming.

Gannett Fleming viewed that a reduction in the previous Iowa 20-R2.5 was warranted; however, the extent of the reduction was not fully determinable at the time of FEI's depreciation study since only one year of data under the new plan was included in the study. The actual experienced retirement activity of all types of meters in the asset class in the next depreciation study will help to determine if a further average service life reduction to the current 18 year recommendation is warranted.

1.7 Based on Gannett Fleming's recommended Iowa 18-R2.5 curve, what is the age range over which retirements are expected to be experienced? If, based on the 18-year average service life, retirements are anticipated to occur up to an age of

30 or higher, please explain how this expectation is reasonable given that residential meters will no longer be tested when they reach 15 to 20 years of age.

Response:

The following response has been prepared jointly by Gannett Fleming and FEI.

With regard to the age range over which retirements are expected to be experienced, the Iowa 18-R2.5 reflects a small amount of retirements to approximately 10 years of age. A significant increase in the retirement rate occurs from age 10 to age 25 with approximately 80% of all retirements occurring during this period. After age 25, a more gradual retirement rate is expected with a maximum life of slightly more than 30 years of age.

The maximum life of slightly more than 30 years of age would not be applicable for the residential meters that will no longer be tested when they reach 15 to 20 years of age. These longer lives would be related to commercial and industrial meters which are expected to exhibit a longer life than residential meters and that has the effect of increasing the average life of the asset class. Measurement Canada requires that commercial and industrial meters be removed from the field on a six year cycle. This six year cycle increases the rebuild and recalibration frequency of the meters thereby increasing overall serviceable life of the meter. Due to the high initial cost of commercial and industrial meters, many parts can be economically replaced during typical rebuilds thereby ensuring the continued accuracy in high gas flow applications and contributing to a longer overall serviceable life of the meter.

1.8 If residential meters are expected to be retired before the age of 20, why would it not be more appropriate to assign an average service life which is closer to 10 years? Please explain.

Response:

The following response has been prepared by Gannett Fleming.

Gannett Fleming has advised that in no circumstances would an average service life of approximately 10 years be appropriate at this time, as there is no class of meters that would be expected to be in service only 10 years. While some individual meters may fail and require retirement by age 10, it is not expected that 10 years should be considered as a reasonable average service life for any group of meters as a whole. Furthermore, as detailed in the response to BCUC IR 1.1.7 above, due to the mixed composition of residential, commercial and industrial meters, a life recommendation requires consideration of the various lives of all three types of meters. As detailed in the response to BCUC IR 1.1.6 above, Gannett Fleming views that more actual retirement experience for the residential meters will help to determine if a further average service life reduction to the current 18 year recommendation is warranted

On page II-10 of the Depreciation Study, Gannett Fleming states the following regarding Account 477.10 – Distribution – Measuring and Regulating Equipment:

> The original survivor curve as plotted on page V-40 indicates a consistent rate of retirement activity through the plant's 57-year life. In previous depreciation studies, Gannett Fleming has recommended a 26-R2 Iowa curve. With the significant amount of retirement activity and the results from the survivor curve fit, Gannett Fleming is recommending an increase in the average service from 26 years to 30 years while maintaining the previous R2 Iowa curve.

1.9 Please explain in more detail how Gannett Fleming determines the appropriate size of the change to an asset account's average service life.

Response:

The following response has been prepared by Gannett Fleming.

As can be seen on page V-40 of the depreciation study, the observed data is significant over the entire 55 year life of the equipment in this account. In addition, the recommended Iowa 30-R2 produces an excellent fit to the experienced observed data and the comments from the Company operations and engineering staff viewed that the recommendation was appropriate for the equipment in this account. Based on the large amount of observed data, the excellent fit of the Iowa 30-R2 to this observed data, and the comments from the Company operations and engineering staff, Gannett Fleming viewed that the Iowa 30-R2 was an appropriate recommendation.

1.9.1 As part of this explanation, please explain why in the case of Account 478.10 (distribution meters) the recommended change to the average service life is two years while the recommended change to Account 477.10 (distribution measuring and regulating equipment) is four years.

Response:

The following response has been prepared by Gannett Fleming.

Gannett Fleming views the recommendation for Account 477.10 to have more actual support considering the fit of the recommended Iowa curve to the observed data in comparison to the recommendation for Account 478.10. For Account 478.10, the observed data is considered less reliable for an Iowa curve recommendation due to recent Measurement Canada changes in the testing requirements for meters (specifically regulation S.S.06). Given the limited experience in the retirement of distribution meters in the period of time since the Measurement Canada changes, Gannett Fleming views that a more gradual reduction to the previous Iowa 20-R2.5 is warranted and that more observed data at FEI's next depreciation study will help determine the most appropriate average service life.

On page II-11 of the Depreciation Study, Gannett Fleming states the following regarding Account 467.20 – Transmission – Telemetry Equipment:

> In previous depreciation studies, Gannett Fleming has recommended a 15-L1 Iowa curve. The discussions held with the company operations and engineering staff indicated that the previous life parameter selection was not reasonable for the current equipment in this account. The company's expectations were that approximately one half of the previous life parameter would be more applicable for Telemetry Equipment.

1.10 What information/data obtained during previous depreciation studies led Gannett Fleming to recommend a 15-year average service life for this asset class?

Response:

The following response has been prepared by Gannett Fleming.

In the previous depreciation study, the observed data indicated a very good fit to the Iowa 15-L1. There were no other indications from FEI operations and engineering staff at that time to recommend any changes to the Iowa 15-L1. As such, based on the very good fit to the observed data, the Iowa 15-L1 was recommended for the equipment in this account.

1.11 What factors does Gannett Fleming attribute to the previous studies' recommending an average service life that is now considered to be unreasonable? Is the significant change to Account 467.20's life parameter selection in the current depreciation study a result of inaccuracies in the previous depreciation study or a result of changes to the type or treatment of assets in this account? Please explain.

Response:

The following response has been prepared by Gannett Fleming.

As stated on page II-11 of the Depreciation Study, FEI's operations and engineering staff indicated that they viewed the previous Iowa 15-L1 was no longer applicable to the equipment in this account. Their view was that one half of the previous life parameter would be more applicable to the equipment in this account. The reduction in the average service life in the 2014 Depreciation Study is due to technology changes, primarily in the form of equipment changes/improvements/advances that result in a lack of manufacturer support and replacement parts for previous generation technology. Basically, telemetry equipment is highly technical and sophisticated and relies on components and software that are continuously changing. As these changes occur in industry, the installed equipment becomes obsolete much sooner than in the past as the manufacturer halts support for older equipment and repair parts become unavailable. Based on this Gannett Fleming recommended an Iowa 8-L1 for the current study.

1.12 What analysis has Gannett Fleming performed on Account 467.20, other than discussions held with FEI staff, to gain comfort that an eight year service life is appropriate?

Response:

The following response has been prepared by Gannett Fleming.

Gannett Fleming views that the in depth knowledge of the Company's operations and engineering staff is the most accurate information that can be obtained in the circumstances of this account. Many of the assets within this account have been replaced with newer technology based digital assets, as compared to the older analog equipment that has been retired. Therefore, a statistical review of the retirement history would result in a review of asset types that are no longer installed in service. Gannett Fleming viewed that a retirement rate analysis, which usually would be a primary consideration for determining an asset class estimate life, was less relevant in this case to the development of an average service life parameter of the assets currently in service. In this circumstance, the primary factor influencing the expectation of average service life is the in-house expectations of the Company's accounting and operational staff who fully understand the company policies and have a detailed knowledge of the assets. The average service life estimate of 8 years was recommended by Company operational staff. Gannett Fleming viewed this expectation as reasonable when compared to peer companies and on the observed life estimates of other technology based assets.

In Appendix A to the Depreciation Study, Gannett Fleming describes the four families of Iowa curves. The left moded curves are described as "those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life." The right moded curves are described as "those in which the greatest frequency occurs to the right of, or after, average service life."

1.13 Please confirm, or explain otherwise, that the majority of FEI's asset accounts, and in particular the asset accounts comprising the largest proportion of FEI's depreciable assets, are assigned a right moded (i.e. "R") Iowa curve.

Response:

The following response has been prepared by Gannett Fleming.

Confirmed.

1.14 Please explain if it is common within the gas utility industry for distribution and transmission asset classes to be assigned an "R" moded curve and if so, why this is the case.

Response:

The following response has been prepared by Gannett Fleming.

It is common for the gas utility industry for distribution and transmission asset to be assigned an "R" mode curve. R type Iowa curves are generally indicative for plant that experiences retirements due to functional causes such as obsolescence from technological advancements, inadequacy in the ability to supply quantity or quality (growth and or capacity), public authority requirements such as road moves or safety concerns, and management policy resulting from sociological or political pressures. Typically for the gas utility industry (and generally for all utility industry), functional causes of retirement result in actual retirements occurring to the right of the average service life in large program type retirements (i.e., retirement of a particular area of pipe, etc.).

In contrast, retirements caused by environmental conditions such as ice, snow, and rain typically result in retirement occurring to the left of the average service life. While these retirements are expected during the selection of the average service life, they usually are caused by impairments to the physical condition of the asset which results in the asset not being used as was intended. For most utility plant, these types of retirements that occur prior to the average service life are more of "one-off" types of replacements as compared to large scale retirements resulting from functional causes. With utility plant, given that the larger scale retirement activity occurs after the average service life, it is common for utilities to be assigned an "R" moded curve.

1.15 Please explain if the determination of the appropriate family of Iowa curve is influenced more by the circumstances of the specific utility or by the nature/characteristics of the assets in a particular asset class.

Response:

The following response has been prepared by Gannett Fleming.

The determination of the appropriate family of Iowa curves is generally influenced by the nature/characteristics of the assets. Typically most gas mains and services across North America are generally described by the "R" family of Iowa curves.

1.15.1 Please also explain if the determination of the type of Iowa curve is primarily based on historical retirement data or on professional judgment.

Response:

The following response has been prepared by Gannett Fleming.

If sufficient historical data exists, then the determination of an appropriate Iowa curve is primarily derived from an appropriate Iowa curve that best matches the trend and characteristics of the observed historical data. However, other factors are tested to ensure that the historic average service life indications are consistent with the estimated pattern of future retirements.

When insufficient historical data exists, then more reliance is placed on professional judgment.

2.0 Reference: DEPRECIATION STUDY

Exhibit B-1, Section 1, pp. 3–5

Equal Life Group (ELG) procedure

2.1 Please describe the changes, if any, to FEI's accounting, information system and asset management/tracking processes which would be required in order to switch from the Average Service Life (ASL) procedure to the ELG procedure for calculating depreciation.

<u>Response:</u>

FEI provides the following overview of the estimated changes required to convert from the Average Service Life (ASL) procedure to the Equal Life Group (ELG) procedure for calculating depreciation. A further detailed assessment would be required to validate all necessary requirements before proceeding to implementation. The areas expected to be impacted are as follows:

- The calculation of the depreciation rate within depreciation studies and the datasets required;
- The implementation into FEI's SAP accounting system and the day to day accounting within FEI's SAP system;
- The processes and procedures used to record retirement transactions; and
- Quarterly and year end process for financial reporting purposes.

<u>Calculation of the Depreciation Rate</u>

The actual depreciation rate is calculated during the completion of depreciation studies or through the completion of a periodic technical update. A technical update is the re-calculation of a depreciation rate recognizing recent plant addition and retirement activity, without making any changes to the average service life or net salvage percentage estimates. Conversion to the ELG procedure would not require any changes to the datasets provided to Gannett Fleming. Additionally, the conversion to the ELG procedure would not result in any additional costs from Gannett Fleming as the work required by Gannett Fleming to produce the ELG rates is virtually the same as development of the depreciation rates using the ALG procedure.

Gannett Fleming does note, however, that its experience indicates that the regulatory burden does increase in the first application where the ELG procedure is used, as intervening parties often seek more information in the information request process and during any litigated hearings. Often this increased intervention does result in a significant increase in Gannett Fleming time related to information request responses, rebuttal, and hearing preparation.

Generally, after the first application, the additional regulatory burden reduces significantly to the point that the use of the ELG procedure is no different than the use of the ALG procedure.

Implementation and Day-to Day Accounting

The primary result of a depreciation study or technical update is a depreciation rate that is implemented in the accounting systems. Most systems, including the SAP accounting system, can use a depreciation rate for the determination of depreciation expense and accumulated depreciation balances. Because the input is a depreciation rate, the accounting system is not implicated by the fact that the rate is calculated using the ELG procedure. The cost to update the new depreciation rates within SAP will be the same no matter which procedure is used - ALG or ELG.

Retirement Processes and Procedures

Depending on the company specific retirement procedures, the use of the ELG may result in changes to the accounting related to retirement transactions. The ELG procedure develops a depreciation rate that includes specific weighting related to retirements that are expected to occur prior to and after the average service life of an account. For example, if an account has an average service life of 10 years, the ELG procedure will recognize that some investment is expected to retire in each of the years from year 1 through perhaps years 20 (depending on the Iowa curve shape). In this manner, a portion of the account is depreciated using a 100% rate for the investment expected to retire within the first year, and at a 50% rate for the investment expected to retire in the second year, and so on, through to the 20th year, where the investment expected to last to the 20th year is depreciated at a rate of 5%. However, the ELG procedure develops a weighted average depreciation rate based on the investment that is expected to retire at each of the year 1 through year 20 age intervals. Because of the specific estimated amount of investment to retire at each age interval, and the use of a specific depreciation rate based on the expected amount to retire at each age interval, the ELG procedure produces a depreciation rate that incorporates fully depreciated assets that retire at each of the age intervals.

Therefore, at the time of retirement, one of two following approaches will need to be implemented.

- The first, and most commonly used approach, is to consider that at the time of retirement, the investment that retires is consistent with the expectations of the retirements used within the ELG depreciation rate calculations (i.e., the retirements are matching the Iowa curve used in the ELG calculations). If this approach is used, there is no gain or loss recognized at the time of retirement to either the income statement or any deferred accounts. With the use of this method, a test is normally prepared at the end of each fiscal year (some utilities make an estimate quarterly) to determine if the actual retirements are fully matching the expected retirement pattern based on the Iowa curve.

- The second approach (which is less commonly used) is the continuation of the current approach used by FEI wherein a loss or gain on retirement is charged to a deferred account based on a formula that nets the original cost to be retired against the accumulated depreciation expense based on the ELG depreciation rate. Because the ELG depreciation rate is a weighted rate based on the expected retirements at each of the age intervals, there will be a loss or gain on retirement until a year end calculation tests the retirement activity by age to the assumptions used in the ELG depreciation rate calculation.

Year-end testing procedures

Depending on the procedures used to record retirement transactions, an entry may need to be prepared at fiscal year-end to adjust for gains or losses to the income statement or balance sheet.

If the first method as described above is followed, a year-end test is usually performed to determine if the actual retirements by age have followed the Iowa curve expectations. To the extent that the actual retirements amounts by age would have been estimated in the Iowa curve used in the development of the depreciation rate, there would be no adjustment required (i.e., no loss or gains to be booked to either the income statement or any type of deferred account). While there will be virtually no possibility that the actual retirements will match exactly to the Iowa curve estimates, there is normally a range of variance that is considered reasonable (usually a total of 5 to 10 percent). Variances within this range are then dealt with in future depreciation studies. If there is a variance outside of the range, a gain or loss is recognized.

In the circumstances where the second retirement procedure as described above is followed, an adjustment entry will be required to move some or all of the amounts that where charged to the losses/gain account on each retirement transaction back into the accumulated depreciation account. The amount of the transfer would be based on the same test of the actual retirements by age as compared to the Iowa curve used in the ELG depreciation rate calculation. As such, regardless of the method used in the retirement procedures, virtually the same work will be required at year end, although the actual accounting entries will differ.

2.1.1 As part of this explanation, please provide the following information: (i) the cost to switch to the ELG procedure, including any capital and operating costs (both upfront and ongoing costs); (ii) the resources required to implement the switch; and (iii) the complexity of implementing and utilizing the ELG procedure compared to the ASL procedure.

Response:

FEI provides the following preliminary estimate of the costs and resources required to implement the ELG procedure. A further detailed assessment would be required to validate all necessary requirements and confirm the costs and resources required to implement.

Changes may be required to the SAP accounting system as the use of the ELG method may result in changes to the accounting related to retirement transactions. Also, additional information may need to be collected in support of the year-end testing procedures required by the ELG methodology. At this time, FEI estimates the system changes could cost up to $500 thousand to implement.

With the year-end testing procedures required, additional labour resources will be required to transition to and sustain the ELG procedure. The labour resources will have to be knowledgeable about the ELG procedure and how the testing procedure works and also determine any adjusting entries required. At this time, FEI estimates the labour resource could total to up to 0.50 FTE.

Please also refer to the response to BCUC IR 1.2.1 for discussion about changes required to FEI's accounting, information system and asset management/tracking processes.

On page 5 of the Application, FEI states the following:

> …both the ASL procedure and the ELG procedure will result in full recovery of the costs of the assets over the life of the fixed asset account; however, the ELG procedure is intended to reflect the expected physical retirement of the assets in each year while the ASL procedure will, by design, result in a under depreciation for those assets retired in year 1 with a corresponding over depreciation for those assets retired in year 3.

In the example on page 5 of the Application, the depreciation expense using the ELG procedure for Years 1, 2 and 3 is $183, $83, and $33, respectively; whereas the depreciation expense using the ALG procedure for Years 1, 2 and 3 is $150, $100, and $50, respectively.

2.2 When taking into consideration the impact of the time-value of money on the annual cost of service to be recovered from ratepayers associated with capital assets (i.e. depreciation expense and earned return), is there a higher cost of service impact to ratepayers under the ALG procedure compared to the ELG procedure? Please explain why or why not and provide supporting calculations where appropriate.

Response:

In general, the following statements will be true when considering the time-value of money, and the cost of service to be recovered from rate payers associated with capital assets:

- The net present value of the depreciation expense itself will be higher under a method that recovers depreciation more quickly because the depreciation expense is recovered from customers earlier;
- The net present value of the earned return will be lower under a method that recovers depreciation more quickly because there is in total less earned return to be recovered from a lower rate base;
- The difference in net present value of the total cost of service would depend on how much the first factor offsets the second, which would be influenced by asset addition and retirement patterns, depreciation rates, capital cost allowance rates, income tax rates, and cost of capital changes.

Due to all of these variables that need to be factored in, FEI is unable to provide a definitive response to the question.

Instead, FEI has used the example provided in Slide 28 of Exhibit B-1 Attachment 2, to illustrate the concept and demonstrate the cost of service impacts of the two methods under the assumptions used in that example.

As shown in the two tables below, there is no significant difference in the cost of service on a net present value basis under the simplifying assumptions in the scenario presented on Slide 28. Please refer to Attachment 2.2 for the supporting calculations.

Revenue Requirement Example- Average Service Life Method

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
Depreciation Expense	200	200	200	200	200	100	100	100	100	100	100	100	100	100	100	**2,000**
Income Tax	58	24	28	32	35	3	6	9	11	13	15	16	17	18	19	**301**
Interest Expense	67	60	53	46	39	34	30	27	23	19	16	12	9	5	2	**442**
Equity Return	64	57	51	44	37	32	29	25	22	19	15	12	8	5	2	**421**
Total Revenue Requirement	389	341	331	321	311	168	164	160	156	151	146	140	134	128	122	**3,164**
PV of Revenue Requirement	367	304	278	255	232	119	109	101	92	84	77	70	63	57	51	**2,259**

Revenue Requirement Example- Equal Life Group Method

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
Depreciation Expense	267	267	267	267	267	67	67	67	67	67	67	67	67	67	67	**2,000**
Income Tax	81	46	49	52	54	(13)	(9)	(6)	(3)	(1)	1	3	4	6	7	**271**
Interest Expense	66	57	47	38	28	22	20	18	15	13	11	8	6	4	1	**353**
Equity Return	63	54	45	36	27	21	19	17	15	12	10	8	6	3	1	**337**
Total Revenue Requirement	476	423	408	393	376	98	96	95	93	91	88	86	83	79	76	**2,961**
PV of Revenue Requiremen	449	377	343	311	281	69	64	60	55	51	47	43	39	35	32	**2,255**

2.3 Please confirm, or explain otherwise, that the adoption by FEI of the ELG procedure would result in an increase in depreciation expense.

Response:

The following response has been prepared by Gannett Fleming.

Confirmed that the short term impact would be an increase in depreciation expense. Over the life of the asset, the depreciation expense is the same under either method.

2.3.1 If confirmed, please estimate (if possible) the depreciation expense for 2017, 2018 and 2019 under the ELG and the ALG procedures and explain how the calculations were performed and the assumptions made.

Response:

The following response has been jointly prepared by Gannett Fleming and FEI.

The resultant ELG calculations are very detailed and are embedded internally in Gannett Fleming's depreciation models. However the ability to perform either an ELG or ALG procedure is a simple process of entering either ELG or ALG calculation procedure in Gannett Fleming's depreciation model. There are no assumptions that are required to perform either an ALG or ELG procedure.

Below is the estimated depreciation expense and revenue requirement impact and the difference between the two methods under both ELG and ALG procedure starting with approved

2016 gross plant. The estimated expense under the ELG method is based on preliminary estimates of depreciation rates that have been prepared to respond to this question.

Forecasted Depreciation Expense Life ($000)

Depreciation Method	2017	2018	2019
ELG	206,729	216,047	225,367
ALG	186,539	194,747	202,967
Difference	20,190	21,300	22,400

Forecasted Depreciation Expense Net Salvage ($000)

Depreciation Method	2017	2018	2019
ELG	40,873	42,593	44,483
ALG	34,531	35,963	37,561
Difference	6,342	6,630	6,922

Revenue Requirement ($000) (Depreciation + Net Salvage + Income Tax)

Depreciation Method	2017	2018	2019
ELG	334,597	349,514	364,662
ALG	298,743	311,770	325,038
Difference	35,854	37,743	39,624

Note: ALG is another acronym for ASL. They are the same procedure.

Using ELG will result in roughly a 12% higher annual revenue requirement impact over ALG for 2017, 2018 and 2019. Based on the amounts in the table above, the initial implementation of the change in 2017 would result in a delivery rate increase of approximately 5 percent.

Based on the rate impact, the additional complexity and cost as discussed in the response to BCUC IR 1.2.1.1, and the fact that the ALG method is used by the other major utilities in BC (FortisBC Inc., Pacific Northern Gas, and BC Hydro) and accepted in other jurisdictions in Canada, FEI does not recommend the adoption of the ELG method at this time.

2.3.2 If confirmed, please explain if the increase to depreciation expense would primarily be caused by the impact of the change from the ALG to the ELG procedure and whether over the long term the difference in depreciation expense would be lessened.

Response:

The following response has been prepared by Gannett Fleming.

The initial change in depreciation expense will be caused by the change from ALG to ELG. The difference will decrease with each depreciation study with an eventual cross over point where the ELG expense will be less than the ALG expense. Over the complete life of the account, both ALG and ELG will result in the same 100% recovery.

3.0 Reference: COMMISSION QUESTIONS AND RESPONSES

Exhibit B-1, Section 2, pp. 6–10; Exhibit A2-2, pp. V-38, V-39, A-9

Asset Class 475 – Distribution Mains

On page 6 of the Application, FEI states: "FEI provided Gannett Fleming with updated historical aged retirements from 2010 to 2014 which provided a complete aged retirement history for this asset class from the first retirement in 1963 to 2014, for a total of almost $46M in assets."

As part of the Original Life Table provided on pages V-38 and V-39 of the Depreciation Study, there is a Placement Band range of 1924-2014 and an Experience Band range of 1963-2014.

On page A-9 of Appendix A to the Depreciation Study, Gannett Fleming states the following: "The period of observation is referred to as the experience band, and the band of years which represent the installation dates of the property exposed to retirement during the experience band is referred to as the placement band."

3.1 Using Age Interval 9.5 in the Original Life Table on page V-38 of the Depreciation Study as an example, please clarify the following:

- Does the "exposures at beginning of age interval" amount of $1,023,220,090 represent the original cost of all assets installed/added within the years 1924 through 2014 (i.e. within the placement band) which reached the age interval of 9.5?
- Does the "retirements during age interval" amount of $2,466,759 represent the original cost of assets which were retired at age 9.5?

Response:

The following response has been prepared by Gannett Fleming.

Confirmed for both exposures and retirements.

3.2 Given that the placement band starts at year 1924 and the experience band starts at year 1963, please explain how the difference in bands impacts the data contained within the "exposures at beginning of age interval" column and the "retirements during age interval" column. For instance, what information on assets installed/added between 1924 and 1963 (i.e. prior to the experience band) is captured within the “exposures” and “retirements” columns?

Response:

The following response has been prepared by Gannett Fleming.

The 1963-2014 experience bands reflects all retirements that occurred from 1963 to 2014 and reflects the quantum of retirements that exist for FEI. The placement band of 1924-2014 reflects the vintages that the retirements from 1963-2014 were originally capitalized. As such, the “exposures” column reflects all of the plant that has been installed since 1924 through 2014. FEI’s detailed accounting sub-ledgers do not include any retirement data over the period from 1924-1963. As such, the “retirement” column reflects all of the retirement activity for which the company has detailed retirement records, being 1963 through 2014. For example, the retirement rate analysis reviewed all the retirements that occurred in any year from 1963-2014 which were originally capitalized in the years 1924-2014. This “All-inclusive” banding incorporates all data that exists for FEI in this account.

4.0 Reference: COMMISSION QUESTIONS AND RESPONSES

Exhibit B-1, Section 2, pp. 10–11; Exhibit A2-2, pp. V-17 and V-18

Asset Class 465 – Transmission Pipeline

In the Original Life Table on pages V-17 and V-18 of the Depreciation Study, there have been significant retirements occurring at age intervals 2.5, 14.5, 23.5 and 55.5.

4.1 Please explain the likely cause(s) of this retirement trend.

Response:

FEI does not detect a trend in the large retirements, other than to note that they tend to be associated with major capital projects that have been undertaken. The large projects affecting each of the identified age interval's higher retirements for the period 2010-2014 are:

- Age interval 2.5 – a bypass replacement of two stretches of NPS 24 pipe through the South Fraser Perimeter Road project;
- Age interval 14.5 - transmission valves replacement;
- Age interval 23.5 - Fraser River South Arm Crossing Upgrade Project where a section of the transmission pipeline under the river was replaced between Tilbury and Nelson stations;
- Age interval 55.5 - replacement of two stretches of NPS 24 and NPS 36 pipe through the (SFPR) South Fraser Perimeter Road project.

5.0 Reference: COMMISSION QUESTIONS AND RESPONSES

Exhibit B-1, Section 2, pp. 11–13; Exhibit A2-2, pp. V-22 to V-24

Asset Class 467.10 – Transmission Plant – Measuring and Regulating Equipment

Based on the data in the Original Life Table on page V-23 of the Depreciation Study, the largest amount of retirements has occurred at age 15.5. Further, there appears to be limited data or instances of retirements occurring after the age of 32.5.

On page 13 of the Application, FEI states: "The average service life for account 467.10 is 36 years and the average vintage year of assets in this account is 2000, indicating that assets in the account are relatively young on average."

5.1 Please confirm, or explain otherwise, that the recommended Iowa 36-S0.5 curve means that there is wide dispersion pattern for retirements in Account 467.10 and as a result, retirements are expected to occur from around the age of 0 up to the age of 72.

<u>Response:</u>

The following response has been prepared by Gannett Fleming.

Confirmed.

5.2 Please explain how there is enough data at this time to indicate that the average service life is 36 years given that there has been very minimal amounts of retirements which have occurred after the age of 36.5.

<u>Response:</u>

The following response has been prepared by Gannett Fleming.

As depicted on V-22 of the Depreciation Study and numerically on V-23 and V-24, the actual observed data (i.e., square black data points) indicates that this account has experienced a significant level of retirement activity through to age 42.5. The original comment indicating "that assets in the account are relatively young on average" was intended to comment on the age of the assets remaining in service as at December 31, 2014, and was not intended to provide comment on the age of the assets previously retired. However, based on the historical retirement experience combined with the ages of the assets when previously retired, the recommended 36-S0.5 Iowa provides an excellent fit to the observed data. It is typical for accounts that have undergone a complete life cycle, such as the case in this circumstance, to have a relatively long average service life when compared to the young average age of the current plant in service. The Iowa Curves are a standardized retirement patterns that have been used since the 1930s that have been proven to be indicative of utility survival and retirement patterns. With the excellent fit to the observed data, the 36-S0.5 was judged to be indicative of the historical life and future expected life. Depreciation reviews and studies are typically done on a regular basis to re-evaluate the recommended Iowa curve and average service life parameters with the addition of more actual retirement experience.

5.3 Is it common practice to increase the average service life of an asset class by 9 years given that the last Depreciation Study was prepared relatively recently (i.e. within the past 5 years)? Please explain.

Response:

The following response has been prepared by Gannett Fleming.

It is not common that such a large increase occurs from concurrent depreciation studies but it does occur with the addition of a large amount of addition, and/or retirements and/or an increase in the average age of retirements. The previous depreciation study was based on actual retirements that had occurred up to and including 2009. The available data, at that point of time, reflected an excellent fit to the recommended Iowa 27-L1. The additional retirement data for the years 2010-2014 reflected an increase in additions. This is reflected in the 2014 age 0 exposures of $57.1M compared to the comparable 2009 age 0 exposures of $33.6M. In addition, the average age of retirements for the period 2010-2014 increased from the previous average age of retirements. The increased additions combined with an increase in the average retirement age caused the observed data to increase comparably. FEI's operational and engineering personnel did not indicate this as unusual activity. As such, Gannett Fleming viewed that the recommended Iowa 36-S0.5 was an excellent fit to the observed data.

5.4 What was the basis on which Gannett Fleming made its previous recommendation of an Iowa 27-L1 curve and what changes in circumstances and information led Gannett Fleming to recommend both a change in the family of curve from an "L" curve to an "R" curve and an increase of 9 years to the average service life? Please explain.

<u>Response:</u>

The following response has been prepared by Gannett Fleming.

Please refer to response to BCUC IR 1.5.3.

6.0 Reference: COMMISSION QUESTIONS AND RESPONSES

Exhibit B-1, Section 2, pp. 11–13; Exhibit A2-2, pp. V-40 to V-42

Asset Class 477.10 – Distribution Plant – Measuring and Regulating Equipment

On page 12 of the Application, FEI states: "The previous recommendation for this account was an Iowa 26-R2…Based on the above the current recommendation for this account is an Iowa 30-R2."

Based on the data in the Original Life Table on page V-41 of the Depreciation Study, there is a significant amount of retirement activity occurring at age 8.5 and minimal retirement activity occurring after the age of 44.5.

6.1 Please discuss the cause(s) of the large occurrence of retirements at age 8.5.

Response:

The retirement activity for the period 1957-2009 for account 477.10 Distribution Plant – Measuring and Regulating Equipment at age 8.5 was $485,243. The retirement activity for the period 1957-2014 for account 477.10 at age 8.5 is $1,216,992 which is an increase by $702,235 from the previous depreciation study. Of this amount, $689,737 pertains to the retirement of equipment removed during an upgrade at the Chilliwack Gate Station, which due to capacity, obsolescence and standards issues necessitated replacement of the entire station.

6.2 Please compare and contrast the transmission measuring and regulating equipment assets and the distribution measuring and regulating equipment assets.

Response:

The purpose of measuring and regulating equipment in either the transmission or distribution systems is almost the same; that is, to measure the flow through the station and control the pressure of the gas downstream of the equipment. However, the transmission equipment may also be equipped to control the flow through the station, which adds complexity to the equipment.

Transmission equipment tends to be larger in diameter (e.g. 323mm and greater) due to the gas flows in the system whereas the majority of distribution equipment is smaller (e.g. 219mm and less). Thus the value of a typical transmission installation is much greater than a typical distribution installation. As the size of equipment increases, the equipment generally has more complex components. Thus, considering a specific device in both systems, the transmission equipment is more complex and requires more preventative maintenance to ensure reliability. However, there is a much greater number of distribution installations in the FEI system.

Distribution equipment in most cases is simpler and the installations operate independently with telemetry being only used to monitor the operation of the equipment. For almost all distribution installations there is no ability to remotely control the equipment. On the other hand, transmission equipment is often quite complex due to the larger equipment and due to a need to operate in conjunction with other equipment at other installations, remote control (i.e., SCADA) is a necessary addition.

As the gas flow though the transmission equipment is much greater, and thus a greater number of customers rely on it, a high degree of reliability is desired. This results in replacement of some components on a regular basis. As well, since the transmission equipment is much more complex, there are more components to consider for such replacement and as well electronics and software obsolescence need to be considered. The same degree of reliability is not required for most distribution equipment as relatively low cost redundant systems are possible and they are generally not subject to electronics and software obsolescence.

Transmission equipment tends to be not significantly impacted by routine growth, i.e., customer additions. Routine customer growth can typically be absorbed by adjustments made to the existing equipment. However customer growth can have a significant impact on distribution equipment due to an inability to absorb increases in growth due to the limitations of the equipment. Either type of equipment, transmission or distribution, is initially installed with consideration of capacity or ability; however as transmission equipment has the benefit of system storage (i.e., line pack) it is not impacted by the increases in peak demand that distribution equipment is subjected to (i.e., there is minimal system line pack within the typical distribution system). Thus growth that is higher than expected, or unexpected growth after many stable years with minimal customer infill, can cause a number of issues with regard to distribution equipment but will likely have a negligible effect on the transmission equipment.

6.3 Please explain why the change in average service life for transmission measuring and regulating equipment is so much greater than distribution measuring and regulating equipment from the previous depreciation study.

<u>Response:</u>

The following response has been prepared by Gannett Fleming.

The recommendations from the 2009 depreciation study to the 2014 depreciation study for both the transmission and distribution measuring and regulating equipment are a function of the available observed data for the periods up to and including 2009 and up to and including 2014. As described in response to BCUC IR 1.5.3 above, each account's characteristics of quantum of additions, quantum of retirements, and age of retirements will produce each account's unique observed data values. For the Transmission account (467.10), there was a significant amount of additions and a high amount of retirements with a higher average age of retirements for the data up to and including 2014, compared to the period up to and including 2009. The increased additions combined with an increase in the quantum of retirement and the higher average retirement age caused the observed data to increase comparably. For the Distribution account (477.10), there was a significant amount of additions and the amount of retirements and average age of retirements for the data up to and including 2014 was consistent with the data up to and including 2009. This addition and retirement profile caused the observed data to show a proportional smaller increase in the observed data average service life as compared to the transmission account.

FEI's operational and engineering personnel did not indicate the recommendations for either the transmission account or the distribution account as unusual activity. As such, Gannett Fleming viewed the recommendations for both accounts to be appropriate.

6.4 Please explain how there is enough data at this time to indicate that the average service life is 30 years given that there has been very minimal amounts of retirements which have occurred after the age of 44.5.

Response:

The following response has been prepared by Gannett Fleming.

As depicted on V-40 of the Depreciation Study and numerically on V-41 and V-42, the actual observed data (i.e., square black data points) indicates that this account has experienced retirements up to age 50.5. Although the retirements are minimal after age 44.5, the exposures are also minimal meaning that the bulk of the data is very well represented by the observed retirements. This is reflected in the observed data shown on V-40 where an almost complete observed curve (i.e., data points) reflects from 100% surviving to approximately 5% surviving. As depicted, the recommended Iowa 30-R2 is an excellent fit to the observed data. FEI's operational and engineering personnel did not indicate the recommendations for this account as unusual activity. As such Gannett Fleming recommended the 30-R2 as indicative for the equipment in this account.

7.0 Reference: COMMISSION QUESTIONS AND RESPONSES

Exhibit B-1, Section 2, pp. 13–16; Exhibit A2-2, pp. V-34 to V-36

Asset retirements

In response to question #4 raised by the Commission in the Reasons for Decision to Order

G-193-15, FEI provided its response to BCUC Information Request (IR) 2.74.13 from the FortisBC Energy Utilities (FEU) 2012-2013 Revenue Requirements and Rates proceeding (RRA). As part of this IR response, FEI described the challenges to providing information on when asset losses in certain asset classes will likely end and gains will be experienced.

The Original Life Table on pages V-35 to V-36 of the Depreciation Study provides historical retirement information for Account 474.00 – Meter/Regulatory Installations. The average service life based on the Iowa Curve 20-S0 is 20 years. The Placement Band is 1959-2011 and the Experience Band is 1960-2014.

7.1 Using the transaction year 1984, which allows for 30 years of service life activity, please provide the following information for the asset additions (vintages) which were added to Account 474.00 in 1984:

- The original cost of the asset additions/vintages in 1984;
- The annual retirement cost for the 1984 additions/vintages from the age of 0 until age 30 (i.e. from 1984 until 2014);
- The balance/original cost for the 1984 additions/vintages for each year from 1984 through 2014.

Response:

Provided below is the requested information regarding vintage year 1984 within asset class 474.00 as included in the Depreciation Study:

Account 474.00

	Additions	Retirements	Balance
1984	4,920,805	(2,173)	4,918,632
1985		(5,006)	4,913,626
1986		(4,204)	4,909,422
1987		(13,910)	4,895,512
1988		(7,141)	4,888,371
1989		(3,579)	4,884,792
1990		(3,371)	4,881,421
1991		(12,987)	4,868,434
1992		(12,395)	4,856,039
1993		-	4,856,039
1994		(825)	4,855,214
1995		(1,198)	4,854,016
1996		-	4,854,016
1997		-	4,854,016
1998		(1,196)	4,852,820
1999		-	4,852,820
2000		-	4,852,820
2001		-	4,852,820
2002		-	4,852,820
2003		-	4,852,820
2004		-	4,852,820
2005		-	4,852,820
2006		-	4,852,820
2007		-	4,852,820
2008		-	4,852,820
2009		-	4,852,820
2010		-	4,852,820
2011		-	4,852,820
2012		(31,709)	4,821,111
2013		-	4,821,111
2014		-	4,821,111

7.1.1 If FEI is not able to provide the above analysis, please explain why.

Response:

Please refer to the response to BCUC IR 1.7.1.

8.0 Reference: ASSET LOSS REPORT

Exhibit A2-2, pp. III-3 to III-4; Exhibit A2-6, Asset Loss Report, pp. 2–4

Depreciation method

Page 4 of the Asset Loss Report filed as part of the FEU 2012-2013 RRA proceeding states the following regarding Asset Class 474 – Distribution – Meters/Regulator Installations:

> The above analysis highlights the challenges with developing a retirement process for a wide and disparate asset category such as the Meter Install. To address this, Gannett Fleming recommends adopting an approach that records new plant additions for this asset class in a separate account, with depreciation calculated using a whole life rate. [Emphasis added]

Page III-3 of the Depreciation Study lists Account 474.02 – New Meter Installations as having an amortization period of 22 years.

8.1 Please explain what the "whole life rate" method is for calculating depreciation.

Response:

The following response has been prepared by Gannett Fleming.

The Whole Life technique is used with the Amortization Accounting approach (i.e., certain General Plant accounts and also account 474.02), where there are numerous units of property and which are difficult to track in sufficient detail. The Whole Life technique bases the depreciation rate on an estimated average service life of the plant category instead of relying on individual retirement of assets, resulting in an evenly distributed allocation of the asset cost over the total life of the investment.

Under the Amortization Accounting approach, which works well where there are numerous units of property involved, the assets are not tracked individually and retired as they are in some other Asset Classes, such as 473 Distribution Services (where the number of services and the average unit cost of services are tracked for each year). Instead, under Amortization Accounting, the original cost of the assets is depreciated over the estimated life of the assets with depreciation based on a whole life rate, unlike the remaining life approach which is based on the remaining estimated life.

Under the Amortization Accounting approach, an asset is retired at the end of its original estimated useful life (when the net book value reaches zero) with no recorded gains or losses on retirement. For example, if an asset's estimated service life is 20 years, under the whole life rate approach, annual depreciation expense recorded should be 1/20th per year for 20 years. At the end of the 20 years, when the asset is retired under the Amortization Accounting approach, the accumulated depreciation reserve should be equal to the original cost, resulting in no gain/loss on retirement of the asset. However, if the depreciation rate used during the 20 year life of the asset changes and is different than 1/20th, there will be a difference between the original cost and accumulated depreciation reserve, resulting in a gain/loss booked on retirement of the asset.

In comparison, under the Average Remaining Life technique, the technique applied to most of the Company's assets, the depreciation rate is based on the estimated service life of the asset where the net book value of the asset is recovered over the estimated average remaining life of the asset. Under this method, any variance between the theoretical and actual booked reserve of the asset is reflected in the company's average remaining life depreciation rate in subsequent years.

8.2 Please confirm, or explain otherwise, that Account 474.02 was established as a result of Gannett Fleming's recommendation in the Asset Loss Report.

Response:

Confirmed.

8.3 Please provide a more fulsome explanation as to how plant additions and plant retirements for New Meter Installations are recorded. Please include the following as part of the explanation:

- Under this new approach, are any additions still recorded in Account 474.00? If yes, please explain what types of asset additions are recorded in Account 474.00 and how these additions are differentiated from the additions recorded in Account 474.02.
- When an asset which has been assigned to Account 474.02 is retired, where are the retirements recorded (i.e. are the retirements recorded in Account 474.02, Account 474.00 or somewhere else)?
- What impact, if any, does this new method have on the data provided in the Original Life Table for Account 474.00 on pages V-35 and V-36 of the Depreciation Study?

Response:

The creation of account 474.02 – New Meter Installation was approved by Order G-44-12 in the 2012-2013 RRA to capture any additions for meter installations on a go forward basis. Under this approved approach, starting January 2012 all regulator and meter installation asset additions are recorded in account 474.02 and there are no asset additions recorded in account 474.00. FEI discusses each of the accounts below.

Account 474.00

Account 474.00 was used to track existing meter installation costs incurred prior to the new 474.02 account being created. Gannett Fleming, in the 2009 Depreciation study, recommended that the existing meter install costs continue depreciating at the recommended depreciation rate which includes a factor for the recovery of the existing retirement losses. Starting 2012, FEI has been following this recommendation with minimal losses reported since. Any losses reported in recent years have been primarily the result of the difference between the original cost of the assets and the accumulated depreciation recorded for the vintage year of assets being retired. The difference is the result of under-accrual of depreciation expense that is different than that set out by the whole life rate approach.

Account 474.02

Activity in this account represents only installations that occurred in recent years. Additionally, as at this time, no retirements have occurred. This is because retirements will only occur when an entire vintage year of assets is fully depreciated and has reached a net book value of zero. As this account only has additions starting in 2012, no vintage years are fully depreciated at this time. Due to the method used, no gains or losses are recorded when the assets are retired.

The new Amortization Accounting method has no impact on the data provided in the Original Life Table for Account 474.00 on pages V-35 and V-36 of the Depreciation Study as the data does not apply under the Amortization Accounting method. Under the Amortization Accounting method, the original cost of the assets is depreciated over the estimated life of the assets with depreciation based on a whole life rate, unlike the remaining life approach which is based on the remaining estimated life. The information in the table noted is used under a remaining life approach.

8.4 Please provide a more fulsome explanation as to how this new approach addresses the “challenges with developing a retirement process for a wide and disparate asset category such as Meter Install.”

Response:

As indicated in the Asset Loss report (Exhibit A2-6, Asset Loss, pp. 2-4), there is a wide disparity of activities and costs recorded in the Asset Class 474 New Meter Installations. The costs include amounts for regulators and meter installation labour for all customer types including residential, commercial and industrial. A residential meter installation costs less than $100 compared to a larger commercial meter installation at double or more. When assets are recorded in account 474, they are not linked to a specific meter, making it impossible to know the amount of costs to remove from the asset class when a meter is retired. In the past, average costs had been utilized to estimate the amount to remove when a meter is retired, but with the wide disparity in costs per unit, basing asset retirements on an average unit cost for this Asset Class results in misstatement of any gains/losses associated with retirements such as occurred in the time period leading up to 2012.

As discussed in the response to BCUC IR 1.8.1, the Whole Life technique bases the depreciation rate on an estimated average service life of the plant category instead of relying on individual retirement of assets, resulting in an evenly distributed allocation of the asset cost over the total life of the investment.

On page 3 of the Asset Loss Report, it states: "The preceding analysis suggests that the losses reported of $32 million for the period 2001 to 2009 is likely to be overstated by approximately 50%, reflecting the challenges in coming up with an applicable representative unit cost."

8.5 Based on the results of the current Depreciation Study, please comment on whether the asset losses for years 2010 through 2014 appear more reasonable than the asset losses recorded in 2006 through 2009 and explain how this conclusion has been arrived at.

Response:

Although the question requests a comparison of the asset losses from 2006 to 2009 with 2010 to 2014, it was in 2012 that FEI made the change to the Amortization Accounting method; therefore, to respond to this question FEI has compared the losses prior to 2012 to the losses being experienced since 2012.

With the recommendation by Gannett Fleming to adopt an Amortization Accounting approach for this Asset Class, gains/losses associated with retirements in 2013 and 2014 are minimal, as evidenced in Exhibit A2-5, Undertaking No. 6, which outlines the asset losses recorded in 2013 and 2014 at $57 thousand and $54 thousand, respectively. As shown in Table D3-2 in FEI's PBR Application, asset losses for this asset class were also low for 2012 at $296 thousand, which is the year that FEI implemented the Amortization Accounting approach. In the years from 2003 to 2012, the asset losses were $37.6 million cumulatively or in excess of $4 million on average annually. Based on this information, FEI concludes that the switch to the Amortization Accounting method has minimized asset losses in this account.

On page III-3 of the Depreciation Study it states: "Amortization accounting continues to be appropriate for a certain number of accounts that represent numerous units of property, but a very small portion of depreciable gas plant in service."

8.6 Does Gannett Fleming consider Account 474.02 to represent a "very small portion of depreciable gas plant in service?" Please explain why or why not.

Response:

The following response has been prepared by Gannett Fleming.

The comments on page III-3 of the Depreciation Study are generally applicable to General Plant accounts where typically there are numerous units of property with each retirement unit being a very small portion of depreciable gas plant in service. For example, Account 486.00 - Small Tools/Equipment has many small items such as wrenches which are a very small component of depreciable plant. To track this type of plant is very difficult. For these types of accounts Gannett Fleming recommends the use of amortization accounting.

Account 474.02 represents New Meter Installations which would be a very small unit cost component for each meter installed. The added complexity for this account is that installations do not represent an actual physical unit of property. As such, the determination of a retirement is generally considered problematic in the gas utility industry. Gannett Fleming has recommended the usage of an amortization approach similar to General Plant accounts to generate retirements and ensure accurate capital recovery.

8.7 If FEI utilized the ELG procedure instead of the ALG procedure, would the challenges described in the Asset Loss Report for Account 474 still exist? Please explain why or why not.

<u>Response:</u>

The following response has been prepared by Gannett Fleming.

Gannett Fleming views that the challenges described in the Asset Loss Report for Account 474 would still exist but may be reduced with the ELG methodology. Overall, utilities across Canada have a difficult time in determining the amount of costs to retire from Account 474 when a meter is retired from account 478. The challenges in determining the amount of original cost dollars to retire often result in an estimation or allocation process that leads to over or under retirement of the original costs of installation in this account. As such, the larger issue is that regardless of whether the ELG or ALG procedure is used, if the ability to track and handle the meter installation retirements is complex, the conversion to ELG will not resolve the issue of potential losses on retirement. It is for this reason that Gannett Fleming had recommended that new investment in the meter installation account be accounted for using amortization accounting practices.

Attachment 2.2

REFER TO LIVE SPREADSHEET MODEL

Provided in electronic format only

(accessible by opening the Attachments Tab in Adobe)