Page 1

January 24, 2013
(9:05 a.m.)
CHAIRMAN:
Q. Before we commence, I understand there is one -
MS. CLYNN:
Q. There's one small filing, Mr. Chair. Mr. Wiedmayer has provided the revised sheet to his expert report, page II-37. We'll enter that into the Board record as a revision to his initial report.
CHAIRMAN:
Q. All right. So I think we're back to our cross-examination.
MR. JOHN WIEDMAYER - EXAMINATION BY MR. JOHNSON:
MR. JOHNSON:
Q. Good morning, Mr. Wiedmayer.
MR. WIEDMAYER:
A. Good morning, Mr. Johnson.
MR. JOHNSON:
Q. We left off yesterday talking about page 2-24, roman numeral II-24 of your report, and before we broke yesterday, you had indicated that, "The underground cables and switches account would not fall under your general statement

Page 2

made at page 224 of your report, and just to refresh, the general statement made on 224 was that for most of the mass plant accounts, the sub-accounts, the statistical analysis resulted in good to excellent indications of complete survivor patterns, and generally the information external to the statistics led to no significant departure from the indicated survivor curves for the accounts listed below", and then you go on to list those accounts, and Mr. Wiedmayer, can you confirm or reconfirm, I suppose, that the reason you removed the underground cables from the list yesterday was because input from management did have an impact on your proposal compared to the actuarial results?
MR. WIEDMAYER:
A. Not only input from engineering management, but also other input from estimates other electric utility companies used for their underground conductor. I've also done studies for other utilities and I'm aware of what they use. In an RFI response, we've also provided to you what the manufacturer had elaborated on with respect to what their expectations of

Page 3

service life were.
MR. JOHNSON:
Q. Okay, that's fine.
MR. WIEDMAYER:
A. Would you like to -
MR. JOHNSON:
Q. No, that's fine, it's not necessary. Now part of the statement I just referred you to made reference to the statistical analysis resulting in good to excellent indications of complete survivor patterns, and Mr. Wiedmayer, would you agree with me that none of the accounts that are at issue in this proceeding with yourself and Mr. Pous, none of them, even including the underground cable account, actually produced a good or excellent indication of a complete survivor pattern. Would you agree with me on that?
MR. WIEDMAYER:
A. No, I would not.
MR. JOHNSON:
Q. Wouldn't a complete survivor pattern decline from 100 percent surviving down to just about almost zero percent surviving, or at least a small percentage surviving?

Page 4

MR. WIEDMAYER:
A. The statistical analysis resulted in good to excellent indications of the stub-survivor curve that we had to analyze.
MR. JOHNSON:
Q. Okay, so - but your report talks about good to excellent indications of complete survivor patterns. A complete survivor pattern is not a stub-curve, right?
MR. WIEDMAYER:
A. That is correct.
MR. JOHNSON:
Q. Right, and, in fact, to talk about what percentage were surviving, could I ask you to turn up page 27, Table 1 of Mr. Pous' surrebuttal.
MR. WIEDMAYER:
A. 31?
MR. JOHNSON:
Q. Yes, page 27, Table 1.
MS. GLYNN:
Q. It's available on the website too, Mr. Hayes and Mr. Wells.
MR. HAYES:
Q. What's that?

Page 5

MS. GLYNN:
Q. It's available on the website.
MR. JOHNSON:
Q. I think you might want to first click on consumer advocate under "By Party" up there, yeah, and then a complete chronological listing, and then go all the way down. The next one below, yeah, yeah. So that's the table Mr. Wiedmayer that shows the lowest percent surviving. So those accounts, as we can see, have - you know, range from 49 percent surviving up to 83 percent surviving, and some reportages in the middle. So that statement in your report about excellent indications of complete survivor patterns, that would be incorrect?
MR. WIEDMAYER:
A. What I meant by the complete survivor curve - the wording may be a little awkward where I used it. The realized portion of the curve that I had to fit, and this is very, very often the case, and the consumer advocate's expert can verify this, very often do you get down to zero percent surviving. Very seldom do you get down to zero percent surviving for

Page 6

accounts that are long-lived, such as overhead conductor that have an average service life of 50 years. The average implies 50 years on average, but there is a range of lives. It may go out - as Mr. Pous' curve select, some of these lives go out beyond 100 years. So since we don't have 100 years worth of experience, we haven't completed a full life cycle.
MR. JOHNSON:
Q. Okay.
MR. WIEDMAYER:
A. The data doesn't contain over 100 years worth. So almost in every company that I do these studies for, including Newfoundland Power, does the data points go down to zero percent surviving. So what you're trying to fit from the historical data is the known portion of the curve.
MR. JOHNSON:
Q. Okay, and that's -
MR. WIEDMAYER:
A. So that's called the stub-survivor curve. So perhaps I should have better phrased it that it was good and excellent indications of the

Page 7

stub-survivor curve, but in addition to fitting the known portion of the curve, you also have to make judgments as to what the future retirement ratios will be when you estimate the survivor curve.
MR. JOHNSON:
Q. Okay, and in turning then to the best fitting from the actuarial analysis, do you agree that different weighting should be given to different data points on the observed life table? In other words, not all points on the observed life table are significant or necessarily should be considered? Would that be correct?
MR. WIEDMAYER:
A. When you look at the life table, there are some data points that are at the very tail end of the curve that contain very small dollars that were exposed to retirements. So, for example, if a pole cost $100.00, and if you look at the age interval, 80 or 90 years old, and there is only $1,000.00 exposed to retirements, the sample size of that particular data point would represent only a few number of poles, perhaps a half a dozen or

Page 8

a dozen poles. So there are data points that depreciation professionals like myself would consider insignificant and we would not want to include that into our analysis.
MR. JOHNSON:
Q. Okay, and, in fact, in your rebuttal evidence at page 19 of 30, and I think that's Appendix - I think that's the main body of your evidence. You refer to the fact that Gannet Fleming has a rule of thumb. You indicate there in that paragraph that we're seeing on the screen, "There's some validity to Mr. Pous' claim that dollar level of exposures have importance in the analysis. However, the dollar level of exposure should not be given so much emphasis as to ignore the most relevant portion of the curve. More proper weighting, such as is presented in the depreciation studies to generally exclude data points once they reach a level of exposure, is not to be considered to be significant. An accepted rule of thumb is to exclude data points where the level of exposures is less than 1 percent of the largest dollar level of exposures for the account. This is the

Page 9

criteria Gannet Fleming's software uses. However, this is not a firm rule. There can be cases where data points past the threshold should be considered, and also cases where data points prior to the 1 percent should not be considered". Now in terms of Gannet Fleming's computer setup, it's set up to implement the 1 percent?

(9:15 a.m.)

MR. WIEDMAYER:

A. It's set up to do that, yes, but however we also have the flexibility to fit as many points as we've considered significant. So if the threshold is 5 percent or 0 percent, we could fit all the points, and we have that flexibility and capability.

MR. JOHNSON:

Q. And what's the criteria for departing from the 1 percent rule?

MR. WIEDMAYER:

A. That varies by account. You would have to look at each account. Each account is unique, each of the life tables that we look at are unique. If you have a specific account that you'd like to go to -

Page 10

MR. JOHNSON:

Q. Well, let's put it this way, Mr. Wiedmayer -

MR. WIEDMAYER:

A. I mean, that's a difficult question to answer in general. I mean, I'll be happy to go to a specific account.

MR. JOHNSON:

Q. Well, I'd like to take you to your criticism of Mr. Pous at page 2 of 27 of your Appendix B, for instance, which highlights the 1 percent rule. Page 2 of 27, in connection with his treatment of transmission poles and fixtures, at the bottom you say, "First, Mr. Pous' estimate does not represent a better fit of the data, nor does it represent similar fit, as his testimony implies. Curve fitting for this account was presented in detail in the curve fitting section of the expert rebuttal evidence. As discussed, in order to make a presentation that his estimate represents as good a fit as that in the depreciation study, Mr. Pous must ignore significant data points that provide important information about the dispersion pattern for transmission poles. It should be noted that

Page 11

the graph presented on page 26 of Mr. Pous' testimony does not show all the data points. Instead, it only shows the survivor curve estimates through H-46.5, and shows no information for surviving below 50 percent". Now Mr. Wiedmayer, can you confirm for us that Mr Pous, in ignoring what you have termed significant data points, in fact, followed the 1 percent rule of thumb, and you could -

MR. WIEDMAYER:

A. Well, we can certainly go to the life table for that account.

MR. JOHNSON:

Q. If you could confirm that by looking at page A-54 and A-55 of your depreciation study. Now can you confirm for us that, in fact, stopping at age 46.5 like Mr. Pous did, would, in fact, be consistent with the 1 percent rule in terms of the level of exposures?

MR. WIEDMAYER:

A. Okay, the largest exposure in this particular life table -

MR. JOHNSON:

Q. Yes.

MR. WIEDMAYER:

Page 12

A. Typically is the first age interval. So 59 million dollars are exposed at the first age interval.

MR. JOHNSON:

Q. I think we have to go up the screen to the top of page A-54 for that.

MR. WIEDMAYER:

A. Yes.

MR. JOHNSON:

Q. Okay. Nearly 60 million?

MR. WIEDMAYER:

A. Right. So we go down to the next page -

MR. JOHNSON:

Q. A-55, yeah.

MR. WIEDMAYER:

A. Yes. Okay, these are all the data points that go all the way down to age 58.5.

MR. JOHNSON:

Q. Okay, we need the page to go up a little bit.

MR. WIEDMAYER:

A. Okay, keep going. Okay, right there. So the 1 percent threshold would actually occur when the exposures get below 590,000, which occurs at the beginning of the interval, 47.5, okay. So now what these dollars represent are

Page 13

transmission poles. So assuming that the transmission poles are put into service for something around $2,000.00 or thereabouts today, 50 years ago we could extrapolate that they went in for a unit cost much less than $2,000.00. Let's just say - to make the math easy in our heads, $500.00 a pole 50 years ago, probably less than that, but - so of the $430,000.00, this is where I would vary from the 1 percent threshold rule, as I've explained in my rebuttal testimony. There are certain reasons when you do vary from the 1 percent threshold. So now I look at these dollars and $430,000.00 represents a fairly significant number of poles, and we probably could go down and use all the data points; however, the retirements start to look - they start to behave a little erratically around, I would say, maybe somewhere between 50 and 60 years. So I cut it off at 47 or 48 years, and Mr. Pous cut his off at 46 years.

MR. JOHNSON:

Q. And cutting it off at 46.5 would be consistent with Gannet Fleming's rule of thumb?

MR. WIEDMAYER:

Page 14

A. It would be consistent with our general rule of thumb, but I explained there are other situations where you'd want to vary, and one of the things you'd want to consider is what am I studying, and if you're studying poles and you really want to have the sample size large enough so that the data points are statistically significant, that's one of the considerations that you might want to consider. You also might want to consider, you know, does the retirement pattern at those age look reasonable. Sometimes you have older dollars that for whatever reason are on the books, but probably have been taken out of service.

MR. JOHNSON:

Q. And I guess -

MR. WIEDMAYER:

A. I see this in other utilities, and I'm not certain, but when the life table starts to behave a little bit erratically that can't be explained by engineering judgment, or when I talk to the operations folks, I would not expect retirement rates to be zero for poles that are 70 years old.

Page 15

MR. JOHNSON:

Q. Now to avoid doing this exercise on the - because you indicated that the rule of thumb was not one that you followed for the transmission, but to avoid doing this exercise for the remaining accounts that are at issue, would you also take, subject to check, and I can give you the references, that for the remaining accounts you likewise did not adhere to the 1 percent Gannet Fleming rule of thumb. In relation to the overhead conductors bare aluminum, would you agree with me that you didn't adhere to the rule of thumb on that one?

MR. WIEDMAYER:

A. We can turn to that life table if you'd like.

MR. JOHNSON:

Q. Okay. That's A-65. The table is at 65, and then the - the graph is at 65.

MR. WIEDMAYER:

A. 66 and 67?

MR. JOHNSON:

Q. Right.

MR. WIEDMAYER:

A. Okay.

Page 16

MR. JOHNSON:

Q. I think my understanding is that the 1 percent would have had you cutting off at 43.5, but you went out to 44.5?

MR. WIEDMAYER:

A. I would have been down one more point.

MR. JOHNSON:

Q. Okay.

MR. WIEDMAYER:

A. 44.5, and that's what we show on A-65. The data points on page A-65 go down to the 1 percent threshold.

MR. JOHNSON:

Q. You go below it, in fact, don't you?

MR. WIEDMAYER:

A. No.

MR. JOHNSON:

Q. You go to 44.5, not 43.5?

MR. WIEDMAYER:

A. This is the beginning of the age interval, so you have to - the 43.5, where there's a - I'll stop until Chris gets it. Can you go down, Chris? The 43.5, where there's 1.1 million dollars of exposure, that's what's exposed at the beginning of the age interval, between

Page 17

43.5 and 44.5. So that point is significant.
MR. JOHNSON:
Q. But you went to 44.5, right?
MR. WIEDMAYER:
A. 44.5 is based upon multiplying the survivor ratio by the percent surviving at the beginning of that age interval. So you have to make the multiplication of what the survivor ratio is for that data point at 43.5, and you multiply that by the percent surviving at the beginning of that age interval to get you down to the next percent surviving.
MR. JOHNSON:
Q. So you used the next percent surviving. That would not be the rule of thumb of 1 percent?
MR. WIEDMAYER:
A. The next percent surviving is based on the dollars that are exposed at age 43.5.
MR. JOHNSON:
Q. Let's put it this way, Mr. Wiedmayer, let's cut to the chase. If the Gannet Fleming computer program that's set up to do the 1 percent, it wouldn't have used that last point, right?
MR. WIEDMAYER:

Page 18

A. No, that's incorrect.
MR. JOHNSON:
Q. Okay, you take exception to that. Underground cables, this is another one that's at A-72 to A-74, and can you confirm for us that if you had adhered to the 1 percent rule, you would have gone to 40.5 years surviving, but you only went to 38.5 years surviving?
MR. WIEDMAYER:
A. I would agree that the chart on page A-72 displays data points through age 38.5.
MR. JOHNSON:
Q. Which would be less than the 1 percent rule that we've been talking about?
MR. WIEDMAYER:
A. Yes.
(9:30 a.m.)
MR. JOHNSON:
Q. Now in terms of -
MR. WIEDMAYER:
A. Well, the opposite, when you say less.
MR. JOHNSON:
Q. I'm sorry, it would be greater than the significant, yeah. Now -
MR. WIEDMAYER:

Page 19

A. Because there are other extenuating reasons in this particular account, and it just so happens to be that the retirement ratios - if we could go back to A-73. Between ages - like, 25 and 35 tend to become more erratic than I would anticipate for this particular account, and we've answered an RFI with respect to this account from the manufacturer of underground conductor, indicating that the cross-linked polyethylene cable - do you want to go to that RFI?
MR. JOHNSON:
Q. That's fine, you can continue on.
MR. WIEDMAYER:
A. Has an expected life of 25 years for the earlier underground cables that were put in before the, let's say, 90s, and then there's a newer type of cable that's expected to have a service life of 40 years or more. My understanding is the company has about 40 percent of the older style cable, and 60 percent of the newer style underground conductor.
MR. JOHNSON:
Q. So the -

Page 20

MR. WIEDMAYER:
A. So that's what - this was an account that I did not necessarily - did not necessarily rely on the results of historical analysis, but there was other considerations that I used in determining my estimate, which I increased from an average of 40 years to 45 years.
MR. JOHNSON:
Q. Right. Similarly, and before leaving the topic, the rule of thumb was not followed for the poles under 35 feet and the poles over 35 feet either, was it, and that's at A-59 to A-61? I think you went to 40.5 years, whereas the rule of thumb would have called for 38.5, would that be right?
MR. WIEDMAYER:
A. The rule of thumb would have gone down one more point, as you had indicated, down to 39.5, but again it's a rule of thumb, and as I've already explained that we sometimes differ from that 1 percent rule of thumb, and one of the considerations is the dollars that are in some of these additional age intervals. So 39.5 percent, there's still some significant dollars relative to poles. So if

Page 21

you would assume a pole that we're looking at for distribution that went in - 40 or 50 years ago went in service at about $200.00, 3 million dollars exposed to retirements is still significant, and probably should be considered on that, but then I would also take a look at the retirement ratios for those age intervals and determine whether or not they are behaving like you would expect a pole to behave at age 40. If I saw 0 percent retired for that particular group of exposures at those ages from 39 to 42, I may consider - I may make the judgment not to include that in my analysis.

MR. JOHNSON:

Q. Let's turn to discussion more broadly of distribution poles account. As you're aware, Mr. Pous has utilized a 57-R1 observed life table recommendation, and I believe you would agree with me that in doing so, Mr. Pous, in arriving at that recommendation relied upon actuarial results for the experienced band from 1967 to 2009, right, and as well the second thing that he relied upon were improvements in treatments of wood poles that

Page 22

has occurred over the years, and the third thing that he relied upon was the initiation of inspection programs by Newfoundland Power. Would that be right, those three things he relied on?

MR. WIEDMAYER:

A. I believe he did, yes. However, I think he made some statements in his surrebuttal testimony that were inaccurate.

MR. JOHNSON:

Q. Okay, well, let's just go down through each one at a time.

MR. WIEDMAYER:

A. Okay.

MR. JOHNSON:

Q. The first factor that he looked at was the use of the experience band from 1967 to 2009. Now you have, as I understand it, criticized Mr. Pous in your rebuttal, and if we could go to your Appendix B, page 22 of 27, the paragraph starting with, "The 48-R1 survivor curve estimate takes into account that while some level of increase in average service life may be warranted, the historical data from the period 2004 through 2009 does not provide the

Page 23

best representation of future expectations", and then you make the sentence, "This is in contrast to Mr. Pous' estimate, which is shown in Figure 10, is based primarily on fitting the 1967 to 2009 data". Mr. Wiedmayer, doesn't this criticism of the use of this band by Mr. Pous, isn't that completely contradicted by what you said about this band in your answer to CA-NP-084, and if we could turn up CA-NP-084, and particularly page 15, and if we go to the bottom of page 14 first, it puts it in a bit of context that we're talking about -

MR. WIEDMAYER:

A. I'm there, Mr. Johnson.

MR. JOHNSON:

Q. Okay.

MR. WIEDMAYER:

A. What page?

MR. JOHNSON:

Q. The bottom of page 14 of CA-NP-084. First of all, we see this is under the topic of distribution, and one of the accounts is poles, and the first couple of lines on the bottom of page 14 - just scroll down a little

Page 24

bit more, please. The first couple of lines talking about the bare copper conductor, and then if we go to the top of page 15, please, first of all you indicate in the first paragraph that, "Newfoundland Power primarily uses wood poles in the system. 35, 40, and 45 foot poles are standard. 30 foot poles are occasionally used as service poles. The primary causes of retirement for poles are decay. Poles are also retired for relocations and damage due to ice storms, woodpeckers, cribbing, etc. Poles are treated with CCA. Some poles are penta treated. Distribution poles are inspected every seven years. The inspection program started in 1997", and then we get into the band issue, "Bands analyzed include the overall experience as well as the most recent 10, 20, 30 year bands. Additionally, bands including data before and after the 2004 accounting change were examined, as well as bands with placements 1967 and subsequent, and one with placements in 1980 and subsequent". Then the statement is made, and this is the very band that Mr. Pous relies upon. "The 1967 to 2009 band

Page 25

represents the data since the merger of Newfoundland Power's predecessor utilities and is considered the most representative of future life expectations for this account". Now Mr. Wiedmayer, are you not precisely criticizing Mr. Pous for using the 1967 to 2009 band, which this document states is the most representative of future life expectations for this account?

MR. WIEDMAYER:

A. We've ran about eight or nine different bands for this account. So we've studied different periods of time. This statement here in 84 is in response to an RFI that Mr. Pous asked in his initial set of data request or RFIs. The wording in this is to indicate that we had an overall band that we could have studied that indicated a shorter life for poles, shorter than what I had estimated of 48 years. So my statement in here was to justify not using 44 or 45 years from using the overall band, but the reason for why I selected a longer life was that the - we just looked at the poles that were added in the last 42 years, there was an increase in service life that I was

Page 26

trying to reflect a trend away from the overall band. So the overall band from 1948 to 2009, the best fit was somewhere in the mid 40s. So the context of this being the most representative is in comparison to the overall band, which indicates a shorter life expectation, but we also had provided in response to an RFI, Mr. Pous, the eight or ten different experience and placement band combinations for this account, including a band that only went up through 2003, which if you read the - if you continue to read on this page 15, where we say at the very last couple of sentences, "Conversely, the experience band through 2003 indicates an average service life of less than 40 years". So when we studied the data through 2003 -

MR. JOHNSON:

Q. But that's a six year band, is it not?

MR. WIEDMAYER:

A. No, it's not. I can tell you - we've already addressed this in RFI. All the different experience bands and placement band combinations, we've provided in response to an RFI. I could take you to that RFI.

Page 27

(9:45 a.m.)

MR. JOHNSON:

Q. Well, I don't think we need it, but you're saying that the statement, the 1967 to 2009 band representing - being considered the most representative of future life expectations for this account. You can't take that as a true statement?

MR. WIEDMAYER:

A. I'm saying it's support for me to increase it above and beyond what the overall band had indicated. The overall band, which studied a period of time from 1948 to 2009, indicated a shorter life than I was recommending. So when I did - when I also analyzed the 1967 to 2009 band, it indicated a longer life than the overall band.

MR. JOHNSON:

Q. The overall band would have taken in what period?

MR. WIEDMAYER:

A. 1948 to 2009.

MR. JOHNSON:

Q. So anything retired in that period?

MR. WIEDMAYER:

Page 28

A. Correct.

MR. JOHNSON:

Q. And that would have included a plant that was put in in the 30s, the 40s, etc?

MR. WIEDMAYER:

A. It's listed. We can - we provided that in RFI responses. I can tell you all the - eight or ten different band periods we analyzed.

MR. JOHNSON:

Q. Well, I guess, this sort of leads me to the next basis that Mr. Pous talked about, and that was the concept of there being improvements in treatments of wood poles over the years, and in this regard, if I could take you to page 23 of 27 of your Appendix B.

MR. WIEDMAYER:

A. In my rebuttal testimony?

MR. JOHNSON:

Q. Yes, sir, and specifically the paragraph that starts off, "In addition to the historical data, Mr. Pous bases his estimate on "improvements in treatment of wood poles and initiation of inspection programs", and we'll come to inspection programs in a few minutes. "However, as was discussed in the section on

Page 29

transmission poles, neither of these factors are actually supportive of a longer life. With regard to pole treatment due to environmental and other concerns, the company has had to more frequently treat poles with CCA, and CCA treated poles have a shorter service life than penta treated poles, which are more common historically. As a result, the trend arising from pole treatment practices is actually towards a shorter life going forward". Now first of all, let's go back to basics for a little bit. You do accept that treated poles, all other things being equal, last longer than untreated poles, right?

MR. WIEDMAYER:

A. Yes.

MR. JOHNSON:

Q. Okay, and that would be the reason that we would treat them, I suppose.

MR. WIEDMAYER:

A. I mean, there is some caveats there, but I'll accept that.

MR. JOHNSON:

Q. Okay. The retirement of untreated poles, they're actually reflected in the actuarial

Page 30

analysis as well, right?

MR. WIEDMAYER:

A. Yes, my understanding the company has - 2 percent of the pole population are untreated poles.

MR. JOHNSON:

Q. Two percent presently out there in the field now?

MR. WIEDMAYER:

A. Two percent presently, and I also believe historically that has been about the relative proportion of the total population.

MR. JOHNSON:

Q. But at some point, you know, they probably weren't treating them, so there were a bigger portion, right?

MR. WIEDMAYER:

A. I believe -

MR. JOHNSON:

Q. Like, from 1933 on?

MR. WIEDMAYER:

A. I believe tomorrow you'll get the opportunity to discuss with the Vice President of Engineering and Operations, Mr. Gary Smith, probably raise that question with him. I'm

Page 31

not certain.

MR. JOHNSON:

Q. Okay, but would you not accept that the impact of the retirements of those untreated poles has reduced the average service life obtained from your actuarial analysis?

MR. WIEDMAYER:

A. Untreated poles are included in my analysis.

MR. JOHNSON:

Q. And they would have the effect of reducing the expected average service life obtained from your analysis, right?

MR. WIEDMAYER:

A. The company does not maintain a database that segregates treated poles from untreated poles in the manner that I can analyze. I make the assumption that the untreated poles have a shorter life than treated poles.

MR. JOHNSON:

Q. Right, and if we make that assumption, which I think is imminently reasonable, would we not also have to conclude that because your data includes the retirement of untreated poles, that that has the effect of reducing the average service life obtained from your

Page 32

actuarial results, that's all I'm asking?

MR. WIEDMAYER:

A. Right, and I'm trying to - and as I mentioned, there are some caveats that I would think Mr. Smith would be better able to answer. Some of the company's untreated poles instead of being - it might be a species like Western Red Cedar that's untreated that may last longer than I have knowledge of in this part of the country.

MR. JOHNSON:

Q. Now there's -

MR. WIEDMAYER:

A. I would think that that would be a question better asked to the Vice President of Engineering and Operations.

MR. JOHNSON:

Q. Okay.

MR. WIEDMAYER:

A. And the company still maintains untreated poles especially near waterways and has historically.

MR. JOHNSON:

Q. But I take it, as a depreciation expert, you would, based upon your experience in working with utilities, you would expect that the

Page 33

presence of the retirement of untreated poles in a company's database would actually bring down the average life expectancy?

MR. WIEDMAYER:

A. I don't - I can't say for certainty with that.

MR. JOHNSON:

Q. That would be your expectation, though?

MR. WIEDMAYER:

A. I really have never done a study of untreated poles separately to understand - poles last differently in different parts of the world, especially wood poles being a natural product. I've done studies in Florida and other parts of the US, in the Gulf Coast region where poles may only last on average 25 years. What we're estimating up here is 48 years on average.

MR. JOHNSON:

Q. This discussion then about the CCA poles and the penta poles, are you aware of what the life is of a penta pole versus the life of a CCA pole?

MR. WIEDMAYER:

A. Not specifically, I do not. However, based on my discussions with Engineering, and this is a

Page 34

question you could probably address to Mr. Smith tomorrow better, the CCA poles are more environmentally friendlier than the penta poles. However, the expectation is that they won't - I don't know if they have a significantly different life, but my - the indication that I heard was that the CCA poles may not last as long as the penta poles, but I have no data to support that other than my discussions with the company's engineering group, as well as some experience with some other Canadian - with the other engineering group talking to other engineering groups in other Canadian companies that have also had similar - had issues with CCA treated poles in Canada.

MR. JOHNSON:

Q. Finally, on this point, Mr. Wiedmayer, I take it you can confirm that neither you nor the company can tell us how many penta versus CCA poles that are out there installed in the field, correct, and I think that was -

MR. WIEDMAYER:

A. No, that's not correct. We responded to an -

MR. JOHNSON:

Page 35

Q. CA-NP-547. Do you have that, Mr. Wiedmayer?

MR. WIEDMAYER:

A. Yes, I have it, yes.

MR. JOHNSON:

Q. In this question we asked to identify the number of poles treated with CCA versus those treated with penta, and when these treatments were first initiated as apples to distribution poles, and we were told that Newfoundland Power doesn't maintain records on pole treatments and is unable to provide the number of poles in service by treatment type, specific dates as to when the treatments were first initiated are also not available. Is that your understanding as well?

MR. WIEDMAYER:

A. Can we go down to the footnotes.

MR. JOHNSON:

Q. Having looked at that now, Mr. Wiedmayer, can you now confirm that neither you nor the company know the answer to this question?

MR. WIEDMAYER:

A. The specific number of poles that are CCA poles versus penta poles is not -

MR. JOHNSON:

Page 36

Q. You don't -

MR. WIEDMAYER:

A. No, but I believe based upon the years in which the company has historically used CCA poles and penta poles, an estimate can be made and Mr. Smith can probably talk about that at length as to what that should be.

MR. JOHNSON:

Q. Going to turn now to the area of the impact of inspections on the average service life of these poles. Mr. Wiedmayer, Mr. Pous indicated that with inspections you would expect service lives to increase, albeit after perhaps an initial wave of early retirements that would be associated with the implementation of inspections and I understand that the question of inspections is in fact relevant to a depreciation expert such as yourself in the sense that that's one of the questions that your firm would ask utility clients in terms of its inspection practices. Would that be correct, Mr. Wiedmayer?

MR. WIEDMAYER:

A. Yes, that would be correct for every account. We would like to know more about what is

Page 37

likely to occur in the future. We would like to discuss what causes retirements from a historical perspective and what will be likely to cause retirements of poles in the future. So we do have those discussions regarding what future causes of retirements are likely to be and if they will be materially different from those past causes of retirements.

MR. JOHNSON:

Q. And inspections would also give indication of opportunities for maintenance? Would that be fair?

MR. WIEDMAYER:

A. That would be fair, yes. They go out and do an inspection, visual inspection, to see what type of condition the pole is in and again, I believe Mr. Smith can address it better.

MR. JOHNSON:

Q. I understand that, but you've indicated to us in one of the data replies that the knowledge that you've gained was that transmission lines were inspected annually using a combination of visual and acoustic inspections and core tests performed on the poles that appear to be deteriorating and that -- I think you report

Page 38

as well that the testing program has allowed the company to better target replacements and maintenance. Do you recall telling us that? CA-NP-084 again, page 13. That paragraph there is what I've just basically put to you where it starts "transmission lines are inspected annually".

MR. WIEDMAYER:

A. Are you on page 13?

MR. JOHNSON:

Q. Yes, sir. This is the transmission line section and if you flip over then you see, at page 15, the statement is made, I think we already touched on it, "distribution poles are inspected every seven years. Inspection program started in 1997." You see that? Correct?

MR. WIEDMAYER:

A. Um-hm.

MR. JOHNSON:

Q. Okay. Now so in relation to the distribution poles account, either under 35 or over 35 feet, that inspection program has been on the go, you know, relative to the time of the cut-off date for your study, that program was on

Page 39

the go over a dozen years and but you -- so, but you don't agree that due to the reliability program that Newfoundland Power has instituted that the poles in service will generally have, for instance, less decay and will be stronger structurally, et cetera, and will lead to a longer life? Do you not accept that?

MR. WIEDMAYER:

A. My testimony is that pole inspections don't lead to longer lives. The poles that -- poles that are identified if they have a problem, they're removed.

MR. JOHNSON:

Q. Could I ask you to turn up page 9 of 27 of your Appendix B? Starting with the word "further", keep going up, going up. Yeah. You indicate in this paragraph, you say "further the impact that reliability program will have on poles will, if anything, also tend to shorten the lives of overhead cables" and then you say "since due to the reliability program, the poles in service will generally have less decay and will be stronger structurally, the impact of the elements such

Page 40

as storms and wind will have less of an effect on poles." And I mean, it seems to me that you're acknowledging that the impact of the reliability program will improve the decay situation, will improve the stronger structural components of the poles so that they'd be less subject to failure and hence provide a longer life. I'm just seeing a bit of a disconnect.

(10:00 a.m.)

MR. WIEDMAYER:

A. What I'm saying is the inspection program identifies poles that need to be either left in service or replaced. So if it's a pole that needs to be replaced because there is an inspection program, it will be removed in the short term. Before the inspection program, the pole would remain in place until it did come down in an ice storm or a high wind storm. So the inspection program in and of itself has not led to longer lives is all I'm trying to convey.

CHAIRMAN:

Q. So you're saying that's based on -- that's an empirical fact?

Page 41

MR. WIEDMAYER:
A. I'm saying that's based on, yeah, the company's operation that they have an inspection program now, they go out and see if there's a problem with the pole. Before the inspection program, the pole would be replaced when it failed. So, you know, they're kind of getting to the pole before it fails, so I'm saying that I don't think the inspection program in and of itself will lengthen the life. Now, I have lengthened the life for this account because maybe they're putting -- the company is putting in a larger class pole in certain areas that's exposed to high winds and perhaps ice loading. That part of the reliability program will lengthen the life, as what I've reflected of lengthening the life. But the visual inspection program in and of itself doesn't lengthen the life.
MR. JOHNSON:
Q. But that's compartmentalizing just going out and looking at the pole. But wouldn't inspection as well give an opportunity to the utility to see if there's poles that can be shored up, for instance, or something done to

Page 42

-- you know, by way of maintenance? Wouldn't that be part of what drives inspections as well or part of the reason for inspections that might prevent a pole from falling or failing?
MR. WIEDMAYER:
A. My understanding from talking to the engineering group is that if the pole is in need of replacement, it is replaced. If it, the company -- my understanding also about the company's maintenance program is that currently they do not do any type of shoring up the pole as you mentioned.
MR. JOHNSON:
Q. Mr. Wiedmayer, could I turn you to CA-NP-88 and particularly Attachment B, the 2010 -
MR. WIEDMAYER:
A. Attachment what?
MR. JOHNSON:
Q. Attachment B, yeah, and I'm going to locate the page here now in a second. Page is not numbered, but if I -- if you scroll down a bit, I'll identify it when I get -- when I see it. Keep going. Keep going. Keep going. Okay, that's the page there. Scroll down a

Page 43

little bit further. This is about routine inspections. Now this page, just for the record, comes from a document that has "Newfoundland Power Depreciation Study 2010, Distribution" on the cover and this is three or four pages in. At the top of the page, you'll see a Table 4. Are you there now?
MR. WIEDMAYER:
A. I'm trying to just get a little bit of context to what this report is that I'm looking at.
MR. JOHNSON:
Q. Okay.
MR. WIEDMAYER:
A. Okay, I'm there.
MR. JOHNSON:
Q. Okay.
MR. WIEDMAYER:
A. Table 4, right? Yeah, okay.
MR. JOHNSON:
Q. Below Table 4, I'm looking at the routine inspections rebuild distribution lines. It indicates "since 1998, Newfoundland Power has had a formal distribution line inspection program whereby distribution feeders are inspected on a seven-year rotation.

Page 44

Inspections are intended to identify and address deficiencies that are a risk to public or employee safety or that are likely to result in imminent failure of a structure or hardware. This is based on established inspection standard. This work is scheduled as soon as practical after the inspection has been completed to ensure the risk to public or employee safety is addressed." And then it goes on "items or issues that have been determined from past experience to be a reliability or safety concern but can wait to be addressed in a systematic fashion in the following construction season" and then they give some examples of lightning arrest reviews, et cetera. And are you -- and then it goes on to say "the program has shown positive results and has become the primary method for reviewing and upgrading the distribution system." And I guess, are you indicating to us that from your knowledge Newfoundland Power, you know, these positive results would not include lengthening the life of the assets and that in fact Newfoundland Power doesn't try to shore up assets when they

Page 45

go through as part of their inspection programs?

MR. WIEDMAYER:

A. I'm not trying to say that, Mr. Johnson. What I'm trying to say is you were talking about poles and now you're onto distribution lines which includes the overhead wire and the pole. So, this document that you've brought me to where item 2A talks about installation of lightning arrestors, replacement of insulators, installation of current limiting fuses. What I'm indicating is that for the pole inspection, the company does a visual on the pole and determines whether or not it needs to be replaced. So I think in context of your earlier question, does the pole inspection program lengthen service lives, I'm saying not necessarily because in the past, before the inspection program was implemented, that pole would stay in service until it failed. And that to me, it seems like the pole inspection program is not necessarily the reason for lengthening the lives. I would agree that if you're putting in a better pole than its predecessor, that would be a reason

Page 46

for increasing the life, as I have for both transmission and distribution plant accounts.

However, just as we talked about yesterday with the stainless steel tanks on the line transformers, there was indication from the engineering group that told me what the relative percent of the line transformers now have the better material, the stainless steel tanks that last -- that are resistant to corrosion, that last longer than the steel tanks. So from that, I adjusted the service life from what has been historically experienced of 30 years upwards to an estimate of 40 years. All I'm saying about this pole inspection program is that it's not a reason for lengthening lives.

MR. JOHNSON:

Q. But it can?

MR. WIEDMAYER:

A. Pardon?

MR. JOHNSON:

Page 47

Q. But it can lengthen lives?

MR. WIEDMAYER:

A. Well, if it's in connection with doing some other type of work.

MR. JOHNSON:

Q. To your knowledge, would pole manufacturers suggest maintenance in order to try to elongate the lives of the poles?

MR. WIEDMAYER:

A. I'm not familiar with what pole manufacturers would recommend.

MR. JOHNSON:

Q. Regarding the topic of net salvage, and this relates to the overhead services, which is the -- Mr. Wiedmayer, this -- if we could turn up III-7 of your report? I'm sorry, I misdirected on that. If we could -- yeah, no, III-7 is right actually. No, that's right. If we could make it a little bigger? Okay. If we scroll down we see 365.1 on the left-hand side, services overhead, and then we see the net salvage percent column is over at the fourth column and it's a -60 in this case, right?

MR. WIEDMAYER:

Page 48

A. Yes, Mr. Johnson.

MR. JOHNSON:

Q. Okay. And I think as you referred yesterday in your direct with my friend, Mr. Kelly, essentially the concept is that for every dollar in investment made by Newfoundland Power in services overhead that they are proposing to recover $1.60 through depreciation on the rationale that you need to recover the cost of removal of these overhead services when the plant retires, whenever it is. Is that right?

(10:15 a.m.)

MR. WIEDMAYER:

A. Yes, that would be correct.

MR. JOHNSON:

Q. Okay. Now we see here in the fifth column that the overall account contains 76.5 million dollars in terms of that was the original cost. So essentially the cost of removal would be about 46 million dollars in addition to that figure to come up with the negative net salvage figure? Would that be right, in that vicinity?

MR. WIEDMAYER:

Page 49

A. Subject -- yes, I would say that's about right.
MR. JOHNSON:
Q. Okay. Now I understand that the proposal of the company here is on the assumption that 50 percent of the labour costs incurred when retiring and replacing a service to a customer is allocated to the cost of removal with 50 percent being allocated to the labour with actually installing the replacement service? Is that your understanding?
MR. WIEDMAYER:
A. Yes, that's my understanding.
MR. JOHNSON:
Q. And you've stated that -- I believe you've stated that that is a reasonable breakdown of the labour. Would that be right?
MR. WIEDMAYER:
A. My understanding is just simply that is the company's allocation.
MR. JOHNSON:
Q. Okay. So you're not able to say whether that allocation is reasonable?
MR. WIEDMAYER:
A. We responded to an RFI that specifically

Page 50

addressed the detailed work task related to this in 6 -- RFI 670.
KELLY, Q.C.:
Q. I think it may be 680.
MR. WIEDMAYER:
A. 680, thank you.
MR. JOHNSON:
Q. Mr. Wiedmayer, I think this is where the company provided a breakdown of the tasks associated, travel to the customer residence, discuss with the customer, et cetera, et cetera. I'm familiar with the response. But what I'm asking you is do you have any basis to say that their response is reasonable or did you just rely on it?
MR. WIEDMAYER:
A. Reading through this response and understanding that that is their company policy, I could say that I believe that it is reasonable, based upon this detailed list of the tasks involved in replacing an overhead service, yes.
MR. JOHNSON:
Q. So there would be just as much -- you think it would be just as reasonable to say that

Page 51

there's just as much labour associated with removal of a service as putting the service in in the first place?
MR. WIEDMAYER:
A. Yes. And the 60 percent negative for overhead services is quite typical for that particular plant account.
MR. JOHNSON:
Q. In your experience, does Gannett Fleming also propose lower negative net salvage figures than 60 percent for that category?
MR. WIEDMAYER:
A. I believe we do. I mean, subject to check, I can provide. I mean we do hundreds of studies that I'm sure there are some that are higher and I'm sure there are some that are lower. I would say that, yes, we would propose lower. However, you know, every company is somewhat unique with regards -- I mean, just the travel time to get to some customer locations varies if you're in a high dense population area versus a population area that's less than. So just the travel time getting to a customer location could vary from utility to utility. So I'm hesitant to make -- just rely solely on

Page 52

that, but to answer your question, yes, we estimate higher and lower. I would think that that would be true, not having the numbers in front of me, yes. But I've seen companies that also use negative 100 percent or higher.
MR. JOHNSON:
Q. And some companies that would use considerably lower than the 60? Yes?
MR. WIEDMAYER:
A. Yes.
MR. JOHNSON:
Q. Those are my questions. Thank you, Mr. Wiedmayer.
CHAIRMAN:
Q. Madame.
GREENE, Q.C.:
Q. Good morning, Mr. Wiedmayer.
MR. WIEDMAYER:
A. Good morning, Ms. Greene.
GREENE, Q.C.:
Q. Could we bring up Exhibit R-1, please, in the company's rebuttal evidence? So it's Exhibit R-1 in the Newfoundland Power Corporate Rebuttal Evidence. It is the Table 1 which is the survey for Canadian -- thank you. And

Page 53

we've already talked or you have already talked with Mr. Johnson with respect to the practice in Canada and I just wanted to bring this up on the screen to remind people of what that evidence had been. From looking at Table 1, would you agree that at least in Canada the use of the average life group procedure and the equal life procedure, both procedures have been accepted and used by utilities in Canada? Would you agree with that?

MR. WIEDMAYER:

A. Yes, I would.

GREENE, Q.C.:

Q. And regulators have also approved the use of both ELG and ALG as a depreciation procedure here in Canada?

MR. WIEDMAYER:

A. Yes, I would agree with that and as you can tell from the companies listed in both columns, which province, which jurisdiction, each of these procedures have been affirmed.

GREENE, Q.C.:

Q. Okay. In this particular proceeding, Newfoundland Power has been using the equal life group procedure for several years, in

Page 54

excess of 30 years. I'm sorry, the equal life group procedure for at least 30 years. And based on your experience, is it common or frequent for a utility first to apply to change from one procedure to another, and then if it is, I wanted you to tell us why that -- why would a utility do that? We can talk about Hydro if you like, because we just saw that as an example. So first, is it a frequent occurrence for a utility, one that has been using an approved procedure for several years, to apply to change the procedure, in your experience?

MR. WIEDMAYER:

A. It is not a frequent occurrence in my experience.

GREENE, Q.C.:

Q. Well, let's talk about what might drive a utility first to apply to change an accepted procedure for depreciation and we can talk about Newfoundland Hydro, which as you know, was just approved to use the ALG procedure. That wasn't a change per se.

MR. WIEDMAYER:

A. Yes. Newfoundland Hydro, based on my

Page 55

understanding, was using the sinking fund method, which is a methodology that is not seen frequently in utility rate making, so the change to a more commonly used procedure was adopted.

GREENE, Q.C.:

Q. And it was adopted in conjunction with a change in method as well. Is that correct? They moved from the sinking fund method to the straight line method, so they were looking at a significant change in how they were approaching depreciation? Is that correct?

MR. WIEDMAYER:

A. Yes, that is correct.

GREENE, Q.C.:

Q. What -- can you think of other factors in your experience that would motivate a utility first to apply for a change in procedure, such as we have in this circumstance?

MR. WIEDMAYER:

A. I would believe, you know, it does -- it would take careful consideration as to which procedure is the one that best matches the consumption in the service value of the asset. And the equal life group procedure has been

Page 56

demonstrated and discussed in authoritative text as being that procedure. Robley Winfrey, who developed the Iowa type survivor curves back in the 1920s and '30s, indicated that it was the mathematically correct procedure to use. However, it wasn't adopted prior to the advent of computers because it required a lot of numerous calculations to figure out what the rate would be that a computer can handle very quickly. And it's a matter of -- yes, so I would say that's what kind of slowed its adoption was the fact that it required -- before computers, it required a lot of numerous calculations that a computer can handle today very rapidly. It's almost a toggle on toggle off switch now, that if you want to select a different procedure, you can.

GREENE, Q.C.:

Q. I just wanted to follow up on that. I understood from your answer and from your previous testimony that in your opinion the equal life group procedure is a more -- a better match, as you've just described, with the service life asset. In your view, would you say it is a more appropriate methodology?

Page 57

MR. WIEDMAYER:
A. Yes.
GREENE, Q.C.:
Q. However, you also see that the average life group procedure has been accepted in Canada by utilities and by regulators? Is that correct?
MR. WIEDMAYER:
A. Yes.
GREENE, Q.C.:
Q. Would you suggest that the utilities using the average life group procedure for a number of years, as shown in that table, should apply to change their procedure to the equal life group procedure?
MR. WIEDMAYER:
A. My answer is, absent all other factors, not knowing exactly where the company is with regard to recovery and future plans of capital expenditures, my recommendation would be, yes, that I believe that they should adopt the equal life group procedure, absent all other external information.
GREENE, Q.C.:
Q. And what would be the types of factors that could influence them to not so apply?

Page 58

MR. WIEDMAYER:
A. Well, I believe the case that you had before you here with Newfoundland Hydro, I would say we recommended it, however I believe the change from a decelerated sinking fund method to the equal life group procedure in one conversion may have been -- may have caused too large of a shock to -- too large of an increase to the customers. So I would say there are some extenuating circumstances.
GREENE, Q.C.:
Q. Can you think of others besides the impact on customer rates arising from the change that would prevent a utility from going to the equal life group procedure, if it is a superior method?
MR. WIEDMAYER:
A. Well, there's the time and expense of convincing regulators to adopt a methodology that would increase depreciation in the short term. But in this province, Newfoundland Power has been using 30 years -- using the equal life group procedure for 30 years that the rate base, as we've discussed before, has been reduced significantly because of the

Page 59

higher depreciation expense that the equal life group procedure calculates relative to other procedures.
GREENE, Q.C.:
Q. So obviously your recommendation to the Board would not be to consider a change in the procedure at this time?
(10:30 a.m.)
MR. WIEDMAYER:
A. Yes, that is correct.
GREENE, Q.C.:
Q. The purpose of depreciation is to recover the appropriate depreciation expense over the life of the asset. So, in theory, the same amount of money should be recovered, whether you use the average life group or the equal life group. Is that correct, Mr. Wiedmayer?
MR. WIEDMAYER:
A. Yes, that is correct. Under both procedures, no more or no less than the original cost of the asset will be collected over its life.
GREENE, Q.C.:
Q. So what we're talking about is the time period over which the expense gets collected? That's one of the main reasons driving the

Page 60

consideration of the questions on service lives in this particular proceeding, isn't it?
MR. WIEDMAYER:
A. Yes. Service lives do have an effect on the rate of recovery of the original cost of an asset.
GREENE, Q.C.:
Q. If we could look at your rebuttal evidence, Appendix B, page 1 of 27?
MR. HAYES:
Q. Excuse me just a second, Mr. Chair. He's having a problem with the sun.
GREENE, Q.C.:
Q. Oh, sorry.
MR. WIEDMAYER:
A. There's glare coming off of that right in my eyes.
MR. HAYES:
Q. Is that better?
MR. WIEDMAYER:
A. Can you pull the shade down?
MR. HAYES:
Q. Okay. Well, I'll leave that to you, Jackie.
CHAIRMAN:
Q. We're not used to the sun around here in the

Page 61

winter, you know. Want everything wide open.
MR. WIEDMAYER:
A. I thought it was intentional, getting a third degree.
GREENE, Q.C.:
Q. And it's not that I'm bathed in the glow here either.
CHAIRMAN:
Q. That's a matter of opinion.
GREENE, Q.C.:
Q. Okay. And the only reason for looking at this particular table that you see there, it helps illustrate some of the -- a couple of questions that I have. First, I believe you've already testified that you looked at 57 property groups and made recommendations with respect to the appropriate service lives for 57 groups. Is that correct?
MR. WIEDMAYER:
A. Yes, that's correct. 57 mass property groups.
GREENE, Q.C.:
Q. And I also understood from your evidence that when you look at what is the appropriate survivor curve and what is the appropriate service life, it is a question of judgment and

Page 62

I think at one stage you called it informed judgment. Is that correct?
MR. WIEDMAYER:
A. Yes, that would be correct. You would want to consider all of the relevant and important factors.
GREENE, Q.C.:
Q. And I think to summarize, you have outlined that historical experience is very important and that's why you look at the experience bands. Input from the company with respect to their experience in placing and maintaining the asset is very important. Industry comparisons is also important with respect to that. And also, you're looking at industry practices to see whether the past experience is representative of the future. Are there other factors that you take into account when you come up with what the service life is for a particular group that I have not mentioned?
MR. WIEDMAYER:
A. You covered most of them. The one that I would add is the previously approved estimate that the company is using.
GREENE, Q.C.:

Page 63

Q. Okay. And in this particular case, your recommendation related to the 57 property groups. Now Mr. Pous has only taken exception to seven of those groups. Is that correct?
MR. WIEDMAYER:
A. Yes.
GREENE, Q.C.:
Q. So obviously -- I'll ask Mr. Pous this question, but at least he did not object to 50 of them, so when looking at this information, is it correct to say that an expert, looking at the data that you have explained and all of the factors, may come to different opinions with respect to the appropriate service life for a particular group?
MR. WIEDMAYER:
A. Yes, that's a fair statement.
GREENE, Q.C.:
Q. Because obviously again if it was as simple as looking at it and all coming to the same conclusion, it would not be quite as complicated as what we've heard, and you would not need to be necessarily an expert to do that. Is that correct?
MR. WIEDMAYER:

Page 64

A. That's correct. It does require judgment and experience in performing these studies.
GREENE, Q.C.:
Q. And why I asked that we go to this particular table, this lists the seven accounts where Mr. Pous has made a recommendation for a longer service life and of course, the longer service life means the depreciation expense is spread over a longer period of time, so it would lower the revenue requirement in this particular proceeding, and I will pursue with Mr. Pous why obviously he didn't recommend any reductions in service lives, but in this particular case, the seven are longer service lives. I know there was some discussion in your evidence with Mr. Johnson as to why you believe that some of Mr. Pous' recommendations were too dramatic, too significant, and I just wanted to -- for you to summarize that for us. For example, when you look at the very first one, transmission poles, your recommendation is 47, up from 44 before, and we see that Mr. Pous and the Consumer Advocate is recommending an increase to 51. Now when you look at it on the surface, being if you're not an expert and

Page 65

you're not used to reading any -- knowing about depreciation, an increase from 47 to 51 wouldn't appear to be material, unless of course we're talking about age, because I would much rather be 47 than 51. So can you just summarize why -- how the Commissioners, in looking at this, should look at how they judge the materiality of your recommendations versus Mr. Pous' recommendations and why they really -- you view Mr. Pous' recommendations as too significant and dramatic to be accepted?

MR. WIEDMAYER:

A. Okay. Yes, my recommendations for this particular account shows an increase of approximately -- an increase in percentage of about 6.8 percent while Mr. Pous is recommending about approximately a 15. 9 percent increase. This is the increase in the service life. Now I believe in Mr. Pous' testimony, he's quantified the impact, the dollar impact of those changes on depreciation expense. I'm not sure if you'd like to turn to where he has made that quantification.

GREENE, Q.C.:

Page 66

Q. If you want to do it.

MR. WIEDMAYER:

A. I mean, it's something that we could either provide or it's been provided.

GREENE, Q.C.:

Q. I believe for the first one it's roughly $175,000 reduction. Is that correct?

MR. WIEDMAYER:

A. Do you have the page?

GREENE, Q.C.:

Q. Page 20 of Mr. Pous' evidence. You see all of them with respect to what the impact would be on depreciation expense.

MR. WIEDMAYER:

A. Just a second. My binder came loose. Okay, yes, page 20, yes. The first one, yes, his recommended adjustment for account 355.1 Transmission Poles is $175,000 reduction.

GREENE, Q.C.:

Q. And what I wanted you to explain at a very high general level, without going into each account, is his recommendation is only a four-year increase from what you have recommended and what are the guiding factors that the Commissioners should take into account in

Page 67

looking at how do they determine whether it is a dramatic or too dramatic and too significant to impose in one particular study?

MR. WIEDMAYER:

A. Well, in performing these studies for companies both in Canada and the US for 26 or 7 years for clients that I've performed these studies for repeatedly over multiple five-year intervals, I usually don't see, for these particular accounts, mass property accounts such as transmission poles, distribution overhead conductor, a significant change from the previous study.

GREENE, Q.C.:

Q. And of course, this page doesn't have the current approved service life for the asset, which is why I had gone to your table.

MR. WIEDMAYER:

A. Yes, that's correct.

GREENE, Q.C.:

Q. So one important factor obviously is, in your view, you have to consider what the current approved service life is versus what's being recommended, as opposed to, as I said, in this particular one, you're only going from your

Page 68

recommendation to Mr. Pous'.

MR. WIEDMAYER:

A. Yes, yes. I would consider what the previously approved survivor curve to be a factor that you would want to consider.

GREENE, Q.C.:

Q. And in your -- based on your experience and in your expert opinion, that is to be done on a gradual basis as you get experience you continually change the service life to reflect your actual experience? Is that correct?

MR. WIEDMAYER:

A. Well, gradual would be absent any external information.

GREENE, Q.C.:

Q. Yes.

MR. WIEDMAYER:

A. If the engineers have told us that they would expect the past to be representative of the future, I would not expect for these particular accounts any dramatic changes, such as the ones that Mr. Pous has proposed. Now I have made some changes myself that have differed from the historical indications, as I indicated with the line transformers that

Page 69

indicated a service life in the low 30s and we've increased the life to 40 years based upon the input as to what the company's plans are with respect to replacing the older steel transformers with the stainless steel transformers that should be more corrosive resistant.

GREENE, Q.C.:

Q. Okay. Thank you, Mr. Wiedmayer. That concludes my questions. Thank you.

COMMISSIONER NEWMAN:

Q. No questions.

CHAIRMAN:

Q. Anything?

COMMISSIONER OXFORD:

Q. No.

CHAIRMAN:

Q. Just a quick question. Are you finding when you're doing these depreciation studies and looking at replacement, are you finding any deflation in prices? Like I'm thinking like in cars, like car dealers will tell you, you know, if you spend 40 grand on a car these days, you're going to get a lot more bang for your buck, I guess because of the, you know,

Page 70

increased presence of electronics and stuff like that. But is that happening in the utility business as well? Have you noticed in your what, 26 years of experience?

MR. WIEDMAYER:

A. I would say -- I mean deflation in the sense of -

CHAIRMAN:

Q. Well, you're getting better bang for your buck or prices are dropping. Like you mentioned this switch from, you know, from a conventional to a stainless steel extends the service life.

MR. WIEDMAYER:

A. Yeah.

CHAIRMAN:

Q. But is stainless steel more expensive per unit than regular?

MR. WIEDMAYER:

A. Well, yes, it is. It is more expensive per unit, but the areas that the company was initially going after were in some of the more high -- were in the coastal areas where the corrosion was extensive, where the steel tanks were -- had a life shorter than 30 years. So

Page 71

you go after the worst areas first, you know, with a better product that's more corrosive resistant. So the tanks that normally -- that previously were being replaced after 10 or 15 or 20 years, you know, now you would expect a longer life, so the justification of spending more on the better tank, the stainless steel material, is justified in those areas.

CHAIRMAN:

Q. And when you're doing your estimates like for -- you know, for the -- like the seven accounts that are in, I guess, in dispute, I mean, you're basing your estimates of the service life on your observations, your work with Light and Power over an extended period of time, but you also got a database of similar -- the same assets operating in different circumstances. I mean, there's just -- it would seem to me there's a vast amount of information available that you use in reaching a conclusion as to what you think is a reasonable service life?

MR. WIEDMAYER:

A. Yes. That lends itself to Gannett Fleming's experience in performing these studies in, as

Page 72

I mentioned, all 50 states and ten Canadian provinces. Yes, we have a database of what others are using. I don't necessarily like to substitute the average service life of what an electric utility in BC or Nova Scotia for the company's experience. I would like to use what the company has experienced as the basis for the estimate initially before I talk to the engineers. So I don't -- I usually like to just use that as kind of a reasonableness check. Like at the end of the day, when I make the estimates, how does that estimate compare with other electric utilities, just so that I'm not misled by the company's data.

CHAIRMAN:

Q. And that's your informed judgment?

(10:45 a.m.)

MR. WIEDMAYER:

A. That's my informed judgment.

CHAIRMAN:

Q. And you're telling us now, so that we understand, that in terms of the intergenerational equity and matching service lives with retirements, assets, yada yada yada, that the system that we have developed

Page 73

here over the last 30 years is -- it's fair and it's equitable. It doesn't impose an unreasonable penalty on current consumers or future -- current users of electricity, current consumers or future consumers? You're satisfied with that?

MR. WIEDMAYER:

A. Yes, sir.

CHAIRMAN:

Q. Do you got any further -

KELLY, Q.C.:

Q. I have one area of redirect. Mr. Wiedmayer, my friend, Mr. Johnson, asked you some questions about the crossover period if you were to revert to ALG and he took you to CA-NP-620 and you had a discussion with him about short term and you made the observation that that's a relative concept, and in order to give that some context for the Board, can I take you down to this RFI to down to around line 24?

MR. WIEDMAYER:

A. Yes.

KELLY, Q.C.:

Q. 23. Or I'll go back to 22. "The company has

Page 74

performed an analysis to estimate the potential range of time during which the crossover point is likely to occur. This constituted an analysis for a single plant account" and then there's some other factors and if you go down to the footnote, the plant account chosen was bare aluminum conductor for estimating the crossover point which back on line 35 is 11 to 15 years. So to put that 11 to 15 years in context, what's the estimated service life for bare aluminum conductor?

MR. WIEDMAYER:

A. A bare aluminum conductor, I'm estimating it to have a 55-year average service life. So in context to the account that was modelled in this analysis of when the crossover will occur, 11 to 15 years is short, relative to the life of a 55-year asset such as bare aluminum conductor.

KELLY, Q.C.:

Q. Thank you, Mr. Wiedmayer.

CHAIRMAN:

Q. So just, what does that mean? I didn't quite -- just tell me what it means.

MR. WIEDMAYER:

Page 75

A. The question was when does the cross -- when would a crossover take place, meaning when does the return on rate base -- we modelled when the revenue requirement would be more -- at what point in time would the revenue requirement be more beneficial under the ELG approach versus the ALG approach because initially depreciation -- well, depreciation expense is higher under ELG than ALG, but there is an effect on the rate base because accumulated depreciation is subtracted from the original cost of property. So, in context of when that cross -- we were asked an RFI in CA-NP-620 where we said for -- so we tried to model it using one account because to model all of the accounts with all the assumptions is an enormous undertaking, so for one particular account that we used bare aluminum conductor, which is one of the largest accounts the company has and it is typical of where most -- like it's a distribution account that had a 55-year average service life. We're saying relative to that 55-year average service life, an 11 to 15 year period is a relatively short term, relative to the 55.

Page 76

CHAIRMAN:

Q. I guess we're finished with this witness, are we?

KELLY, Q.C.:

Q. Yes, Mr. Chairman.

CHAIRMAN:

Q. Well, we'll break now. This is probably a good appropriate time.

(BREAK - 10:49 a.m.)

(RESUME - 11:25 a.m.)

CHAIRMAN:

Q. So we now have your witness, Mr. Johnson.

MR. JOHNSON:

Q. Yes, sir.

CHAIRMAN:

Q. Sir, I understand you wish to be sworn in.

MR. POUS:

A. That's fine.

MR. JACK POUS, SWORN

MR. JOHNSON:

Q. Thank you, Mr. Chairman. Just by way of introduction, your name is Mr. Jacob Pous, you go by Jack, and I understand that you are the principal of Diversified Utility Consultants out of Austin, Texas?

Page 77

MR. POUS:
A. That's correct.
MR. JOHNSON:
Q. And can you tell us, Mr. Pous, about your education background and experience?
MR. POUS:
A. I graduated in, long time ago, 1972 with a degree -
CHAIRMAN:
Q. That's not long.
MR. POUS:
A. I agree with you, okay. With a degree of engineering and I was hired directly out of college with an electric utility company in their rate department for the sole -- not the sole, one of the main purposes was to be a depreciation analyst for them, and I went on to get a Masters degree, Masters of Science in Management and I've been in the utility rate making business for basically 40 years. I've been in approximately over 400 rate cases, done over 200 depreciation studies, maybe over 300. I've worked for -- testified on behalf of six regulators, one of which was a Canadian provincial entity, five state regulatory

Page 78

bodies, hundreds of municipal regulators, attorney generals' offices, industrial customers, a whole school of customers over the time period, also wholesale electric utilities themselves, and I've testified up here or submitted testimony in the Hydro proceeding here and this proceeding. I've testified in four jurisdictions in Canada and dozens in the United States.
MR. JOHNSON:
Q. Mr. Pous, in this GRA, you have filed direct testimony dated November 28, 2012, as well as surrebuttal testimony dated January 18th, 2013, and are there any errors or omissions that you have spotted?
MR. POUS:
A. Yes, there are probably a handful.
MR. JOHNSON:
Q. Okay. Could you tell us what they are?
MR. POUS:
A. I'll try and find them all. The first one is on the original evidence on page 42, line 13, in the middle of the sentence. It says "given the company's proposed ASL of four years". It should be "44 years."

Page 79

KELLY, Q.C.:
Q. What line is it?
MR. JOHNSON:
Q. Line 13.
MR. POUS:
A. And then turning to the surrebuttal, page eight, line 26. It says "the company selected a 42-R3." That should be "a 45-R3".
MR. JOHNSON:
Q. Okay.
MR. POUS:
A. Let's see. The next change, it's a little longer. This is on page 29 of the surrebuttal, the last two lines, line 29 and 30. On line 29, it says "provided was that" and after the word "that" the rest of the line and the following line need to be stricken and the first word on the top of page 30 needs to be stricken and replaced with "there is a capital budget to replace sections of lines and that there is an inspection program."
MR. JOHNSON:
Q. Perhaps what we could do is just file something in writing, just to confirm for sure what he meant to say in that page.

Page 80

MR. POUS:
A. Okay. There are still, I think, two more changes.
MR. JOHNSON:
Q. Okay.
MR. POUS:
A. Page 33, line 21, the middle of the sentence after the comma, it says "which represents". It should say "and" instead of "that" and then continue on "40 percent of the investment" strike "at issue" and put in "has been added in the past decade."
And I believe there's one more change. Yes. Page 52, line 25, sentence says "yet in spite of his future," the word "future" should be "failure."
MR. JOHNSON:
Q. Okay.
MR. POUS:
A. With those changes, those are all the ones I've identified at this point.
MR. JOHNSON:
Q. Okay. Subject to those amendments, do you adopt the evidence you have filed, Mr. Pous?
(11:30 a.m.)

Page 81

MR. POUS:
A. Yes, I do.
MR. JOHNSON:
Q. Okay. I'm going to ask you a number of questions now about ELG and ALG. First question, is the adoption of ELG or ALG an election or is it mandatory to select ELG?
MR. POUS:
A. The selection process, it is a selection process with the exception of two jurisdictions that I'm aware of currently. Alberta province requires filing with ELG and the Railroad Commission of Texas requires filing with ELG at this point. Other than that, it's a selection process by the utility and it becomes a contested issue.
MR. JOHNSON:
Q. Mr. Pous, can you address the level of acceptance of ELG depreciation calculation procedures in the energy industry in North America?
MR. POUS:
A. Yes. First, starting with the Federal Energy Regulatory Commission in the United States, it denies, does not accept, ELG. It accepts ALG

Page 82

calculation procedure. The FERC regulates at a wholesale level gas and pipeline and electric system sales and it's not just interstate or intrastate. It's both. It's any wholesale transaction, other than one electric reliability council in Texas, which is an island to itself. All other jurisdictions in the United States are subject to FERC regulation. That's FERC.

Then we go to state. The United States Commissions. The vast, vast majority utilize ALG. The listing of ELG by Mr. Wiedmayer yesterday, I think it was seven -- six or seven states. He added the State of Wyoming and Idaho. I'm not familiar with Wyoming. I can tell you in Idaho, I did the Idaho Power case, which is the major company in Idaho, this past year with Gannett Fleming on the other side. It was an ALG filing. I did review their 2005 filing as part of that process. They originally filed the case on behalf of Idaho Power in 2005 based on ELG and the company asked them to refile -- the company asked them to refile on an ALG basis. So to my knowledge, Idaho is not an ELG state.

Page 83

Now turning to Canada, we have a survey that's been presented by the company that indicates that approximately 50 percent of the utilities surveyed utilize ELG, where less than that, but still close to half utilize ALG. The survey is incomplete. That was admitted to. And the thing to recognize about Canadian acceptance is that the majority of Canadian utilities listed on the survey come from Alberta, where it is mandatory to file on an ELG basis, and whether that stems from chairman of the commission, decade ago or so, a little longer than that, who came from the telephone industry as a depreciation analyst and believed strongly in ELG depreciation.

So I think I've covered FERC, US. Oh, last one, Gannett Fleming itself. Gannett Fleming itself has admitted that -- or Mr. Wiedmayer has admitted on behalf of Gannett Fleming that about 80 percent of its filings are ALG, not ELG based and that 80/20 split was indicated to be subject to the weighting of the Canadian impact. So if you take out the Alberta impact from that, it would probably be -- it would be north of 80 percent

Page 84

associated with the acceptance or filing their recommendation on an ALG basis.
MR. JOHNSON:
Q. Mr. Pous, you are aware that this Board adopted ELG for Newfoundland Power in the early 1980s. Do you believe that the Board was in error at that time to have adopted ELG?
MR. POUS:
A. At that time, I probably would have adopted ELG also. ELG had just come out of the genesis of the telephone industry and was not a well-analyzed issue. It was, in academic aspects, known for 50 years or so, but it hadn't been pushed. Telephone industry pushed it in the '70s. I was doing depreciation analysis in the '70s and at that time, based on the knowledge I had at that time, I probably would not have argued with ELG. I now have the benefit of knowing how it works in greater detail in the real world of utility operations and recognize that it is inappropriate.
MR. JOHNSON:
Q. In light of the fact, Mr. Pous, that the Board did approve ELG about 30 years ago or so and

Page 85

has approved depreciation studies since based on ELG, why are you recommending that the Board revisit the ELG issue in this proceeding?

MR. POUS:

A. It's a concept of changed circumstances. We learn, we grow, especially when you have what's considered a relatively new issue before you, and in the '70s when it was adopted, it was a relatively new issue and people didn't have any great knowledge. I can tell you with my experience across the United States and in Canada, there are very few people who understand ELG versus ALG or would even want to talk about it. So, I'm one of those strange people who understand it, have looked at it, have analyzed it and this is the type of information that I provide to commissions who are interested in seeing the relationship between the theoretical correctness of ELG, and I don't deny that, versus the real world application and how it works for utility operations and it does not work anywhere near the relationship that you would think of from a mathematical standpoint.

Page 86

MR. JOHNSON:

Q. Mr. Pous, do you agree with the company's position that the proposal to adopt ALG or to keep ALG is a short-term benefit to present -- I'm sorry. Do you agree with the company's position that the proposal to adopt ELG -- or ALG would be a short-term benefit to present or current customers that would come at the expense of future customers?

MR. POUS:

A. Well, to the extent I agree with Mr. Wiedmayer, it's that it is -- short term is a relative term, but I place it to you in this case, when somebody tells me 11 to 15 years, that's a pretty good chunk of my life and I don't consider that short term. Second of all, even if placed in the context of the bare aluminum wire category, 55 year average service life, 11 years is approximately 22 percent. 15 years I think would be about 27 percent. That's about a fourth of the life of the expected service for that investment. To claim that that's short term, I just don't think so. And put it another way, the customer growth as projected by the company, I

Page 87

think it's 1.4 percent. If you compound 1.4 percent for 11 to 15 years, you get about a change of at least a 20 percent change in customer base during that time period. So I don't think that's considered short term from a relative standpoint, even from the customer base standpoint.

MR. JOHNSON:

Q. Mr. Pous, why is the average life group procedure for calculating depreciation expense the more appropriate expense from the standpoint of the matching principle and intergenerational equity?

MR. POUS:

A. There's a couple ways to look at this. First of all, the actual development of the life characteristics in the first place is a broad brush average of analysing various vintages, various band analysis, various items of information, various types of data within the same account, that these items don't have the same useful life but they're banded together for accounting purposes. So you developed everything on an average basis and then you want to use a totally different basis for

Page 88

allocating the cost to customers.

Now, the other aspect -- which you shouldn't do. To be consistent, if you develop it on an average basis, you should implement it on an average basis. Now from an intergenerational and matching principle standpoint, if we could obtain the mathematical precision that is implied by Mr. Winfrey, and I agree with him, if you can do it, fine, but I'm here to say that to be precise, you would have to have the ability to slice history or the future transactions for every vintage of edition that's from let's say 1933 through the present and every new addition that's added, you'd have to slice that into 50 to 100 year slices and precisely estimate how that would retire -- each one of those would retire each year. If anyone can even come close to doing that, they should be in Las Vegas betting at the tables. In reality, you just cannot do it. And if you look at the actual data of the company, it does not follow those patterns. And when you don't follow the patterns, you magnify the degree of error which has to be trued up in

Page 89

the remaining life calculation or the reserve variance calculation. And so, in order to minimize the error over time, the average is the best approach.

Second of all, the concept of accelerated depreciation comes into play. Now, the classic definition for accelerated depreciation is higher depreciation in earlier years and later depreciation in later years -- lower depreciation in later years. What we've taken, Mr. Wiedmayer puts in his testimony and even stated, either today or yesterday or maybe both, that ELG does produce a higher revenue requirement in earlier years and tapers off in later years. That's the classic definition of accelerated depreciation, which then goes to intergenerational inequity. Customers have overpaid their fair share. Current customers are receiving the benefit currently of the overpayments historically by customers from 1978 through the present. Future customers will continue to receive additional benefits if you continue the ELG because current customers now will pay too much compared to what they should be paying.

Page 90

However, in order to get the situation back to where it should be, there is that crossover and we've talked about 11 to 15 years. So for an 11 to 15 year period, there will be a lower revenue requirement for customers that will taper away during that period in order to put the company back to where it should have been all along from a rate base standpoint. So customers will then start paying what they should have been paying all along. They've underpaid -- they've overpaid historically so that current customers underpay now. To right the ship, there has to be a crossover process yet again going the other direction.

MR. JOHNSON:

Q. You've indicated that ELG is an accelerated form of depreciation and again, the basis for that statement?

MR. POUS:

A. The classic definition of accelerated depreciation, I can't emphasize this enough, if it's higher in earlier periods and lower in later periods, it's not straight line. You can call -- I can concoct just about any set of rule -- a set of rules that will make sum of years digits look like straight line, if you want me to, you know, play with words. But the basic concept is if it's accepted -- if it's higher in earlier periods and lower in later periods, it's accelerated.

The other way of looking at it is no one disagrees that the ALG process is a straight line process. We do have disagreement whether ELG is a straight line process. We have agreement yet again that ELG produces higher rates than ALG on a current period. How can you have one that's straight line that everybody agrees to, another one that somebody says is straight line and yet it's sloped in comparison to the straight annual level of depreciation that the ALG process has? I'm just saying that if we -- I can change the index by which you measure it to try and make you believe that sum of years digits is even a straight line method if you allow me to change

Page 92

the index by which we measure it. If you believe that the standard class definition of constant depreciation expense over the life of the asset is straight line, then ELG is not the straight line basis. It's a form of accelerated depreciation.

MR. JOHNSON:

Q. You mentioned that ELG procedure is the most mathematically accurate procedure. Could you address that and also address in the real world whether annual levels of plant retirements by age occur on a consistent basis?

MR. POUS:

A. I think I've addressed that already, but just to reemphasize. Mathematically, in the academic world, ELG is fine, where you can assume anything you want. In the real world where we have to look at what really transpires from year to year, it does not work. It does not follow the pattern. That's why we use smooth survivor curves to smooth out the irregularities in the data points on the original life tables that we've been looking at for the last two days. Because real

Page 93

world retirements go up, go down, and not consistently go up, don't consistently go down. They vary by year to year and that's not that smooth retirement frequency curve we looked at yesterday. That has a nice incremental pattern then a nice decrimental pattern after you get past the peak. You can't have that smooth pattern of expected retirements and then look at the pattern of actual retirements and see it all over the place. They just don't correspond.

MR. JOHNSON:

Q. Mr. Pous, is the ELG calculation procedure more time sensitive than the ALG calculation procedure?

MR. POUS:

A. Absolutely. Again, remember that graph, that bell shaped curve that we were looking at yesterday that had annual slices of retirement activity, and I believe Mr. Wiedmayer stated yesterday that, you know, after the one year where you recovered the $4,000 we were talking about for the first year, first age bracket, that would fall off. Well, in reality, it doesn't fall off.

Page 94

In the real world, take for example what's going on here, in 2009, the study was the basis for the current depreciation study. Here we are in 2013. We're approximately three years after that analysis was performed. So the first three slices are already history, but they're still reflected in the rate. Now we're going to put them in rates charged to customers and we're not going to have another depreciation study for five years. So effectively, we're talking about possibly eight annual slices at the beginning of the curve, and remember, under ELG, those slices at the beginning of the curve have the highest depreciation expense impact.

In theory, they're supposed to drop off. In reality, every year you're going to recollect the same first eight years which have the higher impact that in theory were supposed to drop off, but in reality are still built in the same rate that are going to be charged to customers for a five to eight-year period. So ELG is very time sensitive. It's already out of date by the time you can put it into a rate case and it's tremendously out of

Page 95

date by the time you change it in the next rate case.

(11:45 a.m.)

MR. JOHNSON:

Q. What would have to happen in actual reality on the ground say in order for the mathematical precision and the reality to match up? What would the reality then look like?

MR. POUS:

A. Well, you couldn't have reality, but the closest you could get would be annual depreciation studies and annual rate cases and that way you would capture that first year falling off and be able to change the depreciation rate to reflect the new plant additions and the retirements that actually occurred and the collection of money under the old parameters. But in reality, you can't do a depreciation study every year and even if you did, it would be out of date by the time you could get it in the annual rate case. We just don't have that type of operations in the real world.

MR. JOHNSON:

Q. Mr. Pous, Mr. Wiedmayer indicated yesterday

Page 96

that the theoretical reserve and the actual book reserve were within 1.8 percent of each other. Is this an indication as to whether the past approved depreciation rates, as put forward by Gannett Fleming, were in fact accurate?

MR. POUS:

A. No, for two reasons. One is that the best measure of whether the historic rates were inaccurate or not is how many have changed, either up or down, since the last case. As admitted to by Mr. Wiedmayer, he increased 27 of the 57 in a five-year period. That's an indication that maybe he didn't capture the right life characteristics previously. That's a significant number of increases, even by the same consultant doing it under, in theory, the same basis. But the other aspect is the theoretical reserve is a function of the life and salvage parameters proposed and the calculation procedure. So that 1.8 percent increases dramatically if you go to ALG, increases significantly if you change the life or the salvage parameters as I proposed. It would no longer be 1.8 percent differential.

Page 97

It would be -- and I haven't done the calculation, but I'm going to guess, 10-15 percent differential. So it's a function of the parameters being proposed in the case and actually adopted.

MR. JOHNSON:

Q. Mr. Pous, turning to life analysis. In developing life characteristics for plant, what are the important considerations?

MR. POUS:

A. Well, there are several important considerations but you can kind of break them down into two categories: the statistical analysis, which in this case are actuarial analysis; and then all of the other factors which include any non-statistical basis.

MR. JOHNSON:

Q. Turning to the first important consideration in developing life characteristics, the actuarial analysis in this case, please explain how actuarial analysis is performed.

MR. POUS:

A. You have to have age data which simply means when a retirement occurs you know how old the retirement was, just like with people, if

Page 98

somebody passes away, you know he's 55 years old, 75 years old or whatever, and you can do mortality tables. Sounds terrible, but it's done. Then you have different bands of analyses that you look at. You can look at the full band going back to -- let's say with people, if you have actuarial data back to the 1700s, you could do an actuarial analysis based on 19 -- or 1776 through the present or you could say, we look at bands that are shorter or more realistic in date and time. Even now, you wouldn't normally look at a life insurance table that was based on people born from let's say 1900 forward because we know that there's been significant lengthening of life expectations due to life, exercise, prescription drugs, medicine and so forth. To get a good picture of what the life characteristics are now, you would probably look at the last 30 years of mortality characteristics.

So you have age data, you have different bands. You got to decide what type of bands and then you've got to interpret, because you're still not going to get a smooth curve,

Page 99

what is the best estimate -- smooth Iowa curve estimator of the limited number of data points. Obviously the more data points you have, the less you have to guess. If you have 60, 70, 80 percent, you still got to guess at 40, 50, 60 percent of the remaining table, the curve, which means there's a lot of possibilities. But it gives you some definition of what you're looking at.

Now one other consideration in the life characteristic analysis, even if the survivor curve only drops let's say 10 or 15 percent and you're in the 85 percent range, you need to look at how long that's been -- how long it took it to get there. If it's at 85 percent after ten years, you can't draw too much conclusions. But if it only dips to 85 percent over 40 years, you can say we're not talking about a 20-year life asset or a 30-year life asset. We know it's going to be a long life asset that's barely declined from its original investment over a four-year period which should tell you it's going to be 50, 60, maybe 70 years before it dies, completes a full life cycle.

Page 100

So that's some of the technical aspects, which you probably didn't want to hear that much, of the life analysis and it does take interpretation of the results but also interpretation of which results you're looking at and the logic underpinning which set of analysis you look at, and you look at different bands also to get trends in the data and that would go back to the concept that we were talking about before. If you had data on people going back to the 1700s, you might find the average life expectancy was 45 years of age. We know now it's in the upper 70s. You can see the trends as you move forward and you can say that as medicine, prescription, exercise, if we listen to our doctors, were to be followed, you can expect even longer life expectancies. So if you're predicting the future and if you're an insurance company and going to set premiums on that, you want to know what's going to happen in the future. You really don't care as much about what happened in the past. So you're going to look at trends in the data to see how you should set your premiums.

Page 101

MR. JOHNSON:

Q. Please explain the different weightings given to different data points in the curve fitting process.

MR. POUS:

A. Okay. Let's put it this way, every point in the data is generally given a different weight because it's based on statistical stability of the dollars exposed to retirements and let me put this to a level that may be a little bit easier to understand. If you had a thousand marbles and you pulled one marble out of the bag and it was black, you could make an assumption that all the marbles are black, all but one of the marbles are black, half the marbles are black, but you wouldn't bet the farm on it because of the statistical instability of that one sample. If you pulled a hundred marbles out of that same bag and they were all black, you might become a betting man at that point and say I'm willing to bet that all the marbles in the bag are black.

That's the type of statistical stability that you get at different points on the curve

Page 102

because each one of those points as you work your way down is based on less dollars and it works two ways. As time passes, the exposures in higher age brackets works their way down. So what might be based on a $30,000 exposure now, five years may be $200,000 as additional data moves down the curve. The $200,000 would give you more stability so it wouldn't change over time compared to that $30,000 exposure. That's again probably more than you wanted to know, but it's a function of as you move further down the curve, you cannot put the same level of statistical credibility onto the tail end of the points.

Now it is subjective as to where you choose the cut-off point, but Gannett Fleming, in this case, at least admitted there's a one percent cut-off rule. I will tell you last year we had a heated discussion in Alberta where Gannett Fleming said there is no one percent rule. So, this is why I ask these type of questions, trying to pin down where do you cut it off so I can analyze what they've done. I've always used the one percent level and there can be differences as to opinion

Page 103

going a few points maybe before or after, but if you deviate from your rule of thumb, you really need to explain it and not leave it to the guesswork of somebody who may stumble across that you actually didn't follow your own rule of thumb.

But yes, different points have to be given different considerations. You don't want to sacrifice the curve fitting process at the tail -- by matching the tail end of the curve to sacrifice good fit at the middle and upper portions of the curve and this 80/20 percent rule that has been put out there is a generalized statement. You have to look at the individual amounts that are there. In fact, very few of the curves in this case go down to 20 percent surviving. So we can't have a generalized arrangement. You have to look at what your presented with, what's the exposures that are going on and look at it on an individual basis.

MR. JOHNSON:

Q. Mr. Pous, you mentioned that there were a second category of important considerations other than actuarial analysis in the

Page 104

development of these life characteristics, and would you please elaborate on that?

MR. POUS:

A. Let's put it this way. Sometimes statistics lie. So you want to try and get a better feel of what you're looking at, is it reasonable, is it -- can you confirm it. That is input from management, but it can't be taken blindly. For example, management sees a pole break after five years and they say our experience is we've got a five-year problem. We got a problem with poles starting at five years. From a statistical standpoint, you would expect poles, some poles, to break after three years, five years, seven years, because that's the distribution. But to a company management person who may not be schooled in depreciation theory, he just sees the pole breaking.

Now the other reason why you can't necessarily look blindly, even at just what management says, is because when you look at a pole, it may look fine and five minutes later it breaks after you leave. You don't know. You can't tell by looking. Other poles that

Page 105

look somewhat bent over, come back 20 years later and it's the same pole that's still bent over, but it lasted. But you still take what management says into account, but you look for underlying support and justification for it. Is there a basis for it?

Second of all, you look at industry information for confirmational purposes. Are you way outside the range? And if you're outside the range you need to say what's going on here. You want to look at changes in technology. For example, we talked earlier today about underground cable and that the company had some of the old bad stuff. Well, yeah, I believe they had some of the old bad stuff, but all the other utilities that I've dealt with, the old bad stuff was put in the early '70s to the late '70s, not up until '90. So I'd be a little surprised the company stuck to the claim that their bad stuff was put in all the way up to 1990. If it is, it would raise other series of questions why that was the case. But for underground cable, that's one of the things. You need to look outside the statistical box because if you had a

Page 106

utility that did have that high percentage of bad cable in its investment, you would get a shorter average service life looking at the statistics when you know that's not going to be the case in the future because the replacement rate to the better cable that doesn't have the same problems. So that's some of the technological aspects you look for in the analysis.

So you got industry, technology, management input, anything else that can give you a feel, and this is a judgmental arrangement. When you take in statistics and the combination of other information, you have a wide -- somewhat wide range. You want to feel comfortable that you're in the middle of that grey area rather than to the far right or the far left of the grey area when you make your estimate and that's where you take into account the other information to try and get you to the middle of the grey area.

MR. JOHNSON:

Q. Mr. Pous, does the company have inspection programs for its transmission and distribution poles, and if so, what do you perceive to be

Page 107

the impact on the life characteristics of those assets?

(12:00 p.m.)

MR. POUS:

A. I'm actually very surprised when I heard the company's answer that their inspection -- they do have inspection programs, annual inspection for transmission, seven-year cycle for distribution poles. Having said that, I am surprised that I heard that they don't get any life extension benefits from inspection programs. This is the first utility I've run across who've said there isn't benefits. You do have an initial wave of early retirements when you have an inspection program because you've gone out and looked and said "oh my God, this pole needs to be replaced" and I wouldn't have found it for a couple years had I not done the inspection program. So you have an initial level of poles that have to be removed because you found it. But what you also have is you find out "well, gee, the Penta poles aren't holding the Penta chemical well enough and we're going to have some problems, and you talk with the manufacturer

Page 108

and the manufacturer will say "that's an easy fix. We can retreat it." And therefore you will have extended the life expectancy for that series of poles.

Second of all, you may find poles that you're concerned about structurally don't need to be replaced. They're still in reasonable condition, but if you don't take action, they will break in the next five years. If you put a stub pole next to it and band the two together, you add additional strength and stability and additional life. And in that aspect, even Mr. Wiedmayer, in the case about a year ago in Nova Scotia that we were both in, said that the banding process can lengthen the life expectancy of those poles by 10 to 15 years.

So if you did nothing with an inspection program, it might die after five years. If you do an inspection program, you can identify poles that may be at risk but don't need to be taken out and you take corrective action, you can extend the life for that pole for 10 to 15 years. That's a life lengthening aspect. The maintenance recognition is a life lengthening

Page 109

aspect after the initial wave of early retirements.

MR. JOHNSON:

Q. Mr. Pous, I think you as well referenced the Nova Scotia example in your surrebuttal testimony, just for the record. I won't bring you to that.

Mr. Pous, in making your recommendations, did you analyze all of the company's plant accounts?

MR. POUS:

A. Yes, I looked at all the company plant accounts, but -- how do I put this nicely? The schedule you have here would not permit even a person with my capabilities in this area to analyze all the accounts, write testimony on all the accounts, write rebuttal testimony on all the accounts, ask the data requests on all the accounts. You have to be selective. You have to do a screening process. And I go for the larger plant dollar accounts, but having said that, did I -- would I make a change if I recognized that I believe that Mr. Wiedmayer's life estimate was too long? Would I make it too short? The answer is yes and I

Page 110

actually did that in Alberta in the last case within the last year. So I do it both ways. I don't pick and choose for whether it goes up or down. I pick and choose based on the screening process of what has the greatest potential impact and if there's anything unusual that I see when I do an initial cursory review. If I were to see poles at 30 years or 25 years, I would say something's wrong here, and even if it was a small account, I might look a little closer.

So, there is a screening process. It cannot all be done at one time. It would be exceptionally costly also if I were to do it all at one time. But the concept that I cherry pick or pick and choose, I do cherry pick from the standpoint of those that may have the greatest magnitude. Do I cherry pick only in one direction? Answer: no.

MR. JOHNSON:

Q. Mr. Pous, have you developed a summary of your adjustments and the impacts by account for your life recommendations in this case?

MR. POUS:

A. Yes, that was set forth on page 20 of my

Page 111

direct testimony.

MR. JOHNSON:

Q. Okay. And that's -- we've seen that previously and the Board will have that. And finally, Mr. Pous, have you made any adjustments in the area of net salvage?

MR. POUS:

A. Yes, I have. I made one adjustment and let me add one thing. If you read my very last question and answer in my testimony is that do I agree with -- does this conclude my testimony and the answer is yes. However, to the extent I don't address an account or an issue doesn't mean that I'm in agreement with it. Again, it's the screening process. I don't look at all of it. I don't disagree. I didn't have a basis to disagree maybe on certain things. Remember, it's a judgmental thing and if I don't have a good set of facts or a reasonable set of facts in order to make an adjustment, there's no reason to make an adjustment.

So, in this case, I looked at salvage. I made one adjustment, account 365.1, overhead services. The company proposed a negative 60

Page 112

percent net salvage. I proposed a negative 40 for several reasons, but one of the main reasons was I was extremely concerned -- and this is one of those things I said that you look for things that are unusual. When the company said most of their retirements are associated with trouble calls for services, that means you get a call at any time, usually emergency situation, you have to handle it quickly, you don't even know for sure where the trouble is. You spend time looking. So you got an emergency situation which we normally end up with costing more per unit to fix the problem than you would expect for the vast majority of the investment at issue. You hope that all services aren't retired over their life on an emergency basis. At some point when you start having too many emergencies in the same area, you're going to do a planned replacement process.

Second of all, when I asked about how do you allocate costs in the replacement process between the new installation and the old installation, when I heard 50 percent, I was taken aback. I have not seen another utility

Page 113

that allocates 50 percent of the labour cost to the cost of removal in the replacement process situation. And when I asked for the studies, I got no studies. I got "it was reasonable." I got a listing of activities. But if you look at the listing of activities, they seem to place the same level of degree of time consumption to cutting a service and dropping it to the ground, in other words, you cut the wire and let it fall, as to stringing the new wire, anchoring it together, getting the proper sag in the line and then splicing it together. If you believe it takes just as long to do those activities as it does to cut the wire and drop it to the ground, they're right. I don't believe that. And to the extent that I can recall dealing with other utilities, no other utility has indicated that time and cost allocation is reasonable.

MR. JOHNSON:

Q. Thank you, Mr. Pous, very much.

MR. POUS:

A. You're welcome.

KELLY, Q.C.:

Q. Thank you, Mr. Chairman. Mr. Pous, I'd like

Page 114

to start by just looking at the scope of what you actually did here and see if we agree on a few things. I take it that you did not do a depreciation study per se.

MR. POUS:

A. Yes, I did do a depreciation study.

KELLY, Q.C.:

Q. But you didn't do a full blown depreciation study of Newfoundland Power's assets and depreciation expense?

MR. POUS:

A. I did not develop individual life and salvage account parameters for every account.

KELLY, Q.C.:

Q. Okay. Now in your testimony in chief, you referred to all the cases that you've done a depreciation study and you referred to several hundred. In those several hundred, are they the type of kind of analysis you've done here or have you actually done depreciation studies, what I'll call a full-blown study?

MR. POUS:

A. I won't necessarily characterize what you say as full blown as being full blown, but I've analyzed accounts, usually not all accounts,

Page 115

in those numbers that I've indicated.

KELLY, Q.C.:

Q. So the reports that you've done elsewhere, they're the type of reports that you've done here as opposed to starting from scratch and doing a depreciation study?

MR. POUS:

A. Oh, if you're talking about me going in and recreating the data, no, I don't do that.

KELLY, Q.C.:

Q. Okay.

MR. POUS:

A. That's the company's data and the company -- I asked for that already on an electronic basis, so I don't have to spend and waste time recreating the wheel.

KELLY, Q.C.:

Q. Let me put it this way. You haven't traditionally done depreciation studies for utilities using their data and developed, as Gannett Fleming has done, a depreciation study like the 2010 study?

MR. POUS:

A. No, I don't normally work for utility companies.

Page 116

KELLY, Q.C.:

Q. Okay.

MR. POUS:

A. Or let's put it this way, they don't hire me.

KELLY, Q.C.:

Q. Okay. So in terms of what you've done here, you've addressed the question of methodology and then you've gone through and looked at the accounts and then you focused on these seven? Is that pretty fair?

MR. POUS:

A. I may have focused on more, but ended up with seven.

KELLY, Q.C.:

Q. Okay. So would you agree with me that one of the purposes of doing an overall depreciation study is to come to a balanced approach overall to the depreciation expense?

MR. POUS:

A. I think the concept is to always come to a balanced approach, but the real answer is in doing the study you're indicating, you have to come up with a set of parameters for every account. It doesn't necessarily mean it's balanced. It may be the goal, but doesn't

Page 117

mean the results are.
KELLY, Q.C.:
Q. Okay. Now I took it from your testimony that you have a fair degree of familiarity with the United States, but I didn't get the sense that you had the same familiarity with Canadian utilities and systems in Canada. Is that fair for me to draw that conclusion?
MR. POUS:
A. No, I would actually -- if you want to -- depending how you want to look at it, I've probably done 10 to 15 different utilities, maybe 20 different utilities in Canada and on a percent basis, it's probably more utilities in Canada than in the United States.
KELLY, Q.C.:
Q. Let's just go over to PUB-CA-003 and start there. This was the Board staff asking you how many depreciation studies you'd performed and your answer began at line 5 with "Mr. Pous has not performed a survey of each Canadian regulated utility." So I take it you really -- starting off this process, really didn't have a good sense of what processes were used in Canada. Can I not draw that conclusion?

Page 118

MR. POUS:
A. I didn't have a sense of what all utilities in Canada utilize and I can tell you, I still don't because the survey that was performed by the company, as been admitted to, is not a complete survey either.
KELLY, Q.C.:
Q. All right. Well then, let me take you over to NP-CA-037 in which you were asked simply "please list all the Canadian utilities that to Mr. Pous' knowledge use the ALG procedure as well as those that use the ELG procedure." The only answer you could provide was that you were aware Newfoundland and Labrador Hydro relies on the ALG procedure.
MR. POUS:
A. That's what I provided.
KELLY, Q.C.:
Q. But I take it that's the only answer you could provide.
MR. POUS:
A. No, I could have spent a lot of time going through and doing a survey. I knew there were some others, I just didn't know who they were.
KELLY, Q.C.:

Page 119

Q. So you hadn't done any kind of survey -
MR. POUS:
A. I had not done the survey, no.
KELLY, Q.C.:
Q. No. And so as you were going into this process, all you really knew was ALG was used by Newfoundland Hydro?
MR. POUS:
A. No, I knew there were others. I just couldn't have told you who they were without going and confirming it and that would have taken the time to do a survey, so I gave the knowledge I was familiar with at the moment.
KELLY, Q.C.:
Q. Okay. Because -- well, the reason I kind of pick you up on this is because you complain the company survey was incomplete, but it was much more complete -
MR. POUS:
A. Oh, absolutely.
KELLY, Q.C.:
Q. - than the answer to the questions that you provided? Is that not correct?
MR. POUS:
A. Absolutely, it's more complete than what I

Page 120

did. Absolutely it is more complete, but I was just pointing out that not to leave the impression that the company survey was a complete survey either. Mine was not, absolutely not.
KELLY, Q.C.:
Q. Now you referred to Hydro and I take it you realize that -- let me just try with this, that Newfoundland Power has been a regulated utility in this jurisdiction ever since the Public Utilities Act came into effect, which I think is back about 1951. Did you know that?
MR. POUS:
A. I believe that came up in the Hydro case.
KELLY, Q.C.:
Q. Right. And Hydro is a Crown corporation which was unregulated until the late 1990s.
MR. POUS:
A. I thought it was 1996.
KELLY, Q.C.:
Q. Okay. And they are now in the process of becoming regulated, moving from sinking fund depreciation, et cetera. You're familiar with that?
MR. POUS:

Page 121

A. That they moved from sinking fund to average life group?
KELLY, Q.C.:
Q. Yes.
MR. POUS:
A. Yes, I am familiar with that.
KELLY, Q.C.:
Q. Right, okay. So they're in a transitional regulatory period. Are you generally aware of that?
MR. POUS:
A. I think they already transferred from sinking fund to ALG, so that's complete.
KELLY, Q.C.:
Q. I was kind of curious because there are a couple of references to Hydro in your testimony. For example, if I take you over to page 10, line 20, this is in your original testimony -
MR. POUS:
A. Page 10, line 20?
KELLY, Q.C.:
Q. Page 10, that one is line 20.
MR. POUS:
A. We're talking -- okay.

Page 122

KELLY, Q.C.:
Q. "The intent of the depreciation process is to allow Hydro to recover 100 percent of the investment."
MR. POUS:
A. Yes, that's a typo that I did not catch.
KELLY, Q.C.:
Q. Oh, that's just -- oh, I see, that's picked up from your testimony in Hydro?
MR. POUS:
A. Yes, correct.
KELLY, Q.C.:
Q. And there may be other references like that. So you're not really talking about Newfoundland Power?
MR. POUS:
A. No, not there. Well, the example being utilized there would be applicable to any utility.
KELLY, Q.C.:
Q. Okay. So, it's a general observation?
MR. POUS:
A. Yes.
KELLY, Q.C.:
Q. Okay, gotcha. Now let's go over then to

Page 123

Exhibit R-1 which is the company's survey and if we look at that, obviously there are a large number of companies in Canada which use the ELG method of depreciation, ELG procedure?
MR. POUS:
A. There's 17 listed here, two of which at least are not companies, but cities.
KELLY, Q.C.:
Q. Okay. And on the ALG, there are some that use the ALG procedure?
MR. POUS:
A. Yes.
KELLY, Q.C.:
Q. I notice, for example, Manitoba Hydro appears to be transitioning to ELG. Are you familiar with that?
MR. POUS:
A. I read the footnote. I'm not familiar with that.
KELLY, Q.C.:
Q. Okay. Do you know any companies in Canada that are transitioning from ALG to -- sorry, from ELG to ALG?
MR. POUS:
A. Not that I'm aware of. I will tell you in a

Page 124

recent Altalink case in Alberta, the Commission indicated it was interested in any form of adjustment that might ease the rate shock that's coming with the building of major transmission lines and they mentioned ELG as one of the considerations they may be looking at.
KELLY, Q.C.:
Q. So would you consider rate impact factors to be something for the Board to be aware of in the long run?
MR. POUS:
A. I think rate impact factors is one of the considerations that should always be considered, but you have to look at the underlying basis as to what causes the rate impacts.
KELLY, Q.C.:
Q. Now looking at this particular exhibit, will you agree with me that the use of the ELG procedure in Canada to calculate depreciation expense is a generally accepted sound public utility practice here in Canada?
MR. POUS:
A. It's a generally accepted practice

Page 125

predominantly in Alberta.
KELLY, Q.C.:
Q. But it's used in Canada?
MR. POUS:
A. Yes.
KELLY, Q.C.:
Q. And it is sound public utility practice?
MR. POUS:
A. It's utilized. My personal opinion is it is not sound utility practice.
KELLY, Q.C.:
Q. Is that simply your view, but it's not reflected in terms of what utilities and regulators have done and allowed in Canada? It is in Canada, you have to acknowledge by looking at the exhibit, that this is utilized in Canada?
MR. POUS:
A. And I said it was utilized. You said sound utility practices. That's what we disagreed with.
(12:15 p.m.)
KELLY, Q.C.:
Q. All right. Now one of the points that you made in your report was that ELG for

Page 126

Newfoundland Power is somehow an elective procedure. Do you still believe that?
MR. POUS:
A. Yes.
KELLY, Q.C.:
Q. Now you know that the Board ordered this back with Order PU-47 in 1982.
MR. POUS:
A. That's my recollection.
KELLY, Q.C.:
Q. Did you read the order?
MR. POUS:
A. I think I read the excerpts in the testimony.
KELLY, Q.C.:
Q. Let me take you to NP-CA-35, and you'll see in the question and it's set out in the quote, "The Board ordered that Newfoundland Power shall use the unit summation procedure", which is ELG, "to calculate rates of depreciation for all of Newfoundland Power's plant and service with effect from January 1, 1983". So, sir, that mandates Newfoundland Power to use ELG, does it not?
MR. POUS:
A. In that case, yes.

Page 127

KELLY, Q.C.:
Q. And with effect from January 1, 1983. So do you interpret this as the company could come back every year and do something different?
MR. POUS:
A. They could request a difference form and have it litigated.
KELLY, Q.C.:
Q. Exactly, but we'd have to go through the process of having the Board re-open the issue, ask for change, make change, etc?
MR. POUS:
A. Yes, you couldn't do it unilaterally.
KELLY, Q.C.:
Q. Exactly my point, you couldn't do this unilaterally.
MR. POUS:
A. Or you shouldn't do it unilaterally.
KELLY, Q.C.:
Q. In fact, we couldn't do it unilaterally, it's not elective.
MR. POUS:
A. I have seen utilities do things that were not ordered by a Commission and, in fact, directly contrary to what a Commission had ordered in

Page 128

different proceedings. They shouldn't do it. It's not they couldn't do it.
KELLY, Q.C.:
Q. I'm not asking you about other jurisdictions. I'm asking you in Newfoundland with this order, with this language, do you believe we could do it electively at our own choice?
MR. POUS:
A. No, not outside of a rate proceeding, but in this rate proceeding, you have the election of coming in and seeking ALG based rates or ELG based rates. You made the choice to retain the ELG based rates.
KELLY, Q.C.:
Q. Now can we agree that the procedure used is one that continues - it's a continuing process, whether it's ALG or ELG?
MR. POUS:
A. It was what has been in place for the last 30 years.
KELLY, Q.C.:
Q. And depreciation methodology is not something you shift back and forth on, is it?
MR. POUS:
A. It can be done, but you would want basis, and

Page 129

I believe what I'm providing the Commission or the Board is basis for making that shift, and hopefully if they made that shift, they would retain the ALG process.

KELLY, Q.C.:

Q. Because whatever procedure you use, it's a long run application, isn't it?

MR. POUS:

A. Not necessarily, but it's subject to changing circumstances and facts.

KELLY, Q.C.:

Q. And on this question of elective versus not, let's just have a quick look at NP-CA-32, and down in - if we go down to line 8, "However, in certain instances where regulatory bodies mandate the use of ELG depreciation, for example, Alberta, Mr. Pous presented his testimony in the format requested by the regulatory authority, i.e. ELG". So you are aware that there are jurisdictions in Canada that mandate one process versus the other?

MR. POUS:

A. I think I said that already.

KELLY, Q.C.:

Q. Okay. Now let's turn next to what the Board

Page 130

looked at when they were moving to ELG in the late 1970s, early 1980s. Let's go to the company's rebuttal evidence at page 4.

MR. POUS:

A. Is this the 12 page -

KELLY, Q.C.:

Q. The shorter document there on the screen. First in 1977 at line 7, the Board pointed out, "There's merit in amortizing the cost of both short life and long life units during their respective service lives as is done with the ELG procedure". Then can I get you to scroll down there, Chris, towards the bottom of the page, to the bottom quote. Then the Board retained an expert and pointed out at line 22, "From the viewpoint of utility customers, it's evident that adoption of the ELG method would under certain circumstances most likely to apply in the foreseeable future imply higher depreciation charges. However, there is an offsetting consideration. Neglecting some minor items not affected by the choice of depreciation method, the rate base is also a cost of service and, in fact, a larger item of cost than the annual

Page 131

depreciation charge. A policy which increases the reserve will decrease the cost of maintaining the percentage rate of return at some authorized fixed level". So would you agree that depreciation affects rate base?

MR. POUS:

A. Absolutely.

KELLY, Q.C.:

Q. Because if depreciation is reduced, rate base increases?

MR. POUS:

A. Faster than it would have otherwise.

KELLY, Q.C.:

Q. Faster than it otherwise would. So that if you reduce depreciation over time, rate base will be higher and the return on that rate base, simply because it is larger, will be more?

MR. POUS:

A. In nominal dollars.

KELLY, Q.C.:

Q. And that's what people pay in rates, don't they, nominal dollars?

MR. POUS:

A. Well, if people pay in current dollars, but if

Page 132

you're talking about future periods, you would have to inform the customer that a dollar today is not equivalent of a dollar tomorrow.

KELLY, Q.C.:

Q. Now just -

MR. POUS:

A. And then he has an imbedded cost of capital himself.

KELLY, Q.C.:

Q. Okay, just come over to page 5, Chris. Just come down a little bit further to the next paragraph, and at lines 4 and 5 in 1979, the observation by the Board was, "Deferring depreciation on short life property units to future years gives users incorrect information on the current cost of electric energy". Would you agree or disagree with that statement?

MR. POUS:

A. As it applies to ELG, I disagree with that statement.

KELLY, Q.C.:

Q. Okay, but that would be a factor that the Board should appropriately consider?

MR. POUS:

A. Absolutely, and if they thought that you could

Page 133

estimate the short life property in one year slices, then I would suggest that the Board go ahead and do ELG, but again if you have that problem of believing that you cannot predict the future with that kind of degree of accuracy, then I tell you ALG is the process to go with. Otherwise, you create deferring even greater because you have the catch up on the remaining life calculation to recapture the over accrual that ELG estimated was going to occur, or the ELG depreciation expense which is based on the estimates, that did not transpire. So you've got an error between actual and future events that has to be trued up, and that magnitude of error is greater under ELG.

KELLY, Q.C.:

Q. Now Mr. Pous, I take it from your testimony, and I've had Mr. Wiedmayer, and I've read a bit on this, there seems to be a debate which you espouse the ALG process as to which is most appropriate. Is that fair?

MR. POUS:

A. Yes.

KELLY, Q.C.:

Page 134

Q. Okay, and if we simply recognize that there's a debate there as to which is most appropriate, then both of them are straight line methodologies, correct?

MR. POUS:

A. No.

KELLY, Q.C.:

Q. Okay. Let me put it to you this way. If ELG, just assume for the moment that ELG is the correct procedure or the most appropriate procedure - take the other side of the coin.

MR. POUS:

A. You do want me to use a hypothetical?

KELLY, Q.C.:

Q. I want you to use a hypothetical.

MR. POUS:

A. Okay.

KELLY, Q.C.:

Q. And you apply straight line methodology to it, and then you get a particular result.

MR. POUS:

A. A higher rate in earlier years and a lower rate in later years.

KELLY, Q.C.:

Q. And if you take the ALG approach, the opposite will be true applying straight line to some extent, correct?

MR. POUS:

A. The opposite. The opposite meaning it would be constant over time versus being higher in earlier years and lower in later years, which ELG is. So one, you have a constant rate; the other one you have a sloping rate, and the two cannot be straight line if you have the same index of measurement.

KELLY, Q.C.:

Q. Measured one against the other, ELG depreciates faster, but ALG, in your view, would depreciate slower. So vis a vis ELG, it's deferred depreciation?

MR. POUS:

A. That is the argument that the ELG proponents say is that ALG is deferred, but then they recommend ALG as a straight line method.

KELLY, Q.C.:

Q. In other words, aren't we simply - in this debate over is it accelerated or deferred, are we not simply engaged in the semantic discussion over which is faster versus which is slower at the end of the day?

Page 135

Page 136

MR. POUS:

A. Isn't that the classic definition of accelerate depreciation?

KELLY, Q.C.:

Q. Okay, but if we're comparing one against the other, one is faster, one is slower, but that's only in a comparison one against the other.

MR. POUS:

A. The classic definition is on all comparisons, whether it's unit summation, ELG, ALG, sum of year digits, double declining balance, you have to have some measure against which to determine whether something is accelerated or deferred. The standard in the industry is ALG is a straight line and that's the standard. If something else equals it, it's straight line. If something else like sinking fund, it's deferred. If something else is accelerated, such as ELG, it's an accelerated form.

KELLY, Q.C.:

Q. So all you're saying is if we set ALG up as the standard, and measure accelerate or deferred from that, then we come up with whatever label you want to put on it, but

Page 137

that's simply semantics.
MR. POUS:
A. Well, let's go back up a second. It could be taken in that format, but then you go back to the classic definition of accelerated depreciation, and it says something is accelerated if it's higher in earlier years and lower in later years. That takes ALG out of the picture as being the standard. The standard is the definition, and ELG is accelerated based on the classic standard.
KELLY, Q.C.:
Q. Now I want to come back to the discussion about rate base, and let me take you to Exhibit R-2 from the company's testimony. Now the company went back and looked at what would the result be if we had stayed on ALG, where would we be in terms of rates today, and depreciation expense would be 3.7/3.8 million dollars less, but because rate base would be higher, the revenue requirement is for the return in income tax consequences is about 7. 4 million dollars more. So if we had stayed on ALG, today customer's rates would be about 3. 7 million dollars higher.

Page 138

MR. POUS:
A. Yes, because historic customers wouldn't have overpaid. Depreciation is the recovering of 100 percent. The intention is not recover 110/120, it's what the company spends. So if you pay faster or higher amounts in earlier years, you're going to pay lower amounts in later years.
KELLY, Q.C.:
Q. So today because the Board adopted ELG in 1982, Newfoundland Power customers paid 3.7 million dollars less because we are on the ELG methodology?
MR. POUS:
A. Because historic customers have subsidized current and future customers, that is correct.
KELLY, Q.C.:
Q. That's your view, okay. Now that's the retrospective view. Let's look at the prospective view, and that's what takes us to CA-NP-620, and this 11 to 15 year crossover, because I take it you agree that if we converted to ALG, in another 11 to 15 years customers would be back paying higher rates again?

Page 139

MR. POUS:
A. Customers will be paying the rates they should have been paying all along after the correction period.
(12:30 p.m.)
KELLY, Q.C.:
Q. Because we'll go through what you would call an 11 to 15 year correction period, and 11 to 15 years out, then customers will be paying higher rates than they would have been if we had stayed on ELG?
MR. POUS:
A. Yes, the subsidy will have gone away.
KELLY, Q.C.:
Q. So what you're - if I can kind of boil it down, what you're kind of saying is, well, gee, our fathers paid too much, we're going to take a benefit, and we're going to make higher rates for our children. Is that what it boils down to, Mr. Pous?
MR. POUS:
A. No, we're going to capture the most representative group of customers possible, which are the current customers, and correct the situation with them, so that future

Page 140

customers do not have the benefit of having the subsidy paid by historical customers.
KELLY, Q.C.:
Q. That pretty much boils back to the same thing. We're going to take the benefit that is being paid, put it in that sense, we're going to get an 11 to 15 year, and I'm going to call it a short term benefit, and then rates will go up because rate base is going to be higher. That's the net effect of moving to ALG?
MR. POUS:
A. Yes.
KELLY, Q.C.:
Q. Yes, right. Okay, now let's move then to the process of looking at these service lives, and I take it there is common agreement between yourself and Mr. Wiedmayer that there's a judgmental process involved in that?
MR. POUS:
A. Absolutely.
KELLY, Q.C.:
Q. In fact, I went through your surrebuttal evidence, and I find phrases like, "It's a matter of interpretation", "people gave different points of information, different

Page 141

weightings", and at one stage you were talking about your judgmental analysis. So there's judgment to be applied in coming to a service life?

MR. POUS:

A. And just let me remind you there's something called good judgment and something called bad judgment.

KELLY, Q.C.:

Q. And there's also something called informed judgment.

MR. POUS:

A. You would hope that would fall under the category of good judgment.

KELLY, Q.C.:

Q. And in order to have informed judgment, you'd be in a better position to have informed judgment if you had a long term experience with the company's assets. Would you agree with that?

MR. POUS:

A. No.

KELLY, Q.C.:

Q. You don't agree with that, okay. I just want to see what you agree with. Would you agree

Page 142

that you'd be in a better position to have informed judgment if you'd actually over time had an opportunity to go out and look at the company's assets?

MR. POUS:

A. Could be.

KELLY, Q.C.:

Q. Would you agree that you'd have better informed judgment if you had the opportunity to sit down with company's engineering staff and have discussions with them?

MR. POUS:

A. Or ask numerous data requests to obtain the most meaningful and significant items of information.

KELLY, Q.C.:

Q. Okay, and significant items of information were provided to you.

MR. POUS:

A. What the company thought was significant items of information.

KELLY, Q.C.:

Q. We counted it up as 1,497 double sided pages over three - about 3,000 pages of data in total.

Page 143

MR. POUS:

A. I didn't count them.

KELLY, Q.C.:

Q. You didn't count them, okay. Now in terms of the changes that you are proposing for these seven groups, in each of those cases Gannet Fleming has already proposed increases in those service lives, correct?

MR. POUS:

A. Correct.

KELLY, Q.C.:

Q. Applying their judgment and their analysis?

MR. POUS:

A. Applying whatever they applied.

KELLY, Q.C.:

Q. So the difference between you and Gannet Fleming in terms of service lives is really a question of how much should we do?

MR. POUS:

A. It's a question, as I told you before, it's a gray area and that's a judgmental aspect. You should be shooting for the centre of the gray area, not the left or right, and you figure out where the middle is based on the facts that you try to support your judgment with. So

Page 144

you look at what is factual, what can be defended, not just statements. Statements may be the ultimate reliance because there may not be any specific facts that support it, but you look at the overall picture of what is being stated, what is the support for the statement, and try and draw your conclusion from that; who's in the middle and who's at the far left or far right.

KELLY, Q.C.:

Q. And if I looked at the proposals between - in fact, maybe it's worth putting this up on the screen. It's in the Gannet Fleming rebuttal, Chris, at page 1, that table. I think it's Appendix -

MR. POUS:

A. B.

KELLY, Q.C.:

Q. Thank you, Mr. Pous.

MR. POUS:

A. You're welcome.

KELLY, Q.C.:

Q. In terms of what's in the middle from where we are now which is on the left, Gannet Fleming's proposals which are in the middle, and your

Page 145

proposals which are on the right, the ones that are both in the middle, both graphically and in terms of service lives, are the Gannet Fleming proposals, correct?

MR. POUS:

A. If you want to say that what Gannet Fleming proposed without an opposing depreciation expert looking at it, is the one hinging point, and that should be a significant aspect of the facts that determine whether the resulting factor is in the middle, then, yes, but if you want to look at factual basis as to what is currently going on with the current information, more current information, more superior information than was in existence five years ago, then what was adopted five years ago should be given relatively little credence as far as being a major impact on determining the validity of current proposals.

KELLY, Q.C.:

Q. Okay, let's assume for the moment that the Board adopted your view of the world and extended out these service lives as you proposed, and let's say that the next depreciation study would be five years out, so

Page 146

that would be 2015, and let's assume that five years out it turned out that you were wrong and the service lives didn't extend out as you had thought they might, what would be the consequences of that?

MR. POUS:

A. If the next depreciation study and the analysis and review by parties resulted in, let's say, instead of going to a 51 year life for a transmission pole, it should have been 50 years, then depending on the dollar level of investment in the asset during the next five years, the rates could either go up or down.

KELLY, Q.C.:

Q. And if the life had to get shortened up, the depreciation expense would rise, wouldn't it?

MR. POUS:

A. Depending on the level of additions and retirements during the next five years.

KELLY, Q.C.:

Q. And as you told us, you took the ones that are the biggest dollar values because they're the ones with the biggest impact?

MR. POUS:

Page 147

A. Yes.

KELLY, Q.C.:

Q. So let's assume that that would, therefore, mean depreciation expense goes up. So if you turn out to be wrong, five years out in that depreciation study will take is to 2015, 2016, 2017, will be about the point in time when customers in Newfoundland and Labrador are also looking at increased purchase power expense. So is there not some real benefit in taking a consistent gradual approach here and seeing what happens as opposed to taking large percentage increases?

MR. POUS:

A. Well, I think I have taken a limited step. There are several of the accounts where I indicated you could have chosen a higher average service life and I didn't do that. So there is already a limitation of the level of increase that I put into the process also.

KELLY, Q.C.:

Q. Okay.

MR. POUS:

A. So from your standpoint, I'm not sure -

KELLY, Q.C.:

Page 148

Q. That doesn't totally answer - address the question that I put to you.

MR. POUS:

A. And I'm going to continue on. First of all, I don't know for sure what - is this the Churchill Falls Project that's coming on in 2017 or something?

KELLY, Q.C.:

Q. Whether it's the -

MR. POUS:

A. So it may be a current plan five years out to spend a lot of money to increase revenue requirements is what you're saying?

KELLY, Q.C.:

Q. No, I'm simply saying that in the next five to seven years there will be higher increased purchase power expense for the company, and hence for customers. So as you're looking at the implications of what you're doing here with depreciation, should not the Board take into account the big picture?

MR. POUS:

A. In developing the correct depreciation rates, I think they should look at depreciation rates. If there is an overriding compelling

Page 149

consideration for the future and you want to subsidize any required increase in purchase power costs in the future through customers currently paying higher rates, I guess you can do that if you want to, but again that creates inter-generational inequity.

KELLY, Q.C.:

Q. Now come back to the discussion again that we had some time ago about all the rate base effects. Are you aware in this province that the electrical - the provisions of the Electrical Power Control Act? Have you read that statute?

MR. POUS:

A. In the Hydro case, I've read a few statutes. I can't tell you which one is which.

KELLY, Q.C.:

Q. Right, but you know there's a power policy in this province for the least cost power over the long run?

MR. POUS:

A. I would think that would be commonsense even if it wasn't a statute.

KELLY, Q.C.:

Q. So one of the factors, obviously, that the

Page 150

Board needs to consider is the rate base effects as they did back in 1982 when they first looked at this issue?

MR. POUS:

A. Well, by adopting ELG, they would not be proposing the least cost power. You would look at it from that standpoint currently. So that would be, in theory, a violation of that provision that you're alluding to. In the future, it would have that impact, but currently you would be asking customers to pay more than their fair share, so you would not be giving them the least cost power under a logical and straightforward and reasonable approach.

KELLY, Q.C.:

Q. So your position is least cost power should be viewed at only in an 11 to 15 year time frame, not in the long term?

MR. POUS:

A. No, I think it's got to be currently and as long as - every current rate case you need to look at the least cost power that's available.

KELLY, Q.C.:

Q. Now let me turn to a slightly narrower issue

Page 151

dealing with this whole inspection program that you've talked about. I know you haven't had an opportunity to go around and look at Newfoundland Power's facilities per se and its pole lines, etc, have you?

MR. POUS:

A. I've ridden around some before the snow hit, and then after the snow hit, so I saw less of it.

KELLY, Q.C.:

Q. Fair enough. Because Gannet Fleming, for example, has - the company's had experience here for decades, decades, and decades, obviously. Gannet Fleming has had experience here since 1995. Your experience with Newfoundland conditions per se is rather limited, isn't it, Mr. Pous?

MR. POUS:

A. Physical on the ground walking it, yes, but I've walked many systems - let me just say the amount of beneficial information you get in developing depreciation parameters from inspecting utility plant is not as great as you might anticipate by actually putting feet on the ground, and I have looked at a lot of

Page 152

plants in different areas.

KELLY, Q.C.:

Q. Let me take you over to your rebuttal evidence to page 35. This gets into a discussion here of poles, pole treatments, and the effect. You've suggested, for example, that an inspection program, you would do things that would somehow extend the life of poles already in place.

MR. POUS:

A. Yes.

KELLY, Q.C.:

Q. That's the thrust.

MR. POUS:

A. And it's not just my suggestion. This is me dealing with other utilities, and they suggest it also.

KELLY, Q.C.:

Q. And you reference here, for example, wolmanized poles, and they're backed by a 50 year warranty against damage from termites and fungal decay. I take it you're aware there's no termites in Newfoundland?

MR. POUS:

A. I would have hoped they would have died off

Page 153

long ago.
KELLY, Q.C.:
Q. Right, and fungal decay, not a problem in Newfoundland?
MR. POUS:
A. That I can't tell you with any certainty.
KELLY, Q.C.:
Q. Well, if the company says, for example, yeah, but that requires an extended period of time over which the ground temperature reaches a certain level for it to be warranted, to really have an impact, you wouldn't take any issue with that? You're not in a position to know.
MR. POUS:
A. No, I would not.
KELLY, Q.C.:
Q. Okay. So the particular circumstances, especially as you've come to an environment like we have outside today, the best methodologies to control costs in the long term, what to do with an inspection program, you'd have to agree with me the company would be in a better position to judge the most effective methodologies?

Page 154

MR. POUS:
A. They would be in a better position than I am. I'm not sure they're in the best position because they may view things that others may find necessary or appropriate, and not be doing.
KELLY, Q.C.:
Q. Okay, well, you - I take it you don't have any basis to suggest that Newfoundland Power, its management, its engineers in this environment, are not following best practices?
MR. POUS:
A. I don't know they are; I don't know they're not.
(12:45 p.m.)
KELLY, Q.C.:
Q. Okay, that's good, you don't know they're not, okay. Now let me take you to -
MR. POUS:
A. Well, let me back up. From the extent of what I've heard that there is no life extension benefits due to inspection programs, I'm having difficulty taking that in and thinking that's the best practice. You know, if Nova Scotia can be doing things that extend lives,

Page 155

I don't understand why Newfoundland Power cannot do similar activities that will extend lives that are logical and seem to be done by other utilities.
KELLY, Q.C.:
Q. Are you suggesting, for example, that Newfoundland Power's reliability program is somehow not as good as Nova Scotia's, because we'd put ours up against their's pretty much any day?
MR. POUS:
A. I can't tell you. All I heard - to tell the truth, we have a situation where we have statements made by company personnel, meaning Mr. Wiedmayer, or through data requests, that say they don't see any life improvement aspects. They may actually be doing things that do improve the expected life of a plant. So your practices may be good, but the presentation in this case is not adequate to demonstrate that's the case, in fact, because you're actually saying there is no beneficial aspect, which seems to be contrary to logic and what other utilities do.
KELLY, Q.C.:

Page 156

Q. Now let me take you to another area because we're moving along here quite nicely. In your evidence in Chief at Appendix B, or in your main report, you put forward testimony - turn it up here - in January, 1997, as one of this basis for using ALG.
MR. POUS:
A. I put in information that I pulled out of testimony from 1997.
KELLY, Q.C.:
Q. Right, okay, and if we go to RFI NP-CA-49, you were asked the question - sorry, get it on the screen here. "Please confirm that the final Railroad Commission of Texas Order related to the interim proceeding in which the testimony excerpt attached as Appendix B to Mr. Pous' evidence was filed", and it gives the docket number, "provided that the ELG depreciation method used by Lone Star was reasonable and should be retained", and you denied the answer or denied the question, and then you went into a discussion of what the Administrative Law Judges proposed, and that's kind of a process that makes a recommendation to the Commission, isn't it?

Page 157

MR. POUS:
A. That is correct.
KELLY, Q.C.:
Q. Right, and then you attached that, and then you came down at line 12 to say, "ELG was adopted, but not retained, with one of the three Commissioners still objecting". So at the end of the process, ELG was adopted, was it not?
MR. POUS:
A. My recollection of the situation was that the Administrative Law Judge recommended ALG. The Commission, on its first day of final order, adopted ALG and denied ELG, came back on the second day of its final order, recognized that the level of rate rollback was more significant than apparently they were willing to do, and reversed the two largest adjustments they had made the day before to come up with a revenue requirement rollback that was not as massive.
KELLY, Q.C.:
Q. Okay. Now you attached as the attachment to this, if I follow it correctly, the recommendation of the Administrative Law

Page 158

Judge, not the final decision of the Commission?
MR. POUS:
A. Correct.
KELLY, Q.C.:
Q. So you didn't attach the final decision. Just let me stay with this for a second. Just come over to page IV-47 towards the top, Item 7, and this was from the Administrative Law Judge, "Although the ELG procedure is not an accelerate depreciation method, it does recover more expense in the early years than the ALG procedure". So the Administrative Law Judges took issue with your position that ELG is an accelerated depreciation procedure?
MR. POUS:
A. Based on that statement, yes.
KELLY, Q.C.:
Q. Now we went out and got the Commission's decision which has been provided to you.
MS. GLYNN:
Q. That will be entered as Information Item #22.
KELLY, Q.C.:
Q. Item 22.
MR. POUS:

Page 159

A. Thank you.
KELLY, Q.C.:
Q. And, Chris, do you have - sorry, you don't have that on the system. Mr. Chairman, if everybody has the written text. I take you - they're just seeing if they got it on the system. I'm going to take you, Mr. Pous, over to page 8 of the final decision of the Railroad Commission of Texas. Over to page 8, paragraph 92, and the final decision provided, "Because it provides" at paragraph 92, "Because it provides a more accurate estimate of the actual consumption of property, the ELG depreciation procedure requested by Lone Star is reasonable".
MR. POUS:
A. Yes.
KELLY, Q.C.:
Q. And at 93, "The service lives and salvage values proposed by Lone Star are reasonable".
MR. POUS:
A. Yes.
KELLY, Q.C.:
Q. So at the end of the day, the Texas Commission determined that both the ELG procedure and the

Page 160

service lives proposed by the utility were reasonable and adopted them?
MR. POUS:
A. On their second final order vote.
KELLY, Q.C.:
Q. Right, okay. Why wouldn't you have just said that and attached this decision in response to the question?
MR. POUS:
A. I don't recall the logic going down at this point in time.
KELLY, Q.C.:
Q. Okay. Thank you, Mr. Pous, those are my questions.
MR. POUS:
A. Thank you.
MR. JACK POUS - EXAMINATION BY GREENE, Q.C.:
GREENE, Q.C.:
Q. I have just a couple of questions for you, Mr. Pous.
MR. POUS:
A. Then I have only a couple answers.
GREENE, Q.C.:
Q. The first area relates to the basic question of why the Commissioner should at this point

Page 161

in time consider a change in procedure from the equal life group to the average life group as you have recommended, and before I do that, because we have - that ground has been gone over, and as I understand it, the evidence would, I think without argument, demonstrate that you are a proponent of the average life group. Mr. Wiedmayer is a proponent of the equal life group from a pure depreciation expert perspective. Is that correct?

MR. POUS:

A. Yes.

GREENE, Q.C.:

Q. I think the evidence also clearly demonstrates that both procedures are an approved regulatory practice in Canada, is that correct?

MR. POUS:

A. Yes.

GREENE, Q.C.:

Q. I think, and as I understood your answer to Mr. Kelly's question, when you have a methodology such as the average life or the equal life in place, it's not something you switch back and forth between. Did I

Page 162

understand you correctly when you said, no, that is not - you do not switch back and forth between them on a regular basis?

MR. POUS:

A. On a regular basis, I would not expect.

GREENE, Q.C.:

Q. However, you did point out that in unusual circumstances or in exceptional circumstances, I'm not quite sure of your adjective, it should be considered and it should be appropriate. What, in your view, are those circumstances that would lead the Commissioners at this point in time to consider the actual change in procedure?

MR. POUS:

A. It's the concept of, as I said earlier, I won't go over too much more, inter-generational inequity in matching principle. If ELG followed the actual retirement pattern and planned addition patterns that the company is actually experienced and most likely will continue to experience in the future, then I would tell you then go ahead and keep ELG, but what we know today is that the ELG predictions have not followed the actual pattern of

Page 163

retirements or the pattern of expected additions over time, and as such you have changed circumstances that demonstrate that it is not as indicated probably back in 1978, the mathematically most - it is the mathematically most correct, but the actual practice of the utility does not follow the mathematical expectations, and to think that it will start following the mathematical expectations in the future for 50 to 100 years are just simply outside the realm of possibility. So I believe in order to minimize inter-generational inequity, minimize the true-up that is going to be required, minimize the subsidy, and continue to chart - not continue - to establish the charges of depreciation on a consistent basis with the method of life estimate, which is on an average basis, and also to keep the reserve - remember in the depreciation formula, you have the original cost, less the reserve, less net salvage. Net salvage is kept on an AlG basis, the reserve is kept on an ALG basis, and so to do a calculation procedure that violates the formula, invaluates logic, creates inter-

Page 164

generational equity, forces subsides on - well, not forces, presents subsidies to future customers at the cost of current customers, I don't see any benefit that's there for that situation and it doesn't seem to follow any regulatory principle that I'm familiar with.

GREENE, Q.C.:

Q. I believe that you also agreed in discussion with Mr. Kelly that a valid factor for the Commissioners to consider is whether there's going to be significant increase in rates in the future. Mr. Kelly referred to significant increases in power purchase cost. Is that correct, did I understand you correctly?

MR. POUS:

A. I think I said that you have to consider the future, but you also have to consider the lowest power cost today.

GREENE, Q.C.:

Q. Okay.

MR. POUS:

A. So, you know, you could - if you wanted to reduce future costs right now, take depreciation, throw it out the window, take all capital additions and expense them in this

Page 165

year, and you'll have a lower rate base in the future. If that's the regulatory principle, it's a much easier way of doing it, but if the regulatory principle is to try and charge customers their fair share of costs on depreciation, then you need to consider today's fair share of costs and implement a system that captures that.

GREENE, Q.C.:

Q. However, I also understand based on your statement that you can't ignore the future, and that would be a valid consideration for the Commissioners as well?

MR. POUS:

A. I think you have to look at today and the future. I don't think you can be blind to both, but you can't be blind to the current situation either.

GREENE, Q.C.:

Q. So moving to the next area is with respect to your recommendations on the average services lives for the seven accounts, and you mentioned in discussion with Mr. Johnson in your direct evidence this morning that you use a screening process to look at - to determine

Page 166

which accounts require more scrutiny, is the way that I would say it, and I think you also discussed with Mr. Kelly that you haven't done a - he called it a full blown depreciation study, and you explained why not, and what I want to explore with you was what your screening criteria were to be used in that? I know one criteria you said was the dollar value of the account, is that correct?

MR. POUS:

A. Yes, because if I make adjustments in certain accounts and it comes out to be a $10,000.00 or a $5,000.00 adjustment and it costs $15,000.00 to analyze it and creates $30,000.00 worth of litigation costs in the hearing, that's foolish. There has to be some reasonable basis for making sure that the effort is - the bang for the buck, you might say, and whether that goes up or down, you look at the bigger accounts. You also look at what facts may be facing you, and the level of detail of analysis. For example, I did have problems with the company's decommission cost estimates, but in order to analyze that and come up with any adjustments, just too time

Page 167

consuming, too massive, and it may have had some dollar impact, but you got to look at reality of the schedules that you allow for intervening investigation and testimony. So it's time constraints, it's data constraints, it's cost constraints, it's bang for the buck you might say also.

(1:00 p.m.)

GREENE, Q.C.:

Q. Is it fair that that's the primary screening criteria you used, it's the size of the account?

MR. POUS:

A. Generally, but not consistently. Like I said, on decommissioning there may have been a dollar impact, but when I realized the amount of effort that would have been required, it just wasn't worth the effort.

GREENE, Q.C.:

Q. I believe in direct-examination, you also mentioned that you look at the estimated - the recommended service life, and based on your judgment as to what's reasonable from your experience with other rate cases, if something pops at you that is unusual, that could also

Page 168

be another screening criteria, did I understand you correctly?

MR. POUS:

A. Yes. If I would have seen some 200 negative net salvage percentages, I would have looked at those even if they were mid size accounts, because the resulting bang for the buck would have been much greater.

GREENE, Q.C.:

Q. So coming to the 57 accounts that Newfoundland Power did include in its depreciation study, I take it then that of the 50 accounts where you did not make any recommendation, there was nothing unusual about it, or the size of the investment considering both of those factors, you believe that there was nothing there that would even suggest that there was anything unreasonable with respect to the recommendations provided?

MR. POUS:

A. I wouldn't say I didn't find anything unreasonable. It's a combination of didn't have maybe as good a basis as I would have felt comfortable going forward making adjustment, but there are - some of the

Page 169

combined accounts where I made an - out of the seven accounts I made adjustment, there were some that were combined that I didn't make the corresponding adjustments to the smaller components of the combined account, and again because of dollar impact. That doesn't mean I agree with what they did.

GREENE, Q.C.:

Q. No.

MR. POUS:

A. I just didn't challenge it.

GREENE, Q.C.:

Q. And that's the point that I was trying to make that you are quite happy with the -

MR. POUS:

A. I wouldn't use the word "quite happy".

GREENE, Q.C.:

Q. What word would you use?

MR. POUS:

A. Didn't challenge.

GREENE, Q.C.:

Q. Thank you, Mr. Pous. That's all the questions that I have.

MR. POUS:

A. Thank you.

Page 170

MR. JACK POUS - EXAMINATION BY CHAIRMAN:

CHAIRMAN:

Q. So the Lone Star decision was rendered in -

MR. POUS:

A. 1997, I believe.

CHAIRMAN:

Q. And to the best of your knowledge, are they still using ELG?

MR. POUS:

A. Absolutely.

CHAIRMAN:

Q. So they haven't changed?

MR. POUS:

A. No.

CHAIRMAN:

Q. So it's their opinion, and the opinion of the Texas Railroad Commission - that's an interesting organization. I just read a biography -

MR. POUS:

A. You have no idea how interesting.

CHAIRMAN:

Q. What?

MR. POUS:

A. You have no idea how interesting.

Page 171

MR. POUS:

A. I read - there's a history of them, and I actually read it. A fascinating crowd. It's their opinion that the ELG is the best way to go, Mr. Wiedmayer said the ELG is the best way to go, Light and Power says it's the best way to go, and you say it's not the best way to go. All of you, it seems to me are very well informed people, would you not agree? Do you think you're well informed?

MR. POUS:

A. I think I'm well informed.

CHAIRMAN:

Q. Do you have any reason to think Mr. Wiedmayer or Light and Power is not well informed?

MR. POUS:

A. No, I agree they are -

CHAIRMAN:

Q. Or the Texas Railroad Commission is not informed on these or other issues -

MR. POUS:

A. I cannot speak on the Railroad Commission. I will say the company's probably -

CHAIRMAN:

Q. You don't think their decision was founded,

Page 172

well founded in that case?

MR. POUS:

A. I can only tell you they voted one way on one day with no change in evidence, and voted another way the very next day when they weren't supposed to take up the issue again.

CHAIRMAN:

Q. Well, at the end of the day, it all resolves around, is the decision or is the recommendation, is the position that is in issue, is it based on what one can reasonably assume to be well founded, reasonable judgment? That's at the end of the day. This is how this stuff kind of shakes itself out. It's not like, as I call it, a quadratic equation, you just don't fill in the gaps and get the answer, you bring - there is some subjectivity here and as long as the individual or organization bringing that subjectivity to the issue has reasonably, you know, informed itself and made reasonable decisions, there's - it's very difficult for anybody to go behind and find fault.

MR. POUS:

A. They made their decision. I have no option

Page 173

other than to accept it, and I do accept it when I file cases at the Railroad Commission now.

CHAIRMAN:

Q. Do you have an re-direct, Mr. Johnson?

MR. JOHNSON:

Q. No, Mr. Chairman, thank you.

(1:03 p.m.)

CHAIRMAN:

Q. I guess we're - are we going to adjourn now for the rest of the day. We're adjourned until 9:30 tomorrow morning. Thank you.

(HEARING CONCLUDED)

Page 174

CERTIFICATE

I, Judy Moss, hereby certify that the foregoing is a true and correct transcript of Newfoundland Power Inc.'s 2013 General Rate Application, heard on the 24th day of January, A.D., 2013, before the Newfoundland and Labrador Board of Commissioners of Public Utilities, 120 Torbay Road, St. John's, Newfoundland and Labrador and was transcribed by me to the best of my ability by means of a sound apparatus.

Dated at St. John's, Newfoundland and Labrador
this 24th day of January, A.D., 2013
Judy Moss

-#-

#22 [1] 158:22

-$-

$1,000.00 [1] 7:22
$1.60 [1] 48:8
$10,000.00 [1] 166:12
$100.00 [1] 7:20
$15,000.00 [1] 166:14
$175,000 [2] 66:7,18
$2,000.00 [2] 13:3,6
$200,000 [2] 102:6,7
$200.00 [1] 21:3
$30,000 [2] 102:5,9
$30,000.00 [1] 166:15
$4,000 [1] 93:22
$430,000.00 [2] 13:9 13:14
$5,000.00 [1] 166:13
$500.00 [1] 13:7

-'-

'30s [1] 56:4
'70s [5] 84:15,16 85:9 105:18,18
'90 [1] 105:18
's [1] 174:3

-60 [1] 47:23

-0-

0 [2] 9:14 21:10

-1-

1 [26] 4:15,20 8:24 9:5,8 9:19 10:10 11:9,18 12:21 13:10,12 15:10 16:2,11 17:15,22 18:6,13 20:21 52:24 53:6 60:9 126:21 127:2 144:14
1,497 [1] 142:23
1.1 [1] 16:23
1.4 [2] 87:1,1
1.8 [3] 96:2,21,25
10 [10] 23:4 24:18 71:4 99:12 108:16,23 117:12 121:18,21,23
10-15 [1] 97:2
100 [9] 3:23 6:6,7,13 52:5 88:16 122:3 138:4 163:10
10:00 [1] 40:10
10:15 [1] 48:13
10:30 [1] 59:8
10:45 [1] 72:17
10:49 [1] 76:9
11 [15] 74:9,9,17 75:24 86:14,19 87:2 90:4,5 138:21,23 139:8,8 140:7 150:18
110/120 [1] 138:5
11:25 [1] 76:10
11:30 [1] 80:25
11:45 [1] 95:3
12 [2] 130:5 157:5
120 [1] 174:6
12:00 [1] 107:3
12:15 [1] 125:22
12:30 [1] 139:5
12:45 [1] 154:15
13 [4] 38:4,9 78:22 79:4
14 [3] 23:11,21,25
15 [24] 23:10 24:3 26:13 38:13 71:4 74:9,10,17 75:24 86:14,20 87:2 90:4 90:5 99:12 108:16,23 117:12 138:21,23 139:8 139:9 140:7 150:18
15.9 [1] 65:18
17 [1] 123:6
1700s [2] 98:8 100:11
1776 [1] 98:9
18th [1] 78:13
19 [2] 8:7 98:9
1900 [1] 98:14
1920s [1] 56:4
1933 [2] 30:20 88:14
1948 [3] 26:2 27:13,22
1951 [1] 120:12
1967 [8] 21:23 22:17 23:5 24:22,25 25:6 27:4,15
1970s [1] 130:2
1972 [1] 77:7
1977 [1] 130:8
1978 [2] 89:21 163:4
1979 [1] 132:12
1980 [1] 24:23
1980s [2] 84:6 130:2
1982 [3] 126:7 138:11 150:2
1983 [2] 126:21 127:2
1990 [1] 105:21
1990s [1] 120:17
1995 [1] 151:15
1996 [1] 120:19
1997 [5] 24:15 38:16 156:5,9 170:5
1998 [1] 43:22
1:00 [1] 167:8
1:03 [1] 173:8

-2-

2 [3] 10:9,11 30:3
2-24 [1] 1:21
20 [12] 24:18 66:11,16 71:5 87:3 103:17 105:1 110:25 117:13 121:18,21 121:23
20-year [1] 99:19
200 [2] 77:22 168:4
2003 [3] 26:11,15,17
2004 [2] 22:25 24:20
2005 [2] 82:20,22
2009 [12] 21:23 22:17,25 23:5 24:25 25:7 26:3 27:4,13,15,22 94:2
2010 [3] 42:16 43:4 115:22
2012 [1] 78:12
2013 [6] 1:1 78:14 94:4 174:3,5,11
2015 [2] 146:1 147:6
2016 [1] 147:6
2017 [2] 147:7 148:7
21 [1] 80:7
22 [5] 22:20 73:25 86:19 130:16 158:24
224 [2] 2:1,2
23 [2] 28:15 73:25
24 [2] 1:1 73:21
24th [2] 174:4,11
25 [5] 19:5,15 33:15 80:14 110:9
26 [4] 11:1 67:6 70:4 79:7
27 [10] 4:15,20 10:9,11 22:20 28:15 39:15 60:9 86:20 96:12
28 [1] 78:12
29 [3] 79:13,14,15
2A [1] 45:9

-3-

3 [1] 21:3
3,000 [1] 142:24
3.7 [2] 137:24 138:11
3.7/3.8 [1] 137:19
30 [17] 8:7 24:7,18 46:16 54:1,2 58:22,23 70:25 73:1 79:15,18 84:25 98:20 99:19 110:8 128:19
300 [1] 77:23
30s [2] 28:4 69:1
31 [1] 4:18
33 [1] 80:7
35 [8] 19:5 20:11,11 24:6 38:22,22 74:9 152:4
355.1 [1] 66:17
365.1 [2] 47:20 111:24
38.5 [3] 18:8,11 20:14
39 [1] 21:12
39.5 [2] 20:19,24

-4-

4 [5] 43:7,18,20 130:3 132:12
40 [15] 19:19,20 20:7 21:2 21:10 24:6 26:16 46:17 69:2,23 77:20 80:10 99:6 99:18 112:1
40.5 [2] 18:7 20:13
400 [1] 77:21
40s [2] 26:4 28:4
42 [3] 21:12 25:24 78:22
42-R3 [1] 79:8
43.5 [7] 16:3,18,21,23 17:1,9,18
44 [3] 25:20 64:22 78:25
44.5 [6] 16:4,10,18 17:1 17:3,5
45 [4] 20:7 24:6 25:21 100:12
45-R3 [1] 79:8
46 [2] 13:21 48:21
46.5 [2] 11:17 13:23
47 [4] 13:20 64:22 65:2,5
47.5 [1] 12:24
48 [3] 13:20 25:19 33:16
48-R1 [1] 22:21
49 [1] 5:11

-5-

5 [4] 9:14 117:20 132:10 132:12
50 [22] 6:3,3 11:5 13:4,7 13:19 21:2 49:5,8 63:9 72:1 83:3 84:13 88:16 99:6,24 112:24 113:1 146:11 152:20 163:10 168:12
51 [4] 64:24 65:2,5 146:9
52 [1] 80:14
55 [3] 75:25 86:18 98:1
55-year [4] 74:14,18 75:22,23
57 [6] 61:15,18,20 63:2 96:13 168:10
57-R1 [1] 21:18
58.5 [1] 12:17
59 [1] 12:1
590,000 [1] 12:23

-6-

6 [1] 50:2
6.8 [1] 65:17
60 [10] 12:10 13:19 19:21 51:5,11 52:8 99:5,6,24 111:25
61 [1] 20:13
65 [2] 15:18,19
66 [1] 15:21
67 [1] 15:21
670 [1] 50:2
680 [2] 50:4,6

-7-

7 [3] 67:7 130:8 158:8
7.4 [1] 137:22
70 [3] 14:25 99:5,24
70s [1] 100:13
75 [1] 98:2
76.5 [1] 48:18

-8-

8 [3] 129:14 159:8,9
80 [4] 7:21 83:20,25 99:5
80/20 [2] 83:21 103:12
83 [1] 5:12
84 [1] 25:13
85 [3] 99:13,15,17

-9-

9 [1] 39:15
90 [1] 7:21
90s [1] 19:17
92 [2] 159:10,11
93 [1] 159:19
9:05 [1] 1:2
9:15 [1] 9:9
9:30 [2] 18:17 173:12
9:45 [1] 27:1

-A-

A-54 [2] 11:15 12:6
A-55 [2] 11:15 12:14
A-59 [1] 20:12
A-65 [3] 15:18 16:10,11
A-72 [2] 18:4,10
A-73 [1] 19:4
A-74 [1] 18:5
A.D [2] 174:5,11
a.m [12] 1:2 9:9 18:17 27:1 40:10 48:13 59:8 72:17 76:9,10 80:25 95:3
aback [1] 112:25
ability [2] 88:11 174:8
able [3] 32:5 49:22 95:14
above [1] 27:11
absent [3] 57:16,21 68:13
absolutely [9] 93:17 119:20,25 120:1,5 131:7 132:25 140:20 170:10
academic [2] 84:12 92:17
accelerate [3] 136:3,23 158:11
accelerated [15] 89:5,7 89:16 90:21,25 91:10 92:6 135:22 136:14,19 136:20 137:5,7,11 158:15
accept [7] 29:12,22 31:3 39:7 81:25 173:1,1
acceptance [3] 81:19 83:8 84:1
accepted [8] 8:22 53:9 54:19 57:5 65:12 91:8 124:22,25
accepts [1] 81:25
account [51] 1:24 3:15 8:25 9:21,22,22,24 10:6 10:17 11:12 19:2,7,8 20:2 21:17 22:22 25:4,9

25:12 26:10 27:7 36:24 38:22 41:12 48:18 51:7 62:18 65:15 66:17,22,25 74:5,7,15 75:15,18,21 87:21 105:4 106:20 110:11,22 111:13,24 114:13,13 116:24 148:21 166:9 167:12 169:5
accounting [2] 24:20 87:23
accounts [37] 2:3,9,11 3:13 5:10 6:1 15:6,9 23:23 46:2 64:5 67:10 67:10 68:21 71:12 75:16 75:20 109:10,13,16,17 109:18,19,21 114:25,25 116:9 147:16 165:22 166:1,12,20 168:6,10,12 169:1,2
accrual [1] 133:10
accumulated [1] 75:11
accuracy [1] 133:6
accurate [3] 92:9 96:6 159:12
acknowledge [1] 125:15
acknowledging [1] 40:3
acoustic [1] 37:23
Act [2] 120:11 149:12
action [2] 108:8,22
activities [4] 113:5,6,14 155:2
activity [1] 93:20
actual [12] 68:11 87:16 88:22 93:10 95:5 96:1 133:14 159:13 162:14,19 162:25 163:6
actuarial [12] 2:16 7:8 21:22 29:25 31:6 32:1 97:14,20,21 98:7,8 103:25
add [3] 62:23 108:11 111:9
added [4] 25:24 80:11 82:14 88:15
addition [5] 7:1 28:20 48:21 88:15 162:20
additional [5] 20:23 89:23 102:6 108:11,12
Additionally [1] 24:19
additions [4] 95:16 146:19 163:2 164:25
address [8] 34:1 37:17 44:2 81:18 92:10,10 111:13 148:1
addressed [6] 26:22 44:9 44:13 50:1 92:15 116:7
adequate [1] 155:20
adhere [2] 15:9,13
adhered [1] 18:6
adjective [1] 162:9
adjourn [1] 173:10
adjourned [1] 173:11
adjusted [1] 46:14
adjustment [9] 66:17 111:8,21,22,24 124:3 166:13 168:25 169:2
adjustments [6] 110:22 111:6 157:19 166:11,25 169:4
Administrative [5] 156:22 157:12,25 158:9 158:13
admitted [6] 83:7,18,19 96:12 102:17 118:5
adopt [5] 57:20 58:19 80:24 86:3,6
adopted [15] 55:5,7 56:6 84:5,7,9 85:10 97:5 138:10 145:16,22 157:6 157:8,14 160:2
adopting [1] 150:5
adoption [3] 56:12 81:6 130:17
advent [1] 56:7
advocate [2] 5:5 64:23
advocate's [1] 5:22
affected [1] 130:22
affects [1] 131:5
affirmed [1] 53:21
again [16] 20:19 37:16 38:4 63:19 90:18,22 91:15 93:17 102:10 111:15 133:3 138:25 149:5,8 169:5 172:6
against [6] 135:12 136:5 136:7,13 152:21 155:9
age [22] 7:21 11:17 12:1 12:2,17 14:12 16:20,25 17:7,11,18 18:11 20:23 21:7,10 65:4 92:12 93:23 97:23 98:22 100:13 102:4
ages [2] 19:4 21:12
ago [11] 13:4,8 21:3 77:7 83:12 84:25 108:14 145:16,17 149:9 153:1
agree [33] 3:12,18 7:8 15:12 18:10 21:20 39:2 45:24 53:6,10,18 77:12 86:2,5,11 88:9 111:11 114:2 116:15 124:20 128:15 131:5 132:17 138:22 141:19,24,25,25 142:8 153:23 169:7 171:9 171:17
agreed [1] 164:8
agreement [3] 91:15 111:14 140:16
agrees [1] 91:18
ahead [2] 133:3 162:23
albeit [1] 36:13
Alberta [8] 81:12 83:10 83:24 102:19 110:1 124:1 125:1 129:17
AlG [54] 53:15 54:22 73:15 75:7,9 81:5,6,25 82:12,19,24 83:6,21 84:2 85:14 86:3,4,7 91:12,16 91:21 93:14 96:22 118:11 118:15 119:6 121:13 123:9,10,22,23 128:11 128:17 129:4 133:6,21 134:25 135:13,18,19 136:11,15,22 137:8,17 137:24 138:23 140:10 156:6 157:12,14 158:13 163:22,23
allocate [1] 112:22
allocated [2] 49:8,9
allocates [1] 113:1
allocating [1] 88:1
allocation [3] 49:20,23 113:19
allow [3] 91:25 122:3 167:3
allowed [2] 38:1 125:14
alluding [1] 150:9
almost [3] 3:24 6:14 56:15
along [4] 90:10,14 139:3 156:2
Altalink [1] 124:1
aluminum [7] 15:12 74:7,11,13,19 75:18 86:18
always [3] 102:24 116:20 124:14
amendments [1] 80:23
America [1] 81:21
amortizing [1] 130:9
amount [4] 59:14 71:19 151:21 167:16
amounts [3] 103:15 138:6,7
analyses [1] 98:5
analysing [1] 87:18
analysis [34] 2:4 3:9 4:2 7:8 8:4,14 20:4 21:14 30:1 31:6,8,12 74:1,4,16 84:16 87:19 94:5 97:7 97:14,15,20,21 98:8 99:11 100:3,7 103:25 106:9 114:19 141:2 143:12 146:8 166:22
analyst [2] 77:17 83:14
analyze [7] 4:4 31:16 102:23 109:9,16 166:14 166:24
analyzed [5] 24:16 27:15 28:8 85:17 114:25
anchoring [1] 113:11
annual [9] 91:20 92:11 93:19 94:12 95:11,12,21 107:7 130:25
annually [2] 37:22 38:7
answer [21] 10:4 23:9 32:5 35:21 52:1 56:20 57:16 107:6 109:25 110:19 111:10,12 116:21 117:20 118:13,19 119:22 148:1 156:20 161:21 172:17
answered [1] 19:7
answers [1] 160:22
anticipate [2] 19:6 151:24
apparatus [1] 174:9
appear [2] 37:24 65:3
Appendix [9] 8:7 10:9 22:20 28:15 39:16 60:9 144:15 156:3,16
apples [1] 35:8
applicable [1] 122:18
application [3] 85:22 129:7 174:4
applied [2] 141:3 143:14
applies [1] 132:19
apply [8] 54:4,12,19 55:18 57:12,25 130:19 134:19
applying [3] 135:1 143:12,14
approach [8] 75:7,7 89:4 116:17,21 134:25 147:11 150:15
approaching [1] 55:12
appropriate [13] 56:25 59:13 61:17,23,24 63:14 76:8 87:11 133:22 134:3 134:10 154:5 162:11
appropriately [1] 132:23
approve [1] 84:25
approved [10] 53:14 54:11,22 62:23 67:16,23 68:4 85:1 96:4 161:15
area [15] 36:9 51:21,22 73:12 106:17,18,21 109:16 111:6 112:19 143:21,23 156:1 160:24 165:20
areas [6] 41:14 70:21,23 71:1,8 152:1
argued [1] 84:18
argument [2] 135:17 161:6
arising [2] 29:8 58:13
arrangement [2] 103:18 106:13
arrest [1] 44:15
arrestors [1] 45:10
arriving [1] 21:21
ASL [1] 78:24
aspect [8] 88:2 96:18 108:13,24 109:1 143:21 145:9 155:23
aspects [4] 84:13 100:1 106:8 155:17
asset [13] 55:24 56:24 59:14,21 60:6 62:13 67:16 74:18 92:4 99:19 99:20,21 146:12
assets [8] 44:24,25 71:17 72:24 107:2 114:9 141:19 142:4
associated [5] 36:15 50:10 51:1 84:1 112:7
assume [7] 21:1 92:18 134:9 145:21 146:1 147:3 172:12
assuming [1] 13:1
assumption [4] 31:17 31:20 49:5 101:14
assumptions [1] 75:16
attach [1] 158:6
attached [4] 156:16 157:4,23 160:7
attachment [4] 42:16 42:18,20 157:23
attorney [1] 78:2
Austin [1] 76:25
authoritative [1] 56:1
authority [1] 129:19
authorized [1] 131:4
available [5] 4:22 5:2 35:14 71:20 150:23
average [37] 6:2,3,4 20:7 22:23 26:15 31:5,11,25 33:3,15,17 36:10 53:7 57:4,11 59:16 72:4 74:14 75:22,23 86:18 87:9,18 87:24 88:4,5 89:3 100:12 106:3 121:1 147:18 161:2 161:7,23 163:18 165:21
avoid [2] 15:2,5
aware [12] 2:22 21:17 33:20 81:11 84:4 118:14 121:9 123:25 124:10 129:20 149:10 152:22
away [4] 26:1 90:8 98:1 139:13
awkward [1] 5:19

-B-

B [10] 10:10 22:20 28:15 39:16 42:16,20 60:9 144:17 156:3,16
backed [1] 152:20
background [1] 77:5
bad [6] 105:14,15,17,20 106:2 141:7
bag [3] 101:13,19,22
balance [1] 136:12
balanced [3] 116:17,21 116:25
band [28] 21:22 22:17 23:6,8 24:16,24,25 25:7 25:17,21 26:2,2,6,9,11 26:14,19,23 27:5,11,12 27:16,17,19 28:8 87:19 98:6 108:10
banded [1] 87:22
banding [1] 108:15
bands [12] 24:16,18,19 24:21 25:11 26:23 62:11 98:4,10,23,23 100:8
bang [5] 69:24 70:9 166:18 167:6 168:7
bare [8] 15:11 24:2 74:7 74:11,13,18 75:18 86:17
barely [1] 99:21
base [17] 58:24 75:3,10 87:4,7 90:11 130:24 131:5,9,15,17 137:14,20 140:9 149:9 150:1 165:1
based [34] 17:5,17 23:4

32:24 33:24 36:3 40:24 41:2 44:5 50:20 54:3,25 68:7 69:2 82:22 83:21 84:16 85:1 98:9,13 101:8 102:2,5 110:4 128:11,12 128:13 133:12 137:11 143:24 158:17 165:10 167:22 172:11
bases [1] 28:21
basic [2] 91:8 160:24
basics [1] 29:11
basing [1] 71:13
basis [37] 28:11 50:13 68:9 72:7 82:24 83:11 84:2 87:24,25 88:4,5 90:22 92:5,13 94:3 96:18 97:16 103:21 105:6 111:17 112:17 115:14 117:14 124:16 128:25 129:2 145:12 154:9 156:6 162:3,5 163:17,18,22,23 166:17 168:23
bathed [1] 61:6
BC [1] 72:5
become [3] 19:5 44:18 101:20
becomes [1] 81:16
becoming [1] 120:22
began [1] 117:20
beginning [7] 12:24 16:20,25 17:7,11 94:12 94:14
behalf [3] 77:23 82:22 83:19
behave [3] 13:18 14:21 21:10
behaving [1] 21:9
behind [1] 172:23
believing [1] 133:4
bell [1] 93:18
below [6] 2:10 5:8 11:5 12:23 16:14 43:20
beneficial [3] 75:6 151:21 155:22
benefit [10] 84:19 86:4,7 89:19 139:18 140:1,5,8 147:10 164:4
benefits [4] 89:23 107:11 107:13 154:22
bent [2] 105:1,2
best [17] 7:7 23:1 26:3 55:23 89:4 96:8 99:1 153:20 154:3,11,24 170:7 171:4,5,6,7 174:8
bet [2] 101:16,22
better [21] 6:24 10:14 32:5,14 34:2 37:17 38:2 45:24 46:10 56:23 60:19 70:9 71:2,7 104:5 106:6 141:17 142:1,8 153:24 154:2
betting [2] 88:20 101:21
between [11] 13:19 16:25 19:4 85:20 112:23 133:13 140:16 143:16 144:11 161:25 162:3
beyond [2] 6:6 27:11
big [1] 148:21
bigger [3] 30:15 47:19 166:20
biggest [2] 146:23,24
binder [1] 66:15
biography [1] 170:19
bit [12] 12:19 14:21 23:12 24:1 29:12 40:8 42:23 43:1,9 101:10 132:11 133:20
black [6] 101:13,14,15 101:16,20,23
blind [2] 165:16,17
blindly [2] 104:9,21
blown [4] 114:8,24,24 166:4
Board [25] 1:10 59:5 73:19 84:4,6,24 85:3 111:4 117:18 124:10 126:6,17 127:10 129:2 129:25 130:8,15 132:13 132:23 133:2 138:10 145:22 148:20 150:1 174:6
bodies [2] 78:1 129:15
body [1] 8:8
boil [1] 139:15
boils [2] 139:19 140:4
book [1] 96:2
books [1] 14:14
born [1] 98:13
bottom [6] 10:13 23:11 23:21,25 130:13,14
box [1] 105:25
bracket [1] 93:23
brackets [1] 102:4
break [6] 76:7,9 97:12 104:10,14 108:9
breakdown [2] 49:16 50:9
breaking [1] 104:19
breaks [1] 104:24
bring [5] 33:2 52:21 53:3 109:6 172:17
bringing [1] 172:19
broad [1] 87:17
broadly [1] 21:16
broke [1] 1:23
brought [1] 45:8
brush [1] 87:18
buck [5] 69:25 70:9 166:18 167:6 168:7
budget [1] 79:20
building [1] 124:4
built [1] 94:21
business [2] 70:3 77:20

-C-

CA [1] 73:15
CA-NP-084 [4] 23:9,10 23:21 38:4
CA-NP-547 [1] 35:1
CA-NP-620 [2] 75:14 138:21
CA-NP-88 [1] 42:15
cable [8] 3:15 19:10,18 19:21 105:13,23 106:2,6
cables [5] 1:24 2:13 18:4 19:16 39:21
calculate [2] 124:21 126:19
calculates [1] 59:2
calculating [1] 87:10
calculation [10] 81:19 82:1 89:1,2 93:13,14 96:21 97:2 133:9 163:24
calculations [2] 56:8,14
calls [1] 112:7
Canada [25] 34:16 53:3 53:6,9,16 57:5 67:6 78:8 83:1 85:13 117:7,13,15 117:25 118:3 123:3,21 124:21,23 125:3,14,15 125:17 129:20 161:16
Canadian [11] 34:12,14 52:25 72:1 77:24 83:8,9 83:23 117:6,21 118:10
cannot [7] 88:21 102:12 110:13 133:4 135:9 155:2 171:22
capabilities [1] 109:15
capability [1] 9:16
capital [4] 57:18 79:20 132:7 164:25
capture [3] 95:13 96:14 139:22
captures [1] 165:8
car [2] 69:22,23
care [1] 100:22
careful [1] 55:22
cars [1] 69:22
case [31] 5:22 47:23 58:2 63:1 64:14 82:17,21 86:14 94:25 95:2,21 96:11 97:4,14,20 102:17 103:16 105:23 106:5 108:13 110:1,23 111:23 120:14 124:1 126:25 149:15 150:22 155:20,21 172:1
cases [8] 9:3,4 77:21 95:12 114:16 143:6 167:24 173:2
catch [2] 122:6 133:8
categories [1] 97:13
category [4] 51:11 86:18 103:24 141:14
caused [1] 58:7
causes [5] 24:9 37:2,6,8 124:16
caveats [2] 29:21 32:4
CCA [12] 24:12 29:5,5 33:19,22 34:2,7,15,20 35:6,23 36:4
Cedar [1] 32:7
centre [1] 143:22
certain [9] 13:12 14:20 31:1 41:14 111:18 129:15 130:18 153:11 166:11
certainly [1] 11:11
certainty [2] 33:5 153:6
CERTIFICATE [1] 174:1
certify [1] 174:2
cetera [5] 39:6 44:16 50:11,12 120:23
Chair [2] 1:7 60:11
chairman [38] 1:3,12 40:23 52:14 60:24 61:8 69:13,17 70:8,16 71:9 72:15,20 73:9 74:22 76:1 76:5,6,11,15,21 77:9 83:12 113:25 159:4 170:1 170:2,6,11,15,22 171:13 171:18,24 172:7 173:4,7 173:9
challenge [2] 169:11,20
change [31] 24:20 54:5 54:12,19,23 55:4,8,11 55:18 57:13 58:5,13 59:6 67:12 68:10 79:12 80:13 87:3,3 91:22,25 95:1,14 96:23 102:8 109:23 127:11,11 161:1 162:14 172:4
changed [4] 85:6 96:10 163:3 170:12
changes [7] 65:22 68:21 68:23 80:3,20 105:11 143:5
changing [1] 129:9
characteristic [1] 99:11
characteristics [8] 87:17 96:15 97:8,19 98:19,21 104:1 107:1
characterize [1] 114:23
charge [2] 131:1 165:4
charged [2] 94:8,22
charges [2] 130:20 163:16
chart [2] 18:10 163:15
chase [1] 17:21
check [3] 15:7 51:13 72:11
chemical [1] 107:23
cherry [3] 110:16,16,18
chief [2] 114:15 156:3
children [1] 139:19
choice [3] 128:7,12 130:23
choose [4] 102:16 110:3 110:4,16
chosen [2] 74:7 147:17
Chris [6] 16:22,23 130:13 132:10 144:14 159:3
chronological [1] 5:6
chunk [1] 86:15
Churchill [1] 148:6
circumstance [1] 55:19
circumstances [10] 58:10 71:18 85:6 129:10 130:18 153:18 162:8,8 162:12 163:3
cities [1] 123:7
claim [3] 8:13 86:23 105:20
class [2] 41:13 92:2
classic [7] 89:7,15 90:25 136:2,10 137:5,11
clearly [1] 161:14
click [1] 5:4
clients [2] 36:21 67:7
close [2] 83:5 88:19
closer [1] 110:11
closest [1] 95:11
CLYNN [1] 1:6
Coast [1] 33:14
coastal [1] 70:23
coin [1] 134:11
collected [2] 59:21,24
collection [1] 95:17
college [1] 77:14
column [3] 47:22,23 48:17
columns [1] 53:20
combination [3] 37:22 106:14 168:22
combinations [2] 26:10 26:24
combined [3] 169:1,3,5
comfortable [2] 106:16 168:24
coming [7] 60:16 63:20 124:4 128:11 141:3 148:6 168:10
comma [1] 80:8
commence [1] 1:4
commission [17] 81:13 81:24 83:12 124:2 127:24 127:25 129:1 156:14,24 157:13 158:2 159:9,24 170:17 171:19,22 173:2
Commission's [1] 158:19
Commissioner [3] 69:11,15 160:25
Commissioners [7] 65:6 66:25 157:7 162:13 164:10 165:13 174:6
commissions [2] 82:11 85:19
common [3] 29:7 54:3 140:16
commonly [1] 55:4
commonsense [1] 149:22
companies [10] 2:20 34:14 52:4,7 53:19 67:6 115:25 123:3,7,21
company [54] 6:14 19:20 29:4 30:3 31:14 32:19 34:20 35:21 36:4 38:2 41:13 42:10 45:13 49:5

50:9,18 51:18 57:17 62:11,24 70:21 72:7 73:25 75:20 77:14 79:7 82:17,23,24 83:2 86:25 88:22 90:9 100:19 104:16 105:14,19 106:23 109:12 111:25 112:6 115:13 118:5 119:17 120:3 127:3 137:16 138:5 142:20 148:17 153:8,23 155:14 162:20
company's [25] 32:6 33:2 34:10 41:3 42:11 49:20 52:22 69:3 72:6 72:14 78:24 86:2,5 107:6 109:9 115:13 123:1 130:3 137:15 141:19 142:4,10 151:12 166:23 171:23
compare [1] 72:13
compared [3] 2:15 89:25 102:9
comparing [1] 136:5
comparison [3] 26:5 91:20 136:7
comparisons [2] 62:14 136:10
compartmentalizing [1] 41:21
compelling [1] 148:25
complain [1] 119:16
complete [15] 2:6 3:11 3:17,22 4:7,8 5:6,15,18 118:6 119:18,25 120:1,4 121:13
completed [2] 6:8 44:8
completely [1] 23:7
completes [1] 99:25
complicated [1] 63:22
components [2] 40:6 169:5
compound [1] 87:1
computer [4] 9:7 17:22 56:9,14
computers [2] 56:7,13
concept [10] 28:12 48:5 73:18 85:6 89:5 91:8 100:9 110:15 116:20 162:16
concern [1] 44:12
concerned [2] 108:6 112:3
concerns [1] 29:4
conclude [2] 31:22 111:11
CONCLUDED [1] 173:13
concludes [1] 69:10
conclusion [5] 63:21 71:21 117:8,25 144:7
conclusions [1] 99:17
concoct [1] 91:4
condition [2] 37:16 108:8
conditions [1] 151:16
conductor [11] 2:21 6:2 19:9,23 24:2 67:12 74:7 74:11,13,19 75:19
conductors [1] 15:11
confirm [10] 2:11 11:6 11:14,16 18:5 34:19 35:20 79:24 104:7 156:13
confirmational [1] 105:8
confirming [1] 119:11
conjunction [1] 55:7
connection [2] 10:11 47:3
consequences [2] 137:22 146:5
consider [20] 8:3 14:4 14:10,10 21:12 59:6 62:5 67:22 68:3,5 86:16 124:9 132:23 150:1 161:1 162:14 164:10,16,17 165:6
considerably [1] 52:7
consideration [7] 55:22 60:1 97:18 99:10 130:21 149:1 165:12
considerations [9] 14:9 20:5,22 97:9,12 103:8 103:24 124:6,14
considered [12] 7:13 8:21 9:4,6,13 21:6 25:3 27:5 85:8 87:5 124:15 162:10
considering [1] 168:15
consistent [7] 11:18 13:23 14:1 88:3 92:12 147:11 163:17
consistently [3] 93:2,2 167:14
constant [3] 92:3 135:5 135:7
constituted [1] 74:4
constraints [3] 167:5,5 167:6
construction [1] 44:14
consultant [1] 96:17
Consultants [1] 76:24
consumer [3] 5:5,22 64:23
consumers [3] 73:3,5,5
consuming [1] 167:1
consumption [3] 55:24 113:8 159:13
contain [2] 6:13 7:18
contains [1] 48:18
contested [1] 81:16
context [9] 23:12 26:4 43:9 45:15 73:19 74:10 74:15 75:12 86:17
continually [1] 68:10
continue [9] 19:13 26:12 80:10 89:22,23 148:4 162:22 163:15,15
continues [1] 128:16
continuing [1] 128:16
contradicted [1] 23:8
contrary [2] 127:25 155:23
contrast [1] 23:3
control [2] 149:12 153:21
conventional [1] 70:12
Conversely [1] 26:14
conversion [1] 58:7
converted [1] 138:23
convey [1] 40:22
convincing [1] 58:19
copper [1] 24:2
core [1] 37:23
Corporate [1] 52:23
corporation [1] 120:16
correct [48] 4:11 7:14 28:1 34:22,24 36:22,24 38:17 48:15 55:8,12,14 56:5 57:6 59:10,17,19 61:18,20 62:2,4 63:4,11 63:24 64:1 66:7 67:19 68:11 77:2 119:23 122:11 134:4,10 135:2 138:16 139:24 143:8,10 145:4 148:23 157:2 158:4 161:10,17 163:6 164:14 166:9 174:3
correction [2] 139:4,8
corrective [1] 108:22
correctly [4] 157:24 162:1 164:14 168:2
correctness [1] 85:21
correspond [1] 93:11
corresponding [1] 169:4
corrosion [2] 46:12 70:24
corrosive [2] 69:6 71:2
cost [30] 7:20 13:5 48:10 48:20,20 49:8 59:20 60:5 75:12 88:1 113:1,2,19 130:9,24,25 131:2 132:7 132:16 149:19 150:6,13 150:17,23 163:21 164:3 164:13,18 166:23 167:6
costing [1] 112:13
costly [1] 110:14
costs [9] 49:6 112:22 149:3 153:21 164:23 165:5,7 166:13,15
council [1] 82:6
count [2] 143:2,4
counted [1] 142:23
country [1] 32:9
couple [9] 23:24 24:1 26:13 61:13 87:15 107:18 121:16 160:19,22
course [3] 64:7 65:4 67:15
cover [1] 43:5
covered [2] 62:22 83:16
create [1] 133:7
creates [3] 149:5 163:25 166:14
credence [1] 145:18
credibility [1] 102:13
cribbing [1] 24:12
criteria [6] 9:1,18 166:7 166:8 167:11 168:1
criticism [2] 10:8 23:6
criticized [1] 22:18
criticizing [1] 25:6
cross [2] 75:1,13
cross-examination [1] 1:14
cross-linked [1] 19:10
crossover [8] 73:14 74:3 74:8,16 75:2 90:3,18 138:21
crowd [1] 171:3
Crown [1] 120:16
curious [1] 121:15
current [23] 45:11 67:16 67:22 73:3,4,5 86:8 89:19,24 90:16 91:16 94:3 131:25 132:16 138:16 139:24 145:13,14 145:19 148:11 150:22 164:3 165:17
cursory [1] 110:8
curve [32] 4:4 5:18,20 6:5,19,23 7:1,2,5,18 8:17 10:16,18 11:3 22:21 61:24 68:4 93:4,18 94:13 94:14 98:25 99:1,7,12 101:3,25 102:7,12 103:9 103:11,12
curves [4] 2:9 56:3 92:22 103:16
customer [10] 49:7 50:10 50:11 51:20,23 58:13 86:25 87:4,6 132:2
customer's [1] 137:24
customers [35] 58:9 78:3 78:3 86:8,9 88:1 89:18 89:19,21,22,24 90:7,12 90:16 94:9,22 130:17 138:2,11,15,16,24 139:2 139:9,23,24 140:1,2 147:8 148:18 149:3 150:11 164:3,3 165:5
cut [7] 13:20,21 17:21 38:24 102:23 113:10,14
cut-off [2] 102:16,18
cutting [3] 13:23 16:3 113:8
cycle [3] 6:9 99:25 107:8

-D-

damage [2] 24:11 152:21
data [55] 6:13,16,18 7:10 7:17,24 8:1,19,22 9:3,5 10:15,23 11:2,8 12:16 13:16 14:7 16:11 17:9 18:11 22:24 23:5 24:19 25:1,15 26:17 28:21 31:22 34:9 37:20 63:12 72:14 87:20 88:22 92:23 97:23 98:7,22 99:2,3 100:8,10,24 101:3,7 102:7 109:18 115:9,13 115:20 142:13,24 155:15 167:5
database [4] 31:14 33:2 71:16 72:2
date [5] 38:25 94:24 95:1 95:20 98:11
dated [3] 78:12,13 174:10
dates [1] 35:13
days [2] 69:24 92:25
dealers [1] 69:22
dealing [3] 113:17 151:1 152:16
dealt [1] 105:17
debate [3] 133:20 134:2 135:22
decade [2] 80:12 83:12
decades [3] 151:13,13 151:13
decay [6] 24:10 39:5,24 40:4 152:22 153:3
decelerated [1] 58:5
decide [1] 98:23
decision [10] 158:1,6,20 159:8,10 160:7 170:3 171:25 172:9,25
decisions [1] 172:22
decline [1] 3:22
declined [1] 99:21
declining [1] 136:12
decommission [1] 166:23
decommissioning [1] 167:15
decrease [1] 131:2
decrimental [1] 93:6
defended [1] 144:2
deferred [6] 135:15,18 135:22 136:15,19,24
deferring [2] 132:13 133:7
deficiencies [1] 44:2
definition [9] 89:7,16 90:25 92:2 99:9 136:2 136:10 137:5,10
deflation [2] 69:21 70:6
degree [8] 61:4 77:8,12 77:18 88:25 113:7 117:4 133:5
demonstrate [3] 155:21 161:6 163:3
demonstrated [1] 56:1
demonstrates [1] 161:14
denied [3] 156:20,21 157:14
denies [1] 81:25
dense [1] 51:21
deny [1] 85:21
departing [1] 9:18
department [1] 77:15
departure [1] 2:8

depending [3] 117:11 146:11,19
depreciate [1] 135:14
depreciates [1] 135:13
depreciation [103] 8:2 8:19 10:22 11:15 32:23 36:18 43:4 48:9 53:15 54:20 55:12 58:20 59:1 59:12,13 64:8 65:2,22 66:13 69:19 75:8,8,11 77:17,22 81:19 83:14,15 84:15 85:1 87:10 89:6,8 89:8,9,10,16 90:22 91:1 91:21 92:3,6 94:3,10,15 95:12,15,19 96:4 104:18 114:4,6,8,10,17,20 115:6 115:19,21 116:16,18 117:19 120:23 122:2 123:4 124:21 126:19 128:22 129:16 130:20,23 131:1,5,9,15 132:14 133:11 135:15 136:3 137:6,19 138:3 145:7,25 146:7,17 147:4,6 148:20 148:23,24 151:22 156:18 158:11,15 159:14 161:9 163:16,20 164:24 165:6 166:4 168:11
described [1] 56:23
detail [3] 10:17 84:20 166:22
detailed [2] 50:1,20
deteriorating [1] 37:25
determine [5] 21:8 67:1 136:14 145:10 165:25
determined [2] 44:11 159:25
determines [1] 45:14
determining [2] 20:6 145:19
develop [2] 88:4 114:12
developed [5] 56:3 72:25 87:23 110:21 115:20
developing [4] 97:8,19 148:23 151:22
development [2] 87:16 104:1
deviate [1] 103:2
die [1] 108:19
died [1] 152:25
dies [1] 99:24
differ [1] 20:21
differed [1] 68:24
difference [2] 127:6 143:16
differences [1] 102:25
different [30] 7:9,10 25:11,12 26:9,22 28:8 33:11 34:6 37:7 56:17 63:13 71:18 87:25 98:4 98:22 100:8 101:2,3,7 101:25 103:7,8 117:12 117:13 127:4 128:1 140:25,25 152:1
differential [2] 96:25 97:3
differently [1] 33:11
difficult [2] 10:4 172:22
difficulty [1] 154:23
digits [3] 91:6,24 136:12
dips [1] 99:17
direct [4] 48:4 78:11 111:1 165:24
direct-examination [1] 167:20
direction [2] 90:19 110:19
directly [2] 77:13 127:24
disagree [4] 111:16,17 132:17,19
disagreed [1] 125:20
disagreement [1] 91:13
disagrees [1] 91:12
disconnect [1] 40:9
discuss [3] 30:23 37:2 50:11
discussed [5] 10:19 28:25 56:1 58:24 166:3
discussion [12] 21:16 33:19 64:15 73:16 102:19 135:24 137:13 149:8 152:4 156:22 164:8 165:23
discussions [4] 33:25 34:10 37:5 142:11
dispersion [1] 10:24
displays [1] 18:11
dispute [1] 71:12
distribution [19] 21:2 21:17 23:23 24:13 35:8 38:14,21 43:5,21,23,24 44:20 45:6 46:2 67:11 75:21 104:16 106:24 107:9
Diversified [1] 76:24
docket [1] 156:17
doctors [1] 100:16
document [4] 25:7 43:3 45:8 130:7
doesn't [15] 6:13 23:6 35:10 41:19 44:25 67:15 73:2 93:25 106:7 111:14 116:24,25 148:1 164:5 169:6
dollar [14] 8:13,15,24 48:6 65:22 109:21 132:2 132:3 146:11,23 166:8 167:2,16 169:6
dollars [21] 7:18 12:2,25 13:14 14:13 16:24 17:18 20:22,25 21:4 48:19,21 101:9 102:2 131:20,23 131:25 137:20,23,25 138:12
done [27] 2:21 33:9,13 41:25 68:8 77:22 97:1 98:4 102:24 107:19 110:13 114:16,19,20 115:3,4,19,21 116:6 117:12 119:1,3 125:14 128:25 130:11 155:3 166:3
double [2] 136:12 142:23
down [48] 3:23 5:7,24,25 6:16 12:12,17 13:16 16:6 16:11,22 17:11 20:17,18 22:11 23:25 33:3 35:17 40:19 42:22,25 47:20 60:21 73:20,20 74:6 93:1 93:3 96:11 97:13 102:2 102:4,7,12,22 103:17 110:4 129:14,14 130:13 132:11 139:16,20 142:10 146:14 157:5 160:10 166:19
dozen [3] 7:25 8:1 39:1
dozens [1] 78:9
dramatic [5] 64:18 65:11 67:2,2 68:21
dramatically [1] 96:22
draw [4] 99:16 117:8,25 144:7
drive [1] 54:18
drives [1] 42:2
driving [1] 59:25
drop [3] 94:16,20 113:15
dropping [2] 70:10 113:9
drops [1] 99:12
drugs [1] 98:17
due [6] 24:11 29:3 39:2 39:22 98:16 154:22
during [6] 74:2 87:4 90:8 130:10 146:12,20

-E-

early [7] 36:14 84:6 105:18 107:14 109:1 130:2 158:12
ease [1] 124:3
easier [2] 101:11 165:3
easy [2] 13:7 108:1
edition [1] 88:13
education [1] 77:5
effect [10] 31:10,24 40:1 60:4 75:10 120:11 126:21 127:2 140:10 152:5
effective [1] 153:25
effectively [1] 94:11
effects [2] 149:10 150:2
effort [3] 166:18 167:17 167:18
eight [6] 25:11 26:8 28:7 79:7 94:12,18
eight-year [1] 94:22
either [11] 20:12 38:22 40:13 61:7 66:3 89:12 96:11 118:6 120:4 146:13 165:18
elaborate [1] 104:2
elaborated [1] 2:24
election [2] 81:7 128:10
elective [3] 126:1 127:21 129:12
electively [1] 128:7
electric [8] 2:20 72:5,13 77:14 78:4 82:3,6 132:16
electrical [2] 149:11,12
electricity [1] 73:4
electronic [1] 115:14
electronics [1] 70:1
elements [1] 39:25
ELG [89] 53:15 75:6,9 81:5,6,7,12,14,19,25 82:12,22,25 83:4,11,15 83:21 84:5,7,10,10,18 84:25 85:2,3,14,21 86:6 89:13,23 90:21 91:14,15 92:4,8,17 93:13 94:13 94:23 118:12 123:4,4,15 123:23 124:5,20 125:25 126:19,23 128:11,13,17 129:16,19 130:1,12,18 132:19 133:3,10,11,16 134:8,9 135:7,12,14,17 136:11,20 137:10 138:10 138:12 139:11 150:5 156:18 157:5,8,14 158:10 158:14 159:13,25 162:19 162:23,24 170:8 171:4,5
elongate [1] 47:8
elsewhere [1] 115:3
emergencies [1] 112:19
emergency [3] 112:9,12 112:17
emphasis [1] 8:16
emphasize [1] 91:1
empirical [1] 40:25
employee [2] 44:3,9
end [10] 7:17 72:11 102:14 103:10 112:13 135:25 157:8 159:24 172:8,13
ended [1] 116:12
energy [3] 81:20,23 132:16
engaged [1] 135:23
engineering [12] 2:18 14:22 30:24 32:15 33:25 34:10,12,13 42:8 46:7 77:13 142:10
engineers [3] 68:18 72:9 154:10
enormous [1] 75:17
ensure [1] 44:8
enter [1] 1:9
entered [1] 158:22
entity [1] 77:25
environment [2] 153:19 154:10
environmental [1] 29:3
environmentally [1] 34:3
equal [16] 29:13 53:8,24 54:1 55:25 56:22 57:13 57:21 58:6,15,23 59:1 59:16 161:2,9,24
equals [1] 136:17
equation [1] 172:16
equitable [1] 73:2
equity [3] 72:23 87:13 164:1
equivalent [1] 132:3
erratic [1] 19:5
erratically [2] 13:18 14:21
error [5] 84:7 88:25 89:3 133:13,15
errors [1] 78:14
especially [4] 32:20 33:12 85:7 153:19
espouse [1] 133:21
essentially [2] 48:5,20
establish [1] 163:16
established [1] 44:5
estimate [21] 7:5 10:14 10:20 20:6 22:22 23:3 28:21 36:5 46:17 52:2 62:23 72:8,12 74:1 88:17 99:1 106:19 109:24 133:1 159:12 163:18
estimated [4] 25:19 74:10 133:10 167:21
estimates [7] 2:19 11:4 71:10,13 72:12 133:12 166:24
estimating [3] 33:16 74:8,13
estimator [1] 99:2
et [5] 39:6 44:16 50:11,11 120:23
etc [4] 24:12 28:4 127:11 151:5
events [1] 133:14
everybody [2] 91:18 159:5
evidence [21] 8:6,9 10:19 52:22,24 53:5 60:8 61:22 64:16 66:11 78:22 80:24 130:3 140:23 152:3 156:3 156:17 161:5,14 165:24 172:4
evident [1] 130:17
exactly [3] 57:17 127:9 127:15
EXAMINATION [3] 1:15 160:17 170:1
examined [1] 24:21
example [17] 7:20 54:9 64:20 94:1 104:9 105:12 109:5 121:17 122:17 123:14 129:17 151:12 152:6,19 153:8 155:6 166:22
examples [1] 44:15
excellent [7] 2:5 3:10,16 4:3,7 5:14 6:25
exception [3] 18:3 63:3 81:10
exceptional [1] 162:8
exceptionally [1] 110:14
excerpt [1] 156:16
excerpts [1] 126:13
excess [1] 54:1

exclude [2] 8:19,22
Excuse [1] 60:11
exercise [4] 15:2,5 98:16 100:16
exhibit [6] 52:21,22 123:1 124:19 125:16 137:15
existence [1] 145:15
expect [11] 14:24 21:9 32:25 36:13 68:19,20 71:5 100:17 104:14 112:14 162:5
expectancies [1] 100:18
expectancy [4] 33:3 100:12 108:3,16
expectation [3] 26:7 33:7 34:4
expectations [8] 2:25 23:1 25:4,9 27:6 98:16 163:8,9
expected [7] 19:15,18 31:11 86:22 93:8 155:18 163:1
expenditures [1] 57:19
expense [24] 58:18 59:1 59:13,24 64:8 65:23 66:13 75:9 86:9 87:10 87:11 92:3 94:15 114:10 116:18 124:22 133:11 137:19 146:17 147:4,10 148:17 158:12 164:25
expensive [2] 70:17,20
experience [34] 6:8 22:17 24:17 26:9,14,23 32:24 34:11 44:11 51:9 54:3,13,16 55:17 62:9 62:10,12,16 64:2 68:7,9 68:11 70:4 71:25 72:6 77:5 85:12 104:11 141:18 151:12,14,15 162:22 167:24
experienced [4] 21:22 46:16 72:7 162:21
expert [12] 1:9 5:23 10:18 32:23 36:18 63:11 63:23 64:25 68:8 130:15 145:8 161:10
explain [4] 66:20 97:21 101:2 103:3
explained [6] 13:11 14:2 14:22 20:20 63:12 166:5
explore [1] 166:6
exposed [8] 7:19,22 12:2 16:24 17:18 21:4 41:14 101:9
exposure [6] 8:15,20 11:21 16:24 102:5,9
exposures [8] 8:13,23 8:25 11:19 12:23 21:11 102:3 103:20
extend [5] 108:23 146:3 152:8 154:25 155:2
extended [4] 71:15 108:3 145:23 153:9
extends [1] 70:12
extension [2] 107:11 154:21
extensive [1] 70:24
extent [5] 86:11 111:13 113:17 135:2 154:20
extenuating [2] 19:1 58:10
external [3] 2:7 57:22 68:13
extrapolate [1] 13:4
extremely [1] 112:3
eyes [1] 60:17

-F-

facilities [1] 151:4
facing [1] 166:21
fact [20] 4:13 8:6,9 11:8 11:16,17 16:14 36:17 40:25 44:24 56:12 84:24 96:5 103:16 127:20,24 130:24 140:22 144:12 155:21
factor [6] 22:16 67:21 68:5 132:22 145:11 164:9
factors [14] 29:1 55:16 57:16,24 62:6,18 63:13 66:24 74:5 97:15 124:9 124:13 149:25 168:15
facts [7] 111:19,20 129:10 143:24 144:4 145:10 166:21
factual [2] 144:1 145:12
failed [2] 41:7 45:21
failing [1] 42:5
fails [1] 41:8
failure [3] 40:7 44:4 80:16
fair [14] 37:12,14 63:17 73:1 89:18 116:10 117:4 117:7 133:22 150:12 151:11 165:5,7 167:10
fairly [1] 13:14
fall [5] 1:25 93:24,25 113:10 141:13
falling [2] 42:4 95:14
Falls [1] 148:6
familiar [9] 47:10 50:12 82:15 119:13 120:23 121:6 123:15,18 164:6
familiarity [2] 117:4,6
far [5] 106:17,18 144:8,9 145:18
farm [1] 101:17
fascinating [1] 171:3
fashion [1] 44:13
faster [6] 131:12,14 135:13,24 136:6 138:6
fathers [1] 139:17
fault [1] 172:23
Federal [1] 81:23
feeders [1] 43:24
feet [4] 20:11,12 38:23 151:24
felt [1] 168:24
FERC [4] 82:1,9,9 83:16
few [7] 7:25 28:24 85:13 103:1,16 114:3 149:15
field [2] 30:7 34:22
fifth [1] 48:17
figure [5] 23:4 48:22,23 56:8 143:23
figures [1] 51:10
file [3] 79:23 83:10 173:2
filed [4] 78:11 80:24 82:21 156:17
filing [6] 1:7 81:12,14 82:19,20 84:1
filings [1] 83:20
fill [1] 172:16
final [8] 156:13 157:13 157:15 158:1,6 159:8,10 160:4
finally [2] 34:18 111:5
finding [2] 69:18,20
fine [7] 3:3,7 19:13 76:18 88:10 92:17 104:23
finished [1] 76:2
firm [2] 9:2 36:20
first [42] 5:4 10:13 12:1 12:2 22:16 23:11,21,24 24:1,4,4 29:11 35:8,14 51:3 54:4,9,19 55:17 61:14 64:20 66:6,16 71:1 78:21 79:18 81:5,23 87:15,17 93:23,23 94:6 94:18 95:13 97:18 107:12 130:8 148:4 150:3 157:13 160:24
fit [9] 5:21 6:17 9:12,15 10:14,16,21 26:3 103:11
fitting [7] 7:2,7 10:16,18 23:4 101:3 103:9
five [19] 77:25 94:10,22 102:6 104:10,12,15,23 108:9,19 145:16,16,25 146:1,13,20 147:5 148:11 148:15
five-year [3] 67:8 96:13 104:11
fix [2] 108:2 112:14
fixed [1] 131:4
fixtures [1] 10:13
Fleming [19] 8:10 15:10 17:21 51:9 82:18 83:17 83:18,20 96:5 102:16,20 115:21 143:7,17 144:13 145:4,6 151:11,14
Fleming's [5] 9:1,7 13:24 71:24 144:24
flexibility [2] 9:12,16
flip [1] 38:12
Florida [1] 33:13
focused [2] 116:9,12
folks [1] 14:23
follow [8] 56:19 88:23 88:24 92:21 103:5 157:24 163:7 164:5
followed [6] 11:8 15:4 20:10 100:17 162:19,25
following [4] 44:14 79:17 154:11 163:9
foolish [1] 166:16
foot [2] 24:7,7
footnote [2] 74:6 123:18
footnotes [1] 35:17
forces [2] 164:1,2
foregoing [1] 174:2
foreseeable [1] 130:19
form [5] 90:22 92:5 124:3 127:6 136:20
formal [1] 43:23
format [2] 129:18 137:4
formula [2] 163:20,25
forth [5] 98:17 110:25 128:23 161:25 162:2
forward [6] 29:10 96:5 98:14 100:14 156:4 168:24
found [2] 107:18,21
founded [3] 171:25 172:1,12
four [4] 43:6 66:22 78:8 78:24
four-year [1] 99:22
fourth [2] 47:23 86:21
frame [1] 150:18
frequency [1] 93:4
frequent [3] 54:4,10,15
frequently [2] 29:5 55:3
friend [2] 48:4 73:13
friendlier [1] 34:3
front [1] 52:4
full [7] 6:8 98:6 99:25 114:8,24,24 166:4
full-blown [1] 114:21
function [3] 96:19 97:3 102:11
fund [7] 55:1,9 58:5 120:22 121:1,13 136:18
fungal [2] 152:22 153:3
fuses [1] 45:12
future [40] 7:4 23:1 25:4 25:8 27:6 37:1,4,6 57:18 62:17 68:20 73:4,5 80:15 80:15 86:9 88:12 89:22 100:19,21 106:5 130:19 132:1,15 133:5,14 138:16 139:25 149:1,3 150:10 162:22 163:10 164:2,12 164:17,23 165:2,11,16

-G-

gained [1] 37:21
Gannet [14] 8:9 9:1,6 13:24 15:10 17:21 143:6 143:16 144:13,24 145:3 145:6 151:11,14
Gannett [10] 51:9 71:24 82:18 83:17,17,19 96:5 102:16,20 115:21
gaps [1] 172:16
Gary [1] 30:24
gas [1] 82:2
gee [2] 107:22 139:17
general [7] 1:25 2:2 10:5 14:1 66:21 122:21 174:4
generalized [2] 103:14 103:18
generally [9] 2:6 8:19 39:5,23 101:7 121:9 124:22,25 167:14
generals' [1] 78:2
generational [3] 162:18 163:13 164:1
genesis [1] 84:11
given [7] 7:9 8:15 78:23 101:2,7 103:8 145:17
giving [1] 150:13
glare [1] 60:16
glow [1] 61:6
GLYNN [3] 4:21 5:1 158:21
goal [1] 116:25
God [1] 107:17
goes [6] 44:10,17 89:17 110:3 147:4 166:19
gone [7] 18:7 20:17 67:17 107:16 116:8 139:13 161:4
good [23] 1:17,19 2:5 3:10,16 4:2,6 6:25 10:21 52:17,19 76:8 86:15 98:18 103:11 111:19 117:24 141:7,14 154:17 155:8,19 168:23
gotcha [1] 122:25
GRA [1] 78:11
gradual [3] 68:9,13 147:11
graduated [1] 77:7
grand [1] 69:23
graph [3] 11:1 15:19 93:17
graphically [1] 145:2
gray [2] 143:21,22
great [2] 85:11 151:23
greater [5] 18:23 84:20 133:8,15 168:8
greatest [2] 110:5,18
Greene [52] 52:16,19,20 53:13,22 54:17 55:6,15 56:18 57:3,9,23 58:11 59:4,11,22 60:7,13 61:5 61:10,21 62:7,25 63:7 63:18 64:3 65:25 66:5 66:10,19 67:14,20 68:6 68:15 69:8 160:17,18,23 161:13,20 162:6 164:7 164:19 165:9,19 167:9 167:19 168:9 169:8,12 169:17,21
grey [3] 106:17,18,21
ground [7] 95:6 113:9 113:15 151:19,25 153:10 161:4
group [29] 21:11 34:11 34:13 42:8 46:7 53:7,25

54:2 55:25 56:22 57:5 57:11,13,21 58:6,15,23 59:2,16,17 62:20 63:15 87:9 121:2 139:23 161:2 161:2,8,9
groups [7] 34:13 61:16 61:18,20 63:3,4 143:6
grow [1] 85:7
growth [1] 86:25
guess [11] 14:17 28:10 44:20 69:25 71:12 76:2 97:2 99:4,5 149:4 173:10
guesswork [1] 103:4
guiding [1] 66:24
Gulf [1] 33:14

-H-

H-46.5 [1] 11:4
half [3] 7:25 83:5 101:15
hand [1] 47:21
handful [1] 78:17
handle [3] 56:9,15 112:9
happening [1] 70:2
happy [3] 10:5 169:14 169:16
hardware [1] 44:5
Hayes [5] 4:22,24 60:10 60:18,22
heads [1] 13:7
hear [1] 100:2
heard [8] 34:7 63:22 107:5,10 112:24 154:21 155:12 174:4
hearing [2] 166:16 173:13
heated [1] 102:19
helps [1] 61:12
hence [2] 40:7 148:18
hereby [1] 174:2
hesitant [1] 51:25
high [6] 40:19 41:14 51:21 66:21 70:23 106:1
higher [27] 51:15 52:2,5 59:1 75:9 89:8,13 91:2,9 91:15 94:19 102:4 130:20 131:16 134:22 135:5 137:7,21,25 138:6,24 139:10,18 140:9 147:17 148:16 149:4
highest [1] 94:14
highlights [1] 10:10
himself [1] 132:8
hinging [1] 145:8
hire [1] 116:4
hired [1] 77:13
historic [3] 96:9 138:2 138:15
historical [8] 6:18 20:4 22:24 28:20 37:3 62:9 68:24 140:2
historically [7] 29:8 30:11 32:21 36:4 46:15 89:20 90:15
history [3] 88:12 94:6 171:2
hit [2] 151:7,8
holding [1] 107:23
hope [2] 112:16 141:13
hoped [1] 152:25
hopefully [1] 129:3
hundred [3] 101:19 114:18,18
hundreds [2] 51:14 78:1
Hydro [15] 54:8,21,25 58:3 78:6 118:14 119:7 120:7,14,16 121:16 122:3 122:9 123:14 149:15
hypothetical [2] 134:13 134:15

-I-

i.e [1] 129:19
ice [3] 24:11 40:19 41:15
Idaho [6] 82:15,16,16,17 82:22,25
idea [2] 170:21,25
identified [2] 39:12 80:21
identifies [1] 40:13
identify [4] 35:5 42:23 44:1 108:20
ignore [3] 8:16 10:22 165:11
ignoring [1] 11:7
II-24 [1] 1:22
II-37 [1] 1:9
III-7 [2] 47:16,18
illustrate [1] 61:13
imbedded [1] 132:7
imminent [1] 44:4
imminently [1] 31:21
impact [25] 2:15 31:3 36:9 39:19,25 40:3 58:12 65:21,22 66:12 83:23,24 94:15,19 107:1 110:6 124:9,13 145:18 146:24 150:10 153:12 167:2,16 169:6
impacts [2] 110:22 124:17
implement [3] 9:8 88:5 165:7
implementation [1] 36:16
implemented [1] 45:19
implications [1] 148:19
implied [1] 88:8
implies [2] 6:3 10:16
imply [1] 130:20
importance [1] 8:14
important [10] 10:23 62:5,9,13,14 67:21 97:9 97:11,18 103:24
impose [2] 67:3 73:2
impression [1] 120:3
improve [3] 40:4,5 155:18
improvement [1] 155:16
improvements [3] 21:25 28:13,22
inaccurate [2] 22:9 96:10
inappropriate [1] 84:22
Inc [1] 174:3
include [6] 8:4 21:13 24:17 44:23 97:16 168:11
included [2] 28:3 31:8
includes [2] 31:23 45:7
including [4] 3:15 6:15 24:19 26:10
income [1] 137:22
incomplete [2] 83:6 119:17
incorrect [3] 5:16 18:1 132:15
increase [17] 22:23 25:25 27:10 36:13 58:9,20 64:24 65:2,15,16,19,19 66:23 147:20 148:12 149:2 164:11
increased [6] 20:6 69:2 70:1 96:12 147:9 148:16
increases [8] 96:16,22 96:23 131:1,10 143:7 147:13 164:13
increasing [1] 46:1
incremental [1] 93:6
incurred [1] 49:6
index [3] 91:23 92:1 135:10
indicate [4] 8:10 24:4 25:16 39:18
indicated [21] 1:23 2:8 15:3 20:18 25:18 27:12 27:13,16 36:12 37:19 56:4 68:25 69:1 83:22 90:21 95:25 113:18 115:1 124:2 147:17 163:4
indicates [4] 26:6,15 43:22 83:3
indicating [4] 19:9 44:21 45:12 116:22
indication [6] 3:17 34:7 37:10 46:6 96:3,14
indications [7] 2:5 3:10 4:3,7 5:15 6:25 68:24
individual [4] 103:15 103:21 114:12 172:19
industrial [1] 78:2
industry [9] 62:13,15 81:20 83:14 84:11,14 105:7 106:10 136:15
inequity [4] 89:17 149:6 162:18 163:13
influence [1] 57:25
inform [1] 132:2
information [23] 2:7 10:24 11:5 57:22 63:10 68:14 71:20 85:18 87:20 105:8 106:14,20 132:15 140:25 142:15,17,21 145:14,14,15 151:21 156:8 158:22
informed [14] 62:1 72:16 72:19 141:10,16,17 142:2 142:9 171:9,10,12,15,20 172:21
initial [7] 1:11 25:15 36:14 107:14,20 109:1 110:7
initiated [2] 35:8,14
initiation [2] 22:2 28:23
input [7] 2:14,18,19 62:11 69:3 104:7 106:11
insignificant [1] 8:3
inspected [5] 24:14 37:22 38:7,15 43:25
inspecting [1] 151:23
inspection [41] 22:3 24:15 28:23,24 36:21 37:15,15 38:15,23 40:12 40:16,17,20 41:4,6,9,18 41:23 43:23 44:6,7 45:1 45:13,17,19,22 46:18 79:21 106:23 107:6,7,7 107:11,15,19 108:18,20 151:1 152:7 153:22 154:22
inspections [12] 36:10 36:12,16,17 37:10,23 39:10 42:2,3 43:2,21 44:1
instability [1] 101:18
installation [4] 45:9,11 112:23,24
installed [1] 34:21
installing [1] 49:10
instance [3] 10:10 39:5 41:25
instances [1] 129:15
instead [4] 11:3 32:6 80:9 146:9
instituted [1] 39:4
insulators [1] 45:11
insurance [2] 98:13 100:19
intended [1] 44:1
intent [1] 122:2
intention [1] 138:4
intentional [1] 61:3
inter [3] 162:17 163:12 163:25
inter-generational [1] 149:6
interested [2] 85:19 124:2
interesting [3] 170:18 170:21,25
intergenerational [4] 72:23 87:13 88:6 89:17
interim [1] 156:15
interpret [2] 98:24 127:3
interpretation [3] 100:4 100:5 140:24
interstate [1] 82:4
interval [8] 7:21 12:1,3 12:24 16:20,25 17:7,11
intervals [3] 20:23 21:8 67:9
intervening [1] 167:4
intrastate [1] 82:4
introduction [1] 76:22
invaluates [1] 163:25
investigation [1] 167:4
investment [9] 48:6 80:10 86:22 99:22 106:2 112:15 122:4 146:12 168:15
involved [2] 50:21 140:18
Iowa [2] 56:3 99:1
irregularities [1] 92:23
island [1] 82:7
issue [19] 3:13 15:6 24:16 80:11 81:16 84:12 85:3 85:8,10 111:14 112:15 127:10 150:3,25 153:13 158:14 172:6,11,20
issues [3] 34:15 44:10 171:20
item [5] 45:9 130:25 158:8,22,24
items [7] 44:10 87:19,21 130:22 142:14,17,20
itself [9] 40:21 41:10,19 71:24 82:7 83:17,18 172:14,21
IV-47 [1] 158:8

-J-

Jack [4] 76:19,23 160:17 170:1
Jackie [1] 60:23
Jacob [1] 76:22
January [7] 1:1 78:13 126:21 127:2 156:5 174:5 174:11
JOHN [1] 1:15
John's [2] 174:7,10
Johnson [140] 1:15,16 1:19,20 3:2,6,21 4:5,12 4:19 5:3 6:10,20 7:6 8:5 9:17 10:1,7 11:13,23 12:4,9,13,18 13:22 14:16 15:1,17,22 16:1,7,13,17 17:2,13,19 18:2,12,18 18:22 19:12,24 20:8 21:15 22:10,15 23:15,16 23:20 26:18 27:2,18,23 28:2,9,18 29:17,23 30:6 30:13,19 31:2,9,19 32:10 32:16,22 33:6,18 34:17 34:25 35:4,18,25 36:8 37:9,18 38:10,20 39:14 41:20 42:14,19 43:11,15 43:19 45:4 46:21,25 47:5 47:12 48:1,2,16 49:3,14 49:21 50:7,23 51:8 52:6 52:11 53:2 64:16 73:13 76:12,13,20 77:3 78:10

78:18 79:3,9,22 80:4,17 80:22 81:3,17 84:3,23 86:1 87:8 90:20 92:7 93:12 95:4,24 97:6,17 101:1 103:22 106:22 109:3 110:20 111:2 113:20 165:23 173:5,6
judge [5] 65:8 153:24 157:12 158:1,10
Judges [2] 156:23 158:14
judgment [20] 14:22 21:13 61:25 62:2 64:1 72:16,19 141:3,7,8,11 141:14,16,18 142:2,9 143:12,25 167:23 172:13
judgmental [5] 106:12 111:18 140:18 141:2 143:21
judgments [1] 7:3
Judy [2] 174:2,12
jurisdiction [2] 53:20 120:10
jurisdictions [5] 78:8 81:11 82:8 128:4 129:20
justification [2] 71:6 105:5
justified [1] 71:8
justify [1] 25:20

-K-

keep [8] 12:21 39:17 42:24,24,24 86:4 162:23 163:19
Kelly [133] 48:4 50:3 73:11,24 74:20 76:4 79:1 113:24 114:7,14 115:2 115:10,17 116:1,5,14 117:2,16 118:7,18,25 119:4,14,21 120:6,15,20 121:3,7,14,22 122:1,7 122:12,20,24 123:8,13 123:20 124:8,18 125:2,6 125:11,23 126:5,10,14 127:1,8,14,19 128:3,14 128:21 129:5,11,24 130:6 131:8,13,21 132:4,9,21 133:17,25 134:7,14,18 134:24 135:11,20 136:4 136:21 137:12 138:9,17 139:6,14 140:3,13,21 141:9,15,23 142:7,16,22 143:3,11,15 144:10,18 144:22 145:20 146:15,21 147:2,21,25 148:8,14 149:7,17,24 150:16,24 151:10 152:2,12,18 153:2 153:7,17 154:7,16 155:5 155:25 156:10 157:3,22 158:5,18,23 159:2,18,23 160:5,12 164:9,12 166:3
Kelly's [1] 161:22
kept [2] 163:22,23
kind [13] 41:7 56:11 72:10 97:12 114:19 119:1 119:15 121:15 133:5 139:15,16 156:23 172:14
knew [3] 118:23 119:6,9
knowing [3] 57:17 65:1 84:19
knowledge [10] 32:9 37:20 44:21 47:6 82:25 84:17 85:11 118:11 119:12 170:7
known [3] 6:18 7:2 84:13

-L-

label [1] 136:25
labour [5] 49:6,9,17 51:1 113:1
Labrador [5] 118:14 147:8 174:5,7,10
language [1] 128:6
large [5] 14:7 58:8,8 123:3 147:13
larger [4] 41:13 109:21 130:25 131:17
largest [4] 8:24 11:21 75:19 157:18
Las [1] 88:20
last [21] 17:23 25:24 26:13 29:13 32:8 33:10 33:15 34:8 46:11,12 73:1 79:14 83:17 92:25 96:11 98:20 102:18 110:1,2 111:9 128:19
lasted [1] 105:3
late [3] 105:18 120:17 130:2
Law [5] 156:22 157:12 157:25 158:9,13
lead [3] 39:7,11 162:12
leads [1] 28:10
learn [1] 85:7
least [12] 3:24 53:6 54:2 63:9 87:3 102:17 123:6 149:19 150:6,13,17,23
leave [4] 60:23 103:3 104:24 120:2
leaving [1] 20:9
led [2] 2:7 40:21
left [7] 1:21 40:13 47:20 106:18 143:23 144:8,24
lends [1] 71:24
length [1] 36:7
lengthen [6] 41:10,16 41:19 45:17 47:1 108:15
lengthened [1] 41:11
lengthening [7] 41:17 44:23 45:23 46:20 98:15 108:24,25
less [20] 8:23 13:5,8 18:13 18:21 26:16 39:5,24 40:1 40:7 51:22 59:20 83:4 99:4 102:2 137:20 138:12 151:8 163:21,21
level [23] 8:13,15,20,23 8:24 11:19 22:23 66:21 81:18 82:2 91:20 101:10 102:13,24 107:20 113:7 131:4 146:11,19 147:19 153:11 157:16 166:21
levels [1] 92:11
lie [1] 104:5
life [151] 3:1 6:2,8 7:10 7:12,16 9:23 11:11,22 14:20 15:16 19:15,19 21:18 22:23 25:4,8,18 25:22,25 26:6,15 27:6 27:14,16 29:2,6,10 31:5 31:11,18,25 33:3,21,21 34:6 36:10 39:7 40:8 41:11,11,16,17,19 44:23 46:1,15 53:7,8,25 54:1 55:25 56:22,24 57:4,11 57:13,21 58:6,15,23 59:2 59:13,16,16,21 61:25 62:19 63:14 64:7,8 65:20 67:16,23 68:10 69:1,2 70:13,25 71:6,14,22 72:4 74:11,14,18 75:22,24 86:15,19,21 87:9,16,22 89:1 92:3,24 96:15,19 96:23 97:7,8,19 98:12 98:16,16,18 99:10,19,20 99:21,25 100:3,12,17 104:1 106:3 107:1,11 108:3,12,16,23,24,25 109:24 110:23 112:17 114:12 121:2 130:10,10 132:14 133:1,9 141:4 146:9,16 147:18 152:8 154:21 155:16,18 161:2 161:2,7,9,23,24 163:17 167:22
light [4] 71:15 84:24 171:6,15
lightning [2] 44:15 45:10
likely [7] 37:1,3,6 44:3 74:3 130:19 162:21
likewise [1] 15:9
limitation [1] 147:19
limited [3] 99:2 147:15 151:17
limiting [1] 45:11
line [43] 38:11 43:23 46:5 46:9 55:10 68:25 73:21 74:9 78:22 79:2,4,7,14 79:15,16,17 80:7,14 91:3 91:6,13,14,17,19,25 92:4 92:5 113:12 117:20 121:18,21,23 129:14 130:8,16 134:4,19 135:1 135:9,19 136:16,17 157:5
lines [11] 23:24 24:1 37:21 38:6 43:21 45:6 79:14,20 124:5 132:12 151:5
list [4] 2:10,13 50:20 118:10
listed [5] 2:9 28:6 53:19 83:9 123:6
listen [1] 100:16
listing [4] 5:7 82:12 113:5,6
lists [1] 64:5
litigated [1] 127:7
litigation [1] 166:15
lives [29] 6:4,6 36:13 39:11,21 40:21 45:17,23 46:20 47:1,8 60:2,4 61:17 64:13,15 72:24 130:11 140:15 143:8,17 145:3,23 146:3 154:25 155:3 159:19 160:1 165:22
loading [1] 41:15
locate [1] 42:20
location [1] 51:24
locations [1] 51:20
logic [4] 100:6 155:23 160:10 163:25
logical [2] 150:14 155:3
Lone [4] 156:19 159:14 159:20 170:3
long-lived [1] 6:1
longer [19] 25:22 27:16 29:2,13 32:8 39:7,11 40:8,21 46:13 64:6,7,9 64:14 71:6 79:13 83:13 96:25 100:17
look [64] 7:16,21 9:22,23 13:13,17 14:12 21:7 60:8 61:23 62:10 64:20,24 65:7 87:15 88:22 91:6 92:19 93:9 95:8 98:5,5 98:10,12,20 99:14 100:7 100:7,23 103:14,19,20 104:21,22,23 105:1,4,7 105:11,24 106:8 110:11 111:16 112:5 113:6 117:11 123:2 124:15 129:13 138:19 142:3 144:1,5 145:12 148:24 150:7,23 151:3 165:15 165:25 166:20,20 167:2 167:21
looked [16] 22:16 25:23 35:19 61:15 85:17 93:5 107:16 109:12 111:23 116:8 130:1 137:16 144:11 150:3 151:25 168:5
looking [32] 11:14 21:1 41:22 43:10,20 53:5 55:10 61:11 62:15 63:10 63:11,20 65:7 67:1 69:20 91:11 92:25 93:18 99:9 100:5 104:6,25 106:3 112:11 114:1 124:6,19 125:16 140:15 145:8 147:9 148:18
loose [1] 66:15
low [1] 69:1
lower [15] 51:10,16,17 52:2,8 64:10 89:10 90:6 91:2,9 134:22 135:6 137:8 138:7 165:1
lowest [2] 5:9 164:18

-M-

Madame [1] 52:15
magnify [1] 88:24
magnitude [2] 110:18 133:15
main [5] 8:8 59:25 77:16 112:2 156:4
maintain [2] 31:14 35:10
maintaining [2] 62:12 131:3
maintains [1] 32:19
maintenance [6] 37:11 38:3 42:1,11 47:7 108:25
major [3] 82:17 124:4 145:18
majority [3] 82:11 83:8 112:15
makes [1] 156:24
man [1] 101:21
management [10] 2:14 2:18 77:19 104:8,9,17 104:22 105:4 106:11 154:10
mandate [2] 129:16,21
mandates [1] 126:22
mandatory [2] 81:7 83:10
Manitoba [1] 123:14
manner [1] 31:16
manufacturer [4] 2:24 19:8 107:25 108:1
manufacturers [2] 47:6 47:10
marble [1] 101:12
marbles [6] 101:12,14 101:15,16,19,22
mass [3] 2:3 61:20 67:10
massive [2] 157:21 167:1
Masters [2] 77:18,18
match [2] 56:23 95:7
matches [1] 55:23
matching [5] 72:23 87:12 88:6 103:10 162:18
material [3] 46:10 65:3 71:8
materiality [1] 65:8
materially [1] 37:7
math [1] 13:6
mathematical [5] 85:25 88:8 95:6 163:7,9
mathematically [5] 56:5 92:9,16 163:5,5
matter [3] 56:10 61:9 140:24
may [34] 5:19 6:5 21:12 21:13 22:23 32:8 33:15 34:8 50:4 58:7,7 63:13 101:10 102:6 103:4 104:17,23 108:5,21 110:17 116:12,25 122:13 124:6 144:2,3 148:11 154:4,4 155:17,19 166:21 167:1,15
mean [17] 10:4,5 29:21 40:2 51:13,14,19 66:3 70:6 71:13,18 74:23 111:14 116:24 117:1 147:4 169:6
meaning [3] 75:2 135:4 155:14
meaningful [1] 142:14
means [6] 64:8 74:24

97:23 99:7 112:8 174:8
meant [2] 5:18 79:25
measure [5] 91:23 92:1 96:9 136:13,23
Measured [1] 135:12
measurement [1] 135:10
medicine [2] 98:17 100:15
mentioned [10] 32:3 42:13 62:20 70:10 72:1 92:8 103:23 124:5 165:23 167:21
merger [1] 25:1
merit [1] 130:9
method [15] 44:19 55:2 55:8,9,10 58:5,16 91:25 123:4 130:18,23 135:19 156:19 158:11 163:17
methodologies [3] 134:4 153:21,25
methodology [8] 55:2 56:25 58:19 116:7 128:22 134:19 138:13 161:23
mid [2] 26:3 168:6
middle [12] 5:13 78:23 80:7 103:11 106:16,21 143:24 144:8,23,25 145:2 145:11
might [16] 5:4 14:9,10 32:7 42:4 54:18 100:11 101:20 102:5 108:19 110:11 124:3 146:4 151:24 166:18 167:7
million [10] 12:2,10 16:23 21:4 48:18,21 137:19,23,25 138:12
Mine [1] 120:4
minimize [4] 89:3 163:12,13,14
minor [1] 130:22
minutes [2] 28:24 104:23
misdirected [1] 47:17
misled [1] 72:14
model [2] 75:15,15
modelled [2] 74:15 75:3
moment [3] 119:13 134:9 145:21
money [3] 59:15 95:17 148:12
morning [6] 1:17,19 52:17,19 165:24 173:12
mortality [2] 98:3,20
Moss [2] 174:2,12
most [21] 2:3 8:16 24:18 25:3,8 26:4 27:5 62:22 75:21 92:8 112:6 130:19 133:22 134:2,10 139:22 142:14 153:24 162:21 163:5,6
motivate [1] 55:17
move [3] 100:14 102:11 140:14
moved [2] 55:9 121:1
moves [1] 102:7
moving [5] 120:22 130:1 140:10 156:2 165:20
Ms [5] 1:6 4:21 5:1 52:19 158:21
multiple [1] 67:8
multiplication [1] 17:8
multiply [1] 17:10
multiplying [1] 17:5
municipal [1] 78:1
must [1] 10:22

-N-

name [1] 76:22
narrower [1] 150:25
natural [1] 33:12
near [2] 32:20 85:24
Nearly [1] 12:10
necessarily [11] 7:13 20:3,3 45:18,22 63:23 72:3 104:21 114:23 116:24 129:9
necessary [2] 3:7 154:5
need [15] 12:19 27:3 40:13 42:9 48:9 63:23 79:17 99:13 103:3 105:10 105:24 108:6,21 150:22 165:6
needs [5] 40:15 45:15 79:18 107:17 150:1
negative [7] 48:22 51:5 51:10 52:5 111:25 112:1 168:4
Neglecting [1] 130:22
neither [3] 29:1 34:19 35:20
net [10] 47:13,22 48:23 51:10 111:6 112:1 140:10 163:21,21 168:5
never [1] 33:9
new [6] 85:8,10 88:14 95:15 112:23 113:11
newer [2] 19:18,22
Newfoundland [42] 6:15 22:3 24:5 25:2 35:9 39:3 43:4,22 44:22,24 48:6 52:23 53:24 54:21 54:25 58:3,21 84:5 114:9 118:14 119:7 120:9 122:15 126:1,17,20,22 128:5 138:11 147:8 151:4 151:16 152:23 153:4 154:9 155:1,7 168:10 174:3,5,7,10
NEWMAN [1] 69:11
next [19] 5:8 12:12 17:12 17:14,17 28:11 79:12 95:1 108:9,10 129:25 132:11 145:24 146:7,12 146:20 148:15 165:20 172:5
nice [2] 93:5,6
nicely [2] 109:13 156:2
nine [1] 25:11
nominal [2] 131:20,23
non-statistical [1] 97:16
none [2] 3:12,14
nor [3] 10:15 34:19 35:20
normally [4] 71:3 98:12 112:13 115:24
north [2] 81:20 83:25
noted [1] 10:25
nothing [3] 108:18 168:14,16
notice [1] 123:14
noticed [1] 70:3
Nova [5] 72:5 108:14 109:5 154:24 155:8
November [1] 78:12
now [79] 3:7 9:6 11:6,15 12:25 13:13 15:2 18:19 18:24 22:17 25:5 29:10 30:8 32:11 35:19,20 36:9 38:21 41:4,11 42:21 43:2 43:7 45:6 46:9 48:17 49:4 56:16 63:3 64:24 65:20 68:22 71:5 72:21 76:7,12 81:5 83:1 84:19 88:2,5 89:6,24 90:16 94:7 98:12,19 99:10 100:13 102:6,15 104:20 114:15 117:3 120:7,21 122:25 124:19 125:24 126:6 128:15 129:25 132:5 133:18 137:13,15 138:18 140:14 143:4 144:24 149:8 150:25 154:18 156:1 157:23 158:19 164:23 173:3,10
NP-620 [1] 73:16
NP-CA-037 [1] 118:9
NP-CA-32 [1] 129:13
NP-CA-35 [1] 126:15
NP-CA-49 [1] 156:11
number [11] 7:25 13:15 35:6,11,23 57:11 81:4 96:16 99:2 123:3 156:18
numbered [1] 42:22
numbers [2] 52:3 115:1
numeral [1] 1:22
numerous [3] 56:8,14 142:13

-O-

object [1] 63:9
objecting [1] 157:7
observation [3] 73:17 122:21 132:13
observations [1] 71:14
observed [3] 7:10,12 21:18
obtain [2] 88:7 142:13
obtained [3] 31:5,11,25
obviously [9] 59:5 63:8 63:19 64:12 67:21 99:3 123:2 149:25 151:14
occasionally [1] 24:8
occur [6] 12:22 37:1 74:3 74:17 92:12 133:11
occurred [2] 22:1 95:17
occurrence [2] 54:10,15
occurs [2] 12:23 97:24
off [18] 1:21 13:20,21,23 16:3 28:20 38:25 56:16 60:16 89:15 93:24,25 94:16,20 95:14 102:23 117:23 152:25
offices [1] 78:2
offsetting [1] 130:21
often [2] 5:22,23
old [10] 7:21 14:25 95:18 97:24 98:2,2 105:14,15 105:17 112:23
older [3] 14:12 19:21 69:4
omissions [1] 78:14
once [1] 8:20
one [88] 1:4,7 5:8 14:3,8 15:4,14 16:6 18:4 20:17 20:22 22:12 23:23 24:22 36:19 37:20 54:5,10 55:23 58:6 59:25 62:1 62:22 64:21 66:6,16 67:3 67:21,25 73:12 75:15,17 75:19 77:16,24 78:21 80:13 82:5 83:17 85:15 88:17 91:11,17,18 93:21 96:8 99:10 101:12,15,18 102:1,17,20,24 105:24 110:13,15,19 111:8,9,24 112:2,4 116:15 121:23 124:6,13 125:24 128:16 129:21 133:1 135:7,8,12 136:5,6,6,7 141:1 145:8 149:16,25 156:5 157:6 166:8 172:3,3,11
ones [5] 68:22 80:20 145:1 146:22,24
onto [2] 45:6 102:13
open [1] 61:1
operating [1] 71:17
operation [1] 41:3
operations [6] 14:23 30:24 32:15 84:21 85:23 95:22
opinion [8] 56:21 61:9 68:8 102:25 125:9 170:16 170:16 171:4
opinions [1] 63:13
opportunities [1] 37:11
opportunity [5] 30:22 41:23 142:3,9 151:3
opposed [3] 67:24 115:5 147:12
opposing [1] 145:7
opposite [4] 18:21 134:25 135:4,4
option [1] 172:25
order [18] 10:19 47:7 73:18 89:2 90:1,9 95:6 111:20 126:7,11 128:6 141:16 156:14 157:13,15 160:4 163:12 166:24
ordered [4] 126:6,17 127:24,25
organization [2] 170:18 172:19
original [9] 48:19 59:20 60:5 75:12 78:22 92:24 99:22 121:18 163:20
originally [1] 82:21
otherwise [3] 131:12,14 133:7
ours [1] 155:9
outlined [1] 62:8
outside [6] 105:9,10,24 128:9 153:20 163:11
overall [14] 24:17 25:17 25:21 26:2,2,5 27:11,12 27:17,19 48:18 116:16 116:18 144:5
overhead [12] 6:1 15:11 39:21 45:7 47:14,21 48:7 48:10 50:21 51:5 67:12 111:24
overpaid [3] 89:18 90:15 138:3
overpayments [1] 89:20
overriding [1] 148:25
own [2] 103:6 128:7
OXFORD [1] 69:15

-P-

p.m [6] 107:3 125:22 139:5 154:15 167:8 173:8
page [58] 1:9,21 2:1 4:15 4:20 8:7 10:9,11 11:1,14 12:6,12,19 16:11 18:10 22:20 23:10,11,19,21,25 24:3 26:13 28:15 38:4,9 38:13 39:15 42:21,21,25 43:2,6 60:9 66:9,11,16 67:15 78:22 79:6,13,18 79:25 80:7,14 110:25 121:18,21,23 130:3,5,14 132:10 144:14 152:4 158:8 159:8,9
pages [3] 43:6 142:23,24
paid [4] 138:11 139:17 140:2,6
paragraph [9] 8:11 22:20 24:5 28:19 38:4 39:18 132:12 159:10,11
parameters [7] 95:18 96:20,24 97:4 114:13 116:23 151:22
Pardon [1] 46:24
part [7] 3:7 32:9 41:15 42:2,3 45:1 82:20
particular [24] 7:24 11:21 19:2,6 21:11 51:6 53:23 60:2 61:12 62:20 63:1,15 64:4,11,14 65:15 67:3,10,25 68:21 75:18 124:19 134:20 153:18
particularly [2] 23:10 42:16
parties [1] 146:8
parts [2] 33:11,13
Party [1] 5:5

passes [2] 98:1 102:3
past [11] 9:3 37:8 44:11 45:18 62:16 68:19 80:12 82:18 93:7 96:4 100:23
pattern [13] 3:17,22 4:8 10:24 14:11 92:21 93:6 93:7,8,9 162:19,25 163:1
patterns [7] 2:6 3:11 4:8 5:15 88:23,24 162:20
pay [6] 89:24 131:22,25 138:6,7 150:11
paying [8] 89:25 90:12 90:13 138:24 139:2,3,9 149:4
peak [1] 93:7
penalty [1] 73:3
penta [12] 24:13 29:7 33:20,21 34:3,8,20 35:7 35:24 36:5 107:23,23
people [12] 53:4 85:11 85:14,16 97:25 98:7,13 100:11 131:22,25 140:24 171:9
per [7] 54:23 70:17,20 112:13 114:4 151:4,16
perceive [1] 106:25
percent [80] 3:23,24 5:10 5:12,12,24,25 6:16 8:24 9:5,8,14,14,19 10:11 11:5,9,18 12:22 13:10 13:13 15:10 16:2,12 17:6 17:10,12,14,15,17,23 18:6,13 19:21,22 20:21 20:24 21:10 30:4,7,10 46:8 47:22 49:6,9 51:5 51:11 52:5 65:17,19 80:10 83:3,20,25 86:20 86:21 87:1,2,3 96:2,21 96:25 97:3 99:5,6,12,13 99:15,18 102:18,21,24 103:13,17 112:1,24 113:1 117:14 122:3 138:4
percentage [6] 3:25 4:14 65:16 106:1 131:3 147:13
percentages [1] 168:5
performed [8] 37:24 67:7 74:1 94:5 97:21 117:19,21 118:4
performing [3] 64:2 67:5 71:25
perhaps [5] 6:24 7:25 36:14 41:15 79:23
period [21] 22:25 27:13 27:20,24 59:23 64:9 71:15 73:14 75:24 78:4 87:4 90:5,8 91:16 94:23 96:13 99:23 121:9 139:4 139:8 153:9
periods [7] 25:13 28:8 91:2,3,9,10 132:1
permit [1] 109:14
person [2] 104:17 109:15
personal [1] 125:9
personnel [1] 155:14
perspective [2] 37:3 161:10
phrased [1] 6:24
phrases [1] 140:23
Physical [1] 151:19
pick [7] 110:3,4,16,16,17 110:18 119:16
picked [1] 122:8
picture [4] 98:18 137:9 144:5 148:21
pin [1] 102:22
pipeline [1] 82:2
place [10] 40:18 51:3 75:2 86:13 87:17 93:11 113:7 128:19 152:9 161:24
placed [1] 86:17
placement [2] 26:9,23
placements [2] 24:21 24:22
placing [1] 62:12
plan [1] 148:11
planned [2] 112:20 162:20
plans [2] 57:18 69:3
plant [16] 2:3 28:3 46:2 48:11 51:7 74:4,6 92:11 95:15 97:8 109:9,12,21 126:20 151:23 155:18
plants [1] 152:1
play [2] 89:6 91:7
point [25] 7:24 16:6 17:1 17:9,24 20:18 30:14 34:18 74:3,8 75:5 80:21 81:14 101:6,21 102:16 112:18 127:15 145:9 147:7 160:11,25 162:7 162:13 169:13
pointed [2] 130:8,15
pointing [1] 120:2
points [30] 6:16 7:10,11 7:17 8:1,20,23 9:3,5,13 9:15 10:23 11:2,8 12:16 13:16 14:7 16:11 18:11 92:23 99:3,3 101:3,25 102:1,14 103:1,7 125:24 140:25
pole [42] 7:20 13:7 21:1 21:9 29:3,9 30:4 33:21 33:22 35:10 37:16 39:10 40:14,18 41:5,6,8,13,22 42:4,8,13 45:7,13,14,16 45:20,22,24 46:18 47:6 47:10 104:9,18,23 105:2 107:17 108:10,23 146:10 151:5 152:5
poles [101] 7:25 8:1 10:12 10:25 13:1,2,15 14:5,24 20:11,11,25 21:17,25 23:24 24:6,7,7,8,9,10,12 24:13,14 25:18,23 28:13 28:22 29:1,5,6,7,12,14 29:24 30:5 31:4,8,15,15 31:17,18,23 32:6,20 33:1 33:10,10,12,15,19,20 34:2,4,7,8,15,21 35:6,9 35:12,23,24,24 36:5,5 36:11 37:4,24 38:14,22 39:4,11,11,20,23 40:2,6 40:13 41:24 45:6 47:8 64:21 66:18 67:11 104:12 104:14,14,25 106:25 107:9,20,23 108:4,5,16 108:21 110:8 152:5,8,20
policy [3] 50:19 131:1 149:18
polyethylene [1] 19:10
pops [1] 167:25
population [4] 30:4,12 51:21,22
portion [5] 5:20 6:18 7:2 8:17 30:16
portions [1] 103:12
position [11] 86:3,6 141:17 142:1 150:17 153:13,24 154:2,3 158:14 172:10
positive [2] 44:18,22
possibilities [1] 99:8
possibility [1] 163:11
possible [1] 139:23
possibly [1] 94:11
potential [2] 74:2 110:6
Pous [238] 3:14 10:9,22 11:7,17 13:21 21:18,20 22:19 23:7 24:25 25:6 25:14 26:8 28:11,21 36:11 63:3,8 64:6,12,23 65:17 68:22 76:17,19,22 77:1,4,6,11 78:11,16,20 79:5,11 80:1,6,19,24 81:1,8,18,22 84:4,8,24 85:5 86:2,10 87:9,14 90:24 92:14 93:13,16 95:9,25 96:7 97:7,10,22 101:5 103:23 104:3 106:23 107:4 109:4,8,11 110:21,24 111:5,7 113:21 113:22,25 114:5,11,22 115:7,12,23 116:3,11,19 117:9,20 118:1,16,21 119:2,8,19,24 120:13,18 120:25 121:5,11,20,24 122:5,10,16,22 123:5,11 123:17,24 124:12,24 125:4,8,18 126:3,8,12 126:24 127:5,12,17,22 128:8,18,24 129:8,17,22 130:4 131:6,11,19,24 132:6,18,24 133:18,23 134:5,12,16,21 135:3,16 136:1,9 137:2 138:1,14 139:1,12,20,21 140:11 140:19 141:5,12,21 142:5 142:12,19 143:1,9,13,19 144:16,19,20 145:5 146:6 146:18,25 147:14,23 148:3,10,22 149:14,21 150:4,20 151:6,17,18 152:10,14,24 153:5,15 154:1,12,19 155:11 156:7 157:1,10 158:3,16,25 159:7,16,21 160:3,9,13 160:15,17,20,21 161:11 161:18 162:4,15 164:15 164:21 165:14 166:10 167:13 168:3,20 169:10 169:15,19,22,24 170:1,4 170:9,13,20,24 171:1,11 171:16,21 172:2,24
Pous' [14] 4:15 6:5 8:13 10:14 11:1 23:3 64:17 65:9,10,20 66:11 68:1 118:11 156:16
power [41] 6:15 22:3 24:5 35:10 39:3 43:4,22 44:22,25 48:7 52:23 53:24 58:22 71:15 82:16 82:22 84:5 120:9 122:15 126:1,17,22 138:11 147:9 148:17 149:3,12,18,19 150:6,13,17,23 154:9 155:1 164:13,18 168:11 171:6,15 174:3
Power's [5] 25:2 114:9 126:20 151:4 155:7
practical [1] 44:7
practice [8] 53:3 124:23 124:25 125:7,10 154:24 161:16 163:6
practices [6] 29:9 36:21 62:16 125:20 154:11 155:19
precise [1] 88:11
precisely [2] 25:5 88:16
precision [2] 88:8 95:7
predecessor [2] 25:2 45:25
predict [1] 133:4
predicting [1] 100:18
predictions [1] 162:24
predominantly [1] 125:1
premiums [2] 100:20 100:25
prescription [2] 98:17 100:15
presence [2] 33:1 70:1
present [5] 86:4,7 88:14 89:21 98:9
presentation [2] 10:20 155:20
presented [6] 8:18 10:17 11:1 83:2 103:19 129:17
presently [2] 30:7,10
presents [1] 164:2
President [2] 30:23 32:14
pretty [4] 86:15 116:10 140:4 155:9
prevent [2] 42:4 58:14
previous [2] 56:21 67:13
previously [5] 62:23 68:4 71:4 96:15 111:4
prices [2] 69:21 70:10
primarily [2] 23:4 24:5
primary [3] 24:9 44:18 167:10
principal [1] 76:24
principle [6] 87:12 88:6 162:18 164:6 165:2,4
problem [8] 39:12 41:5 60:12 104:11,12 112:14 133:4 153:3
problems [3] 106:7 107:25 166:23
procedure [56] 53:7,8 53:15,25 54:2,5,11,13 54:20,22 55:4,18,23,25 56:2,5,17,22 57:5,11,13 57:14,21 58:6,15,23 59:2 59:7 82:1 87:10 92:8,9 93:13,15 96:21 118:11 118:12,15 123:4,10 124:21 126:2,18 128:15 129:6 130:12 134:10,11 158:10,13,15 159:14,25 161:1 162:14 163:24
procedures [6] 53:8,21 59:3,19 81:20 161:15
proceeding [10] 3:13 53:23 60:2 64:11 78:7,7 85:4 128:9,10 156:15
proceedings [1] 128:1
process [35] 81:9,10,15 82:21 90:18 91:12,13,14 91:21 101:4 103:9 108:15 109:20 110:5,12 111:15 112:20,22 113:3 117:23 119:6 120:21 122:2 127:10 128:17 129:4,21 133:6,21 140:15,18 147:20 156:23 157:8 165:25
processes [1] 117:24
produce [1] 89:13
produced [1] 3:16
produces [1] 91:15
product [2] 33:12 71:2
professionals [1] 8:2
program [35] 17:22 24:15 38:1,16,23,25 39:3 39:19,23 40:4,12,16,17 40:20 41:4,6,10,16,18 42:11 43:24 44:17 45:17 45:19,22 46:19 79:21 107:15,19 108:19,20 151:1 152:7 153:22 155:7
programs [8] 22:3 28:23 28:24 45:2 106:24 107:7 107:12 154:22
Project [1] 148:6
projected [1] 86:25
proper [2] 8:17 113:12
property [8] 61:16,20 63:2 67:10 75:12 132:14 133:1 159:13
proponent [2] 161:7,8
proponents [1] 135:17
proportion [1] 30:12
proposal [4] 2:15 49:4 86:3,6
proposals [5] 144:11,25 145:1,4,19
propose [2] 51:10,17
proposed [13] 68:22 78:24 96:20,24 97:4 111:25 112:1 143:7 145:7 145:24 156:23 159:20 160:1
proposing [3] 48:8 143:5

150:6
prospective [1] 138:20
provide [9] 10:23 22:25 35:11 40:8 51:14 66:4 85:18 118:13,20
provided [15] 1:8 2:23 26:7,24 28:6 50:9 66:4 79:15 118:17 119:23 142:18 156:18 158:20 159:10 168:19
provides [2] 159:11,12
providing [1] 129:1
province [5] 53:20 58:21 81:12 149:10,19
provinces [1] 72:2
provincial [1] 77:25
provision [1] 150:9
provisions [1] 149:11
PU-47 [1] 126:7
PUB-CA-003 [1] 117:17
public [6] 44:2,8 120:11 124:22 125:7 174:6
pull [1] 60:21
pulled [3] 101:12,18 156:8
purchase [4] 147:9 148:17 149:2 164:13
pure [1] 161:9
purpose [1] 59:12
purposes [4] 77:16 87:23 105:8 116:16
pursue [1] 64:11
pushed [2] 84:14,14
put [32] 10:2 13:2 17:20 19:16 28:4 38:5 74:9 80:11 86:24 90:9 94:8 94:24 96:4 101:6,10 102:12 103:13 104:4 105:17,20 108:9 109:13 115:18 116:4 134:8 136:25 140:6 147:20 148:2 155:9 156:4,8
puts [2] 23:12 89:11
putting [6] 41:12,13 45:24 51:2 144:12 151:24

-Q-

Q.C [180] 50:3 52:16,20 53:13,22 54:17 55:6,15 56:18 57:3,9,23 58:11 59:4,11,22 60:7,13 61:5 61:10,21 62:7,25 63:7 63:18 64:3 65:25 66:5 66:10,19 67:14,20 68:6 68:15 69:8 73:11,24 74:20 76:4 79:1 113:24 114:7,14 115:2,10,17 116:1,5,14 117:2,16 118:7,18,25 119:4,14,21 120:6,15,20 121:3,7,14 121:22 122:1,7,12,20,24 123:8,13,20 124:8,18 125:2,6,11,23 126:5,10 126:14 127:1,8,14,19 128:3,14,21 129:5,11,24 130:6 131:8,13,21 132:4 132:9,21 133:17,25 134:7 134:14,18,24 135:11,20 136:4,21 137:12 138:9 138:17 139:6,14 140:3 140:13,21 141:9,15,23 142:7,16,22 143:3,11,15 144:10,18,22 145:20 146:15,21 147:2,21,25 148:8,14 149:7,17,24 150:16,24 151:10 152:2 152:12,18 153:2,7,17 154:7,16 155:5,25 156:10 157:3,22 158:5,18,23 159:2,18,23 160:5,12,17 160:18,23 161:13,20 162:6 164:7,19 165:9,19 167:9,19 168:9 169:8,12 169:17,21
quadratic [1] 172:15
quantification [1] 65:24
quantified [1] 65:21
questions [14] 36:20 52:12 60:1 61:14 69:10 69:12 73:14 81:5 102:22 105:22 119:22 160:14,19 169:22
quick [2] 69:18 129:13
quickly [2] 56:10 112:10
quite [7] 51:6 63:21 74:23 156:2 162:9 169:14 169:16
quote [2] 126:16 130:14

-R-

R-1 [3] 52:21,23 123:1
R-2 [1] 137:15
Railroad [7] 81:13 156:14 159:9 170:17 171:19,22 173:2
raise [2] 30:25 105:22
ran [1] 25:11
range [7] 5:11 6:4 74:2 99:13 105:9,10 106:15
rapidly [1] 56:15
rate [44] 55:3 56:9 58:24 60:5 75:3,10 77:15,19 77:21 90:11 94:7,21,25 95:2,12,15,21 106:6 124:3,9,13,16 128:9,10 130:23 131:3,5,9,15,16 134:22,23 135:7,8 137:14 137:20 140:9 149:9 150:1 150:22 157:16 165:1 167:24 174:4
rates [23] 14:24 58:13 91:16 94:8 96:4,9 126:19 128:11,12,13 131:22 137:18,24 138:24 139:2 139:10,19 140:8 146:13 148:23,25 149:4 164:11
rather [3] 65:5 106:17 151:16
ratio [2] 17:6,9
rationale [1] 48:9
ratios [3] 7:4 19:3 21:7
re-direct [1] 173:5
re-open [1] 127:10
reach [1] 8:20
reaches [1] 153:10
reaching [1] 71:21
read [12] 26:12,12 111:9 123:18 126:11,13 133:19 149:12,15 170:18 171:2 171:3
reading [2] 50:17 65:1
real [9] 84:20 85:22 92:10 92:18,25 94:1 95:23 116:21 147:10
realistic [1] 98:11
reality [10] 88:21 93:24 94:17,20 95:5,7,8,10,18 167:3
realize [1] 120:8
realized [2] 5:20 167:16
really [12] 14:6 33:9 65:10 92:19 100:22 103:3 117:22,23 119:6 122:14 143:17 153:12
realm [1] 163:11
reason [13] 2:12 14:13 25:22 29:18 42:3 45:23 45:25 46:19 61:11 104:20 111:21 119:15 171:14
reasonable [22] 14:12 31:21 49:16,23 50:14,20 50:25 71:22 104:6 108:7 111:20 113:5,19 150:14 156:19 159:15,20 160:2 166:17 167:23 172:12,21
reasonableness [1] 72:10
reasonably [2] 172:11 172:20
reasons [6] 13:12 19:1 59:25 96:8 112:2,3
rebuild [1] 43:21
rebuttal [12] 8:6 10:19 13:11 22:19 28:17 52:22 52:24 60:8 109:17 130:3 144:13 152:3
recapture [1] 133:9
receive [1] 89:22
receiving [1] 89:19
recent [2] 24:18 124:1
recognition [1] 108:25
recognize [3] 83:7 84:21 134:1
recognized [2] 109:23 157:15
recollect [1] 94:18
recollection [2] 126:9 157:11
recommend [3] 47:11 64:12 135:19
recommendation [14] 21:19,21 57:19 59:5 63:2 64:6,21 66:22 68:1 84:2 156:24 157:25 168:13 172:10
recommendations [10] 61:16 64:17 65:8,9,10 65:14 109:8 110:23 165:21 168:19
recommended [7] 58:4 66:17,23 67:24 157:12 161:3 167:22
recommending [4] 27:14 64:23 65:18 85:2
reconfirm [1] 2:12
record [3] 1:10 43:3 109:6
records [1] 35:10
recover [6] 48:8,10 59:12 122:3 138:4 158:12
recovered [2] 59:15 93:22
recovering [1] 138:3
recovery [2] 57:18 60:5
recreating [2] 115:9,16
Red [1] 32:7
redirect [1] 73:12
reduce [2] 131:15 164:23
reduced [3] 31:5 58:25 131:9
reducing [2] 31:10,24
reduction [2] 66:7,18
reductions [1] 64:13
reemphasize [1] 92:16
refer [1] 8:9
reference [2] 3:9 152:19
referenced [1] 109:4
references [3] 15:8 121:16 122:13
referred [6] 3:8 48:3 114:16,17 120:7 164:12
refile [2] 82:23,24
reflect [3] 26:1 68:10 95:15
reflected [4] 29:25 41:17 94:7 125:13
refresh [1] 2:2
regard [3] 28:14 29:3 57:18
regarding [2] 37:5 47:13
regards [1] 51:19
region [1] 33:14
regular [3] 70:18 162:3 162:5
regulated [3] 117:22 120:9,22
regulates [1] 82:1
regulation [1] 82:9
regulators [6] 53:14 57:6 58:19 77:24 78:1 125:14
regulatory [9] 77:25 81:24 121:9 129:15,19 161:16 164:6 165:2,4
related [3] 50:1 63:2 156:14
relates [2] 47:14 160:24
relation [2] 15:11 38:21
relationship [2] 85:20 85:24
relative [11] 20:25 30:11 38:24 46:8 59:2 73:18 74:17 75:23,25 86:13 87:6
relatively [4] 75:25 85:8 85:10 145:17
relevant [3] 8:17 36:18 62:5
reliability [8] 39:3,19 39:22 40:4 41:16 44:12 82:6 155:7
reliance [1] 144:3
relied [4] 21:21,24 22:2 22:5
relies [2] 24:25 118:15
relocations [1] 24:10
rely [3] 20:3 50:15 51:25
remain [1] 40:18
remaining [5] 15:6,9 89:1 99:6 133:9
remember [4] 93:17 94:13 111:18 163:19
remind [2] 53:4 141:6
removal [5] 48:10,20 49:8 51:2 113:2
removed [4] 2:13 39:13 40:16 107:21
rendered [1] 170:3
repeatedly [1] 67:8
replace [1] 79:20
replaced [9] 40:14,15 41:6 42:9 45:15 71:4 79:19 107:17 108:7
replacement [8] 42:9 45:10 49:10 69:20 106:6 112:20,22 113:2
replacements [1] 38:2
replacing [3] 49:7 50:21 69:4
replies [1] 37:20
report [11] 1:9,11,22 2:1 4:6 5:14 37:25 43:10 47:16 125:25 156:4
reportages [1] 5:13
reports [2] 115:3,4
represent [4] 7:24 10:14 10:15 12:25
representation [1] 23:1
representative [7] 25:3 25:8 26:5 27:6 62:17 68:19 139:23
representing [1] 27:5
represents [4] 10:21 13:14 25:1 80:8
request [2] 25:15 127:6
requested [2] 129:18 159:14
requests [3] 109:19 142:13 155:15
require [2] 64:1 166:1
required [6] 56:7,12,13 149:2 163:14 167:17
requirement [7] 64:10 75:4,6 89:14 90:7 137:21

157:20
requirements [1] 148:13
requires [3] 81:12,13 153:9
reserve [8] 89:1 96:1,2 96:19 131:2 163:19,21 163:22
residence [1] 50:10
resistant [3] 46:12 69:7 71:3
resolves [1] 172:8
respect [11] 2:25 19:8 53:2 61:17 62:11,14 63:14 66:12 69:4 165:20 168:18
respective [1] 130:11
responded [2] 34:24 49:25
response [8] 2:23 25:14 26:8,24 50:12,14,17 160:7
responses [1] 28:7
rest [2] 79:16 173:11
result [4] 29:8 44:4 134:20 137:17
resulted [3] 2:5 4:2 146:8
resulting [3] 3:10 145:11 168:7
results [9] 2:16 20:4 21:22 32:1 44:18,23 100:4,5 117:1
RESUME [1] 76:10
retain [2] 128:12 129:4
retained [3] 130:15 156:20 157:6
retire [2] 88:17,18
retired [4] 21:10 24:10 27:24 112:16
retirement [14] 7:4 14:11,24 19:3 21:7 24:9 29:24 31:23 33:1 93:4 93:19 97:24,25 162:19
retirements [22] 7:19 7:23 13:17 21:4 31:4 36:14 37:2,4,6,8 72:24 92:12 93:1,9,10 95:16 101:9 107:14 109:2 112:6 146:20 163:1
retires [1] 48:11
retiring [1] 49:7
retreat [1] 108:2
retrospective [1] 138:19
return [4] 75:3 131:3,16 137:22
revenue [8] 64:10 75:4,5 89:14 90:6 137:21 148:12 157:20
reversed [1] 157:18
revert [1] 73:15
review [3] 82:20 110:8 146:8
reviewing [1] 44:19
reviews [1] 44:16
revised [1] 1:8
revision [1] 1:10
revisit [1] 85:3
RFI [14] 2:23 19:7,11 25:14 26:8,22,25,25 28:6 49:25 50:2 73:20 75:13 156:11
RFIs [1] 25:15
ridden [1] 151:7
right [45] 1:13 4:9,13 12:12,21 15:23 17:3,24 20:9,15 21:23 22:4 29:14 30:1,16 31:12,20 32:3 43:18 47:18,18,24 48:12 48:23 49:2,17 60:16 90:17 96:15 106:17 113:16 118:8 120:16 121:8 125:24 140:14 143:23 144:9 145:1 149:18 153:3 156:11 157:4 160:6 164:23
rise [1] 146:17
risk [3] 44:2,8 108:21
Road [1] 174:7
Robley [1] 56:2
rollback [2] 157:16,20
roman [1] 1:22
rotation [1] 43:25
roughly [1] 66:6
routine [2] 43:1,20
rule [27] 8:10,22 9:2,19 10:11 11:9,18 13:10,24 14:1 15:3,10,13 17:15 18:6,13 20:10,14,17,19 20:21 91:5 102:18,21 103:2,6,13
rules [1] 91:5
run [4] 107:12 124:11 129:7 149:20

-S-

sacrifice [2] 103:9,11
safety [3] 44:3,9,12
sag [1] 113:12
sales [1] 82:3
salvage [14] 47:13,22 48:23 51:10 96:20,24 111:6,23 112:1 114:12 159:19 163:21,22 168:5
sample [3] 7:23 14:6 101:18
satisfied [1] 73:6
saw [3] 21:10 54:8 151:8
says [11] 78:23 79:7,15 80:8,14 91:19 104:22 105:4 137:6 153:8 171:6
schedule [1] 109:14
scheduled [1] 44:6
schedules [1] 167:3
school [1] 78:3
schooled [1] 104:17
Science [1] 77:18
scope [1] 114:1
Scotia [4] 72:5 108:14 109:5 154:25
Scotia's [1] 155:8
scratch [1] 115:5
screen [6] 8:12 12:5 53:4 130:7 144:13 156:13
screening [8] 109:20 110:5,12 111:15 165:25 166:7 167:10 168:1
scroll [5] 23:25 42:22,25 47:20 130:13
scrutiny [1] 166:1
se [4] 54:23 114:4 151:4 151:16
season [1] 44:14
second [14] 21:24 42:21 60:11 66:15 86:16 89:5 103:24 105:7 108:5 112:21 137:3 157:15 158:7 160:4
section [3] 10:18 28:25 38:12
sections [1] 79:20
see [31] 5:11 14:19 23:22 37:15 38:12,16 41:4,24 42:23 43:7 47:20,21 48:17 57:4 61:12 62:16 64:22 66:11 67:9 79:12 93:10 100:14,24 110:7,8 114:2 122:8 126:15 141:25 155:16 164:4
seeing [5] 8:11 40:8 85:19 147:12 159:6
seeking [1] 128:11
seem [4] 71:19 113:7 155:3 164:5
sees [2] 104:9,18
segregates [1] 31:15
seldom [1] 5:24
select [3] 6:5 56:17 81:7
selected [2] 25:22 79:7
selection [3] 81:9,9,15
selective [1] 109:20
semantic [1] 135:23
semantics [1] 137:1
sense [6] 36:19 70:6 117:5,24 118:2 140:6
sensitive [2] 93:14 94:23
sentence [4] 23:2 78:23 80:7,14
sentences [1] 26:14
separately [1] 33:10
series [2] 105:22 108:4
service [72] 3:1 6:2 13:2 14:15 19:19 21:3 22:23 24:8 25:25 26:15 29:6 31:5,11,25 35:12 36:10 36:13 39:4,23 40:14 45:17,20 46:14 49:7,10 50:22 51:2,2 55:24 56:24 60:1,4 61:17,25 62:19 63:14 64:7,7,13,14 65:20 67:16,23 68:10 69:1 70:13 71:14,22 72:4,23 74:11,14 75:22,24 86:19 86:22 106:3 113:8 126:21 130:11,24 140:15 141:3 143:8,17 145:3,23 146:3 147:18 159:19 160:1 167:22
services [9] 47:14,21 48:7,11 51:6 111:25 112:7,16 165:21
set [15] 9:7,11 17:22 25:15 91:4,5 100:6,20 100:25 110:25 111:19,20 116:23 126:16 136:22
setup [1] 9:7
seven [15] 24:14 38:15 63:4 64:5,14 71:11 82:13 82:14 104:15 116:9,13 143:6 148:16 165:22 169:2
seven-year [2] 43:25 107:8
several [7] 53:25 54:12 97:11 112:2 114:17,18 147:16
shade [1] 60:21
shakes [1] 172:14
shall [1] 126:18
shaped [1] 93:18
share [4] 89:18 150:12 165:5,7
sheet [1] 1:8
shift [3] 128:23 129:2,3
ship [1] 90:17
shock [2] 58:8 124:4
shooting [1] 143:22
shore [1] 44:25
shored [1] 41:25
shoring [1] 42:12
short [14] 40:17 58:20 73:17 74:17 75:25 86:12 86:16,23 87:5 109:25 130:10 132:14 133:1 140:8
short-term [2] 86:4,7
shorten [1] 39:21
shortened [1] 146:16
shorter [11] 25:18,18 26:6 27:14 29:6,10 31:18 70:25 98:11 106:3 130:7
show [2] 11:2 16:10
shown [3] 23:3 44:17 57:12
shows [4] 5:9 11:3,4 65:15
side [3] 47:21 82:19 134:11
sided [1] 142:23
significant [26] 2:8 7:12 8:21 9:13 10:23 11:8 13:15 14:8 17:1 18:24 20:25 21:5 55:11 64:18 65:11 67:2,12 96:16 98:15 142:14,17,20 145:9 157:17 164:11,12
significantly [3] 34:6 58:25 96:23
similar [4] 10:15 34:15 71:17 155:2
Similarly [1] 20:9
simple [1] 63:19
simply [11] 49:19 97:23 118:9 125:12 131:17 134:1 135:21,23 137:1 148:15 163:10
single [1] 74:4
sinking [7] 55:1,9 58:5 120:22 121:1,12 136:18
sit [1] 142:10
situation [10] 40:5 90:2 112:9,12 113:3 139:25 155:13 157:11 164:5 165:18
situations [1] 14:3
six [3] 26:19 77:24 82:13
size [5] 7:23 14:6 167:11 168:6,14
slice [2] 88:12,15
slices [6] 88:16 93:19 94:6,12,13 133:2
slightly [1] 150:25
sloped [1] 91:19
sloping [1] 135:8
slowed [1] 56:11
slower [3] 135:14,25 136:6
small [4] 1:7 3:25 7:18 110:10
smaller [1] 169:4
Smith [5] 30:24 32:5 34:2 36:6 37:17
smooth [6] 92:22,22 93:4 93:8 98:25 99:1
snow [2] 151:7,8
software [1] 9:1
sole [2] 77:15,16
solely [1] 51:25
something's [1] 110:9
sometimes [3] 14:12 20:20 104:4
somewhat [3] 51:18 105:1 106:15
somewhere [2] 13:19 26:3
soon [1] 44:7
sorry [8] 18:23 47:16 54:1 60:14 86:5 123:22 156:12 159:3
sort [1] 28:10
sound [5] 124:22 125:7 125:10,19 174:9
Sounds [1] 98:3
speak [1] 171:22
species [1] 32:7
specific [5] 9:24 10:6 35:13,23 144:4
specifically [3] 28:19 33:24 49:25
spend [4] 69:23 112:11

115:15 148:12
spending [1] 71:6
spends [1] 138:5
spent [1] 118:22
spite [1] 80:15
splicing [1] 113:12
split [1] 83:21
spotted [1] 78:15
spread [1] 64:8
St [2] 174:7,10
stability [4] 101:8,24 102:8 108:12
staff [2] 117:18 142:10
stage [2] 62:1 141:1
stainless [6] 46:4,10 69:5 70:12,17 71:7
standard [9] 24:7 44:6 92:2 136:15,16,23 137:9 137:10,11
standpoint [10] 85:25 87:6,7,12 88:7 90:11 104:13 110:17 147:24 150:7
Star [4] 156:19 159:14 159:20 170:3
start [7] 13:17,18 90:12 112:18 114:1 117:17 163:8
started [2] 24:15 38:16
starting [6] 22:21 39:16 81:23 104:12 115:5 117:23
starts [3] 14:20 28:20 38:6
state [4] 77:25 82:10,14 82:25
statement [18] 1:25 2:2 3:8 5:14 24:23 25:13,20 27:4,8 38:13 63:17 90:23 103:14 132:17,20 144:6 158:17 165:11
statements [4] 22:8 144:2,2 155:14
states [10] 25:7 72:1 78:9 81:24 82:8,10,14 85:13 117:5,15
statistical [10] 2:4 3:9 4:2 97:13 101:8,17,24 102:13 104:13 105:25
statistically [1] 14:8
statistics [4] 2:7 104:4 106:4,13
statute [2] 149:13,23
statutes [1] 149:15
stay [2] 45:20 158:7
stayed [3] 137:17,23 139:11
steel [9] 46:5,10,13 69:4 69:5 70:12,17,24 71:7
stems [1] 83:11
step [1] 147:15
still [16] 20:24 21:5 32:19 80:2 83:5 94:7,20 98:25 99:5 105:2,3 108:7 118:3 126:2 157:7 170:8
stop [1] 16:22
stopping [1] 11:16
storm [2] 40:19,20
storms [2] 24:11 40:1
straight [18] 55:10 91:3 91:6,12,14,17,19,20,25 92:4,5 134:3,19 135:1,9 135:19 136:16,17
straightforward [1] 150:14
strange [1] 85:16
strength [1] 108:11
stricken [2] 79:17,19
strike [1] 80:11
stringing [1] 113:10
stronger [3] 39:6,24 40:5
strongly [1] 83:15
structural [1] 40:6
structurally [3] 39:6,25 108:6
structure [1] 44:4
stub [1] 108:10
stub-curve [1] 4:9
stub-survivor [3] 4:3 6:23 7:1
stuck [1] 105:19
studied [4] 25:12,17 26:16 27:12
studies [18] 2:21 6:15 8:19 33:13 51:14 64:2 67:5,8 69:19 71:25 77:22 85:1 95:12 113:4,4 114:21 115:19 117:19
study [26] 10:22 11:15 33:9 38:25 43:4 67:3,13 94:2,3,10 95:19 114:4,6 114:9,17,21 115:6,21,22 116:17,22 145:25 146:7 147:6 166:5 168:11
studying [2] 14:5,5
stuff [6] 70:1 105:14,16 105:17,20 172:14
stumble [1] 103:4
style [2] 19:21,22
sub-accounts [1] 2:4
subject [8] 15:7 40:7 49:1 51:13 80:23 82:8 83:22 129:9
subjective [1] 102:15
subjectivity [2] 172:18 172:20
submitted [1] 78:6
subsequent [2] 24:22 24:23
subsides [1] 164:1
subsidies [1] 164:2
subsidize [1] 149:2
subsidized [1] 138:15
subsidy [3] 139:13 140:2 163:15
substitute [1] 72:4
subtracted [1] 75:11
such [11] 6:1 8:18 36:18 39:25 55:18 67:11 68:21 74:18 136:20 161:23 163:2
suggest [6] 47:7 57:10 133:2 152:16 154:9 168:17
suggested [1] 152:6
suggesting [1] 155:6
suggestion [1] 152:15
sum [3] 91:5,24 136:11
summarize [3] 62:8 64:19 65:6
summary [1] 110:21
summation [2] 126:18 136:11
sun [2] 60:12,25
superior [2] 58:16 145:15
support [6] 27:10 34:9 105:5 143:25 144:4,6
supportive [1] 29:2
suppose [2] 2:12 29:19
supposed [3] 94:16,20 172:6
surface [1] 64:25
surprised [3] 105:19 107:5,10
surrebuttal [7] 4:16 22:8 78:13 79:6,14 109:5 140:22
survey [15] 52:25 83:1,6 83:9 117:21 118:4,6,23 119:1,3,12,17 120:3,4 123:1
surveyed [1] 83:4
surviving [19] 3:23,24 3:25 4:14 5:10,12,12,24 5:25 6:17 11:5 17:6,10 17:12,14,17 18:7,8 103:17
survivor [19] 2:6,9 3:11 3:17,22 4:7,8 5:15,18 7:5 11:3 17:5,8 22:21 56:3 61:24 68:4 92:22 99:11
switch [4] 56:16 70:11 161:25 162:2
switches [1] 1:24
sworn [2] 76:16,19
system [7] 24:6 44:20 72:25 82:3 159:4,7 165:8
systematic [1] 44:13
systems [2] 117:7 151:20

-T-

table [24] 4:15,20 5:9 7:11,12,16 11:11,22 14:20 15:16,18 21:19 43:7,18,20 52:24 53:5 57:12 61:12 64:5 67:17 98:13 99:6 144:14
tables [4] 9:23 88:20 92:24 98:3
tail [4] 7:17 102:14 103:10,10
takes [4] 22:22 113:13 137:8 138:20
taking [3] 147:11,12 154:23
talks [2] 4:6 45:9
tank [1] 71:7
tanks [5] 46:5,11,13 70:24 71:3
taper [1] 90:8
tapers [1] 89:15
target [1] 38:2
task [1] 50:1
tasks [2] 50:9,21
tax [1] 137:22
technical [1] 100:1
technological [1] 106:8
technology [2] 105:12 106:10
telephone [3] 83:14 84:11,14
telling [2] 38:3 72:21
tells [1] 86:14
temperature [1] 153:10
ten [4] 26:8 28:8 72:1 99:16
tend [2] 19:5 39:21
term [13] 40:17 58:21 73:17 75:25 86:12,13,16 86:23 87:5 140:8 141:18 150:19 153:22
termed [1] 11:7
termites [2] 152:21,23
terms [13] 9:6 11:18 18:19 36:21 48:19 72:22 116:6 125:13 137:18 143:4,17 144:23 145:3
terrible [1] 98:3
testified [4] 61:15 77:23 78:5,8
testimony [31] 10:16 11:2 13:11 22:9 28:17 39:10 56:21 65:21 78:6 78:12,13 89:11 109:6,17 109:18 111:1,10,12 114:15 117:3 121:17,19 122:9 126:13 129:18 133:18 137:15 156:4,9 156:15 167:4
testing [1] 38:1
tests [1] 37:23
Texas [8] 76:25 81:13 82:6 156:14 159:9,24 170:17 171:19
text [2] 56:2 159:5
thank [17] 50:6 52:12,25 69:9,10 74:21 76:21 113:21,25 144:19 159:1 160:13,16 169:22,25 173:7,12
their's [1] 155:9
themselves [1] 78:5
theoretical [3] 85:20 96:1,19
theory [6] 59:14 94:16 94:19 96:17 104:18 150:8
thereabouts [1] 13:3
therefore [2] 108:2 147:3
they've [3] 90:14,15 102:23
thinking [2] 69:21 154:23
third [2] 22:1 61:3
thought [5] 61:3 120:19 132:25 142:20 146:4
thousand [1] 101:11
three [7] 22:4 43:5 94:5 94:6 104:15 142:24 157:7
threshold [6] 9:3,14 12:22 13:10,13 16:12
through [20] 11:4 18:11 22:11,25 26:11,15,17 45:1 48:8 50:17 88:14 89:21 98:9 116:8 118:23 127:9 139:7 140:22 149:3 155:15
throw [1] 164:24
thrust [1] 152:13
thumb [16] 8:10,22 11:9 13:24 14:2 15:3,10,13 17:15 20:10,14,17,19,21 103:2,6
today [12] 13:4 56:15 89:12 105:13 132:3 137:18,24 138:10 153:20 162:24 164:18 165:15
today's [1] 165:7
together [4] 87:22 108:11 113:11,13
toggle [2] 56:16,16
tomorrow [4] 30:22 34:2 132:3 173:12
too [17] 4:22 58:8,8 64:18 64:18 65:11 67:2,2 89:24 99:16 109:24,25 112:18 139:17 162:17 166:25 167:1
took [5] 73:15 99:15 117:3 146:22 158:14
top [5] 12:5 24:3 43:6 79:18 158:8
topic [3] 20:10 23:22 47:13
Torbay [1] 174:6
total [2] 30:12 142:25
totally [2] 87:25 148:1
touched [1] 38:14
towards [3] 29:10 130:13 158:8
traditionally [1] 115:19
transaction [1] 82:5
transactions [1] 88:12
transcribed [1] 174:8
transcript [1] 174:3
transferred [1] 121:12
transformers [5] 46:6 46:9 68:25 69:5,6
transitional [1] 121:8

transitioning [2] 123:15 123:22
transmission [17] 10:12 10:25 13:1,2 15:5 29:1 37:21 38:6,11 46:2 64:21 66:18 67:11 106:24 107:8 124:5 146:10
transpire [1] 133:13
transpires [1] 92:20
travel [3] 50:10 51:19,23
treat [2] 29:5,19
treated [10] 24:12,13 29:6,7,12 31:15,18 34:15 35:6,7
treating [1] 30:15
treatment [5] 10:12 28:22 29:3,9 35:12
treatments [6] 21:25 28:13 35:7,11,13 152:5
tremendously [1] 94:25
trend [2] 26:1 29:8
trends [3] 100:8,14,24
tried [1] 75:14
trouble [2] 112:7,11
true [4] 27:7 52:3 135:1 174:2
true-up [1] 163:13
trued [2] 88:25 133:14
truth [1] 155:13
try [10] 44:25 47:7 78:21 91:23 104:5 106:20 120:8 143:25 144:7 165:4
trying [9] 6:17 26:1 32:3 40:22 43:9 45:4,5 102:22 169:13
turn [13] 4:15 15:16 21:16 23:10 36:9 39:15 42:15 47:15 65:23 129:25 147:5 150:25 156:4
turned [1] 146:2
turning [5] 7:7 79:6 83:1 97:7,18
two [13] 30:7,10 79:14 80:2 81:10 92:25 96:8 97:13 102:3 108:10 123:6 135:8 157:18
type [13] 19:18 35:12 37:16 42:12 47:4 56:3 85:18 95:22 98:23 101:24 102:22 114:19 115:4
types [2] 57:24 87:20
typical [2] 51:6 75:20
Typically [1] 12:1
typo [1] 122:6

-U-

ultimate [1] 144:3
Um-hm [1] 38:19
unable [1] 35:11
under [15] 1:25 5:5 20:11 23:22 38:22 59:19 75:6 75:9 94:13 95:17 96:17 130:18 133:16 141:13 150:13
underground [10] 1:24 2:13,21 3:15 18:3 19:9 19:16,22 105:13,23
underlying [2] 105:5 124:16
underpaid [1] 90:14
underpay [1] 90:16
underpinning [1] 100:6
understand [18] 1:4 22:18 33:10 36:16 37:19 49:4 72:22 76:16,23 85:14,16 101:11 155:1 161:5 162:1 164:14 165:10 168:2
understood [3] 56:20 61:22 161:21
undertaking [1] 75:17
unilaterally [4] 127:13 127:16,18,20
unique [3] 9:22,24 51:19
unit [6] 13:5 70:17,21 112:13 126:18 136:11
United [7] 78:9 81:24 82:8,10 85:12 117:5,15
units [2] 130:10 132:14
unless [1] 65:3
unreasonable [3] 73:3 168:18,22
unregulated [1] 120:17
untreated [13] 29:14,24 30:4 31:4,8,15,17,23 32:6,8,19 33:1,9
unusual [5] 110:7 112:5 162:7 167:25 168:14
up [57] 4:15 5:5,12 9:7 9:11 12:5,19 17:22 23:10 26:11 33:16 39:15,17,17 41:25 42:13 44:25 47:15 48:22 52:21 53:4 56:19 62:19 64:22 78:5 88:25 93:1,2 95:7 96:11 105:18 105:21 110:3 112:13 116:12,23 119:16 120:14 122:8 133:8,15 136:22 136:24 137:3 140:8 142:23 144:12 146:13,16 147:4 154:20 155:9 156:5 157:20 166:19,25 172:6
upgrading [1] 44:19
upper [2] 100:13 103:12
upwards [1] 46:16
used [20] 2:20 5:20 17:14 17:23 20:5 24:8 36:4 53:9 55:4 60:25 65:1 75:18 102:24 117:24 119:6 125:3 128:15 156:19 166:7 167:11
useful [1] 87:22
users [2] 73:4 132:15
uses [2] 9:1 24:6
using [16] 25:6,20,21 37:22 53:24 54:11 55:1 57:10 58:22,22 62:24 72:3 75:15 115:20 156:6 170:8
usually [4] 67:9 72:9 112:8 114:25
utilities [27] 2:22 14:19 25:2 32:25 53:9 57:6,10 72:13 78:5 83:4,9 105:16 113:18 115:20 117:7,12 117:13,14 118:2,10 120:11 125:13 127:23 152:16 155:4,24 174:6
utility [36] 2:20 36:20 41:24 51:24,24 54:4,7 54:10,19 55:3,17 58:14 70:3 72:5 76:24 77:14 77:19 81:15 84:20 85:23 106:1 107:12 112:25 113:18 115:24 117:22 120:10 122:19 124:23 125:7,10,20 130:16 151:23 160:1 163:7
utilize [4] 82:11 83:4,5 118:3
utilized [5] 21:18 122:18 125:9,16,19

-V-

valid [2] 164:9 165:12
validity [2] 8:12 145:19
value [2] 55:24 166:9
values [2] 146:23 159:20
variance [1] 89:2
varies [2] 9:21 51:20
various [4] 87:18,19,19 87:20
vary [5] 13:9,12 14:3 51:24 93:3
vast [4] 71:19 82:11,11 112:15
Vegas [1] 88:20
verify [1] 5:23
versus [14] 33:21 34:20 35:6,24 51:22 65:9 67:23 75:7 85:14,22 129:12,21 135:5,24
Vice [2] 30:23 32:14
vicinity [1] 48:24
view [11] 56:24 65:10 67:22 125:12 135:13 138:18,19,20 145:22 154:4 162:11
viewed [1] 150:18
viewpoint [1] 130:16
vintage [1] 88:13
vintages [1] 87:18
violates [1] 163:24
violation [1] 150:8
vis [2] 135:14,14
visual [4] 37:15,23 41:18 45:13
vote [1] 160:4
voted [2] 172:3,4

-W-

wait [1] 44:12
walked [1] 151:20
walking [1] 151:19
warranted [2] 22:24 153:11
warranty [1] 152:21
waste [1] 115:15
waterways [1] 32:20
wave [3] 36:14 107:14 109:1
ways [3] 87:15 102:3 110:2
website [2] 4:22 5:2
weight [1] 101:7
weighting [3] 7:9 8:18 83:22
weightings [2] 101:2 141:1
welcome [2] 113:23 144:21
well-analyzed [1] 84:12
Wells [1] 4:23
Western [1] 32:7
wheel [1] 115:16
whereas [1] 20:13
whereby [1] 43:24
who've [1] 107:13
whole [2] 78:3 151:1
wholesale [3] 78:4 82:2 82:5
wide [3] 61:1 106:15,15
Wiedmayer [178] 1:8 1:15,17,18 2:11,17 3:4 3:11,19 4:1,10,17 5:9,17 6:12,22 7:15 9:10,20 10:2,3 11:6,10,20,25 12:7,11,15,20 13:25 14:18 15:15,20,24 16:5 16:9,15,19 17:4,16,20 17:25 18:9,15,20,25 19:14 20:1,16 22:6,13 23:5,14,18 25:5,10 26:20 27:9,21,25 28:5,16 29:15 29:20 30:2,9,17,21 31:7 31:13 32:2,12,18 33:4,8 33:23 34:18,23 35:1,2 35:16,19,22 36:2,11,22 36:23 37:13 38:8,18 39:9 40:11 41:1 42:6,15,17 43:8,13,17 45:3 46:23 47:2,9,15,25 48:14,25 49:12,18,24 50:5,8,16 51:4,12 52:9,13,17,18 53:11,17 54:14,24 55:13 55:20 57:1,7,15 58:1,17 59:9,17,18 60:3,15,20 61:2,19 62:3,21 63:5,16 63:25 65:13 66:2,8,14 67:4,18 68:2,12,17 69:9 70:5,14,19 71:23 72:18 73:7,12,22 74:12,21,25 82:12 83:19 86:12 89:11 93:20 95:25 96:12 108:13 133:19 140:17 155:15 161:8 171:5,14
Wiedmayer's [1] 109:24
willing [2] 101:21 157:17
wind [2] 40:1,19
window [1] 164:24
winds [1] 41:14
Winfrey [2] 56:2 88:9
winter [1] 61:1
wire [5] 45:7 86:18 113:10,11,15
wish [1] 76:16
within [3] 87:20 96:2 110:2
without [4] 66:21 119:10 145:7 161:6
witness [2] 76:2,12
wolmanized [1] 152:20
wood [5] 21:25 24:6 28:13,22 33:12
woodpeckers [1] 24:11
word [6] 39:16 79:16,18 80:15 169:16,18
wording [2] 5:19 25:16
words [4] 7:11 91:7 113:9 135:21
worked [1] 77:23
works [4] 84:19 85:23 102:3,4
world [10] 33:11 84:20 85:22 92:11,17,18 93:1 94:1 95:23 145:22
worst [1] 71:1
worth [5] 6:7,13 144:12 166:15 167:18
write [2] 109:16,17
writing [1] 79:24
written [1] 159:5
wrong [3] 110:10 146:2 147:5
Wyoming [2] 82:14,15

-Y-

yada [3] 72:24,24,25
year [32] 24:18 26:19 66:23 75:24 82:18 86:18 88:16,18 90:5 92:20,20 93:3,3,21,23 94:17 95:13 95:19 99:20 102:19 108:14 110:2 127:4 133:1 136:12 138:21 139:8 140:7 146:9 150:18 152:21 165:1
years [115] 6:3,3,6,7,13 7:21 13:4,7,20,20,21 14:25 18:7,8 19:15,19 20:7,7,13 21:2 22:1 24:14 25:19,21,24 26:16 28:14 33:15,16 36:3 38:15 39:1 46:16,17 53:25 54:1,2,12 57:12 58:22,23 67:7 69:2 70:4 70:25 71:5 73:1 74:9,10 74:17 77:20 78:24,25 84:13,25 86:14,19,20 87:2 89:9,9,10,14,15 90:4 91:6,24 94:5,10,18 98:1,2,20 99:16,18,24 100:12 102:6 104:10,13 104:15,15,15 105:1

107:18 108:9,17,19,24 110:9,9 128:20 132:15 134:22,23 135:6,6 137:7 137:8 138:7,8,23 139:9 145:16,17,25 146:2,11 146:13,20 147:5 148:11 148:16 158:12 163:10

yesterday [11] 1:21,23 2:14 46:4 48:3 82:13 89:12 93:5,19,21 95:25

yet [4] 80:14 90:18 91:15 91:19

yourself [3] 3:14 36:19 140:17

-Z-

zero [5] 3:24 5:24,25 6:16 14:24