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I. INTRODUCTION AND PURPOSE

Q. Are you the same John J. Spanos that submitted direct testimony in this proceeding?

A. Yes.

Q. What is the purpose of your rebuttal testimony in this proceeding?

A. I am responding on behalf of PacifiCorp, d/b/a Rocky Mountain Power ("PacifiCorp," "RMP" or the "Company"), to the testimony of Office of Consumer Services' ("OCS") witnesses Mr. Dan Gimble and Mr. Jacob Pous; Division of Public Utilities' ("DPU") witness Mr. William Dunkel; and Utah Association of Energy Users' ("UAE") witness Mr. Neal Townsend.

Specifically, I will address issues related to the following:

1. The use of forecast 2013 plant and reserve balances for the calculation of depreciation rates and accruals;
2. The Company's theoretical reserve imbalance;
3. Production plant net salvage;
4. Production plant interim survivor curves;
5. Certain issues related to the Company's estimated decommissioning costs; and
6. Mass Property Net Salvage.

Mr. K. Ian Andrews will also address issues raised by each party related to the Company's generating plants. Mr. Henry E. Lay will also address issues related to the application of the depreciation rates to general customer rates; the hydro

decommissioning reserve; the timing of the Company's next depreciation study; and the depreciation rates for mining equipment.

Q. Can you please summarize each issue in your rebuttal testimony?

A. Yes. A summary of each issue is as follows.

2013 Projected Plant and Reserve Balances

- For the depreciation study the Company has calculated depreciation rates based on a future test year of 2013, which corresponds to the implementation date for the depreciation rates.
- The projected future test year aligns the depreciation rates with plant in service as of the implementation date, and is necessary due to significant capital investments the Company has made and is planning to make since the end of the depreciation study test period of 2011.
- Contrary to the presentation in many of the parties' testimonies, this is not a projection of "future interim additions" over the entire remaining life of plant based on "considerable speculations" intended to achieve a single depreciation rate through the lives of each generating plant, but is instead simply a projection made to align the deprecation rates with the period in which they are implemented.

Theoretical Reserve Imbalance

- Mr. Dunkel and Mr. Townsend have proposed a separate amortization of calculated theoretical reserve imbalances in addition to the remaining life depreciation rates that have traditionally used by RMP.

- Such an amortization for a Company such as RMP that uses the remaining life technique is unnecessary, as the Company's theoretical reserve imbalances are not material compared to the size of its investment base.
- The proposals by Mr. Dunkel and Mr. Townsend will fail to match costs with the consumption of assets and expose future customers to risks based on the potential for early retirements of the Company's power plants.
- The depreciation study as proposed by the Company allocates the imbalance to customers over the assets' remaining lives rather than benefit a selected generation of customers.

<u>Production Plant Net Salvage</u>

- Mr. Andrews will address this issue in detail in his rebuttal testimony.
- My rebuttal testimony will address an incorrect presentation by certain parties of a recent Nevada Power case in which my firm was involved.
- I will also address Mr. Pous' incorrect opinion that the sale price of land should offset any decommissioning costs for production plant.

<u>Production Plant Interim Survivor Curves</u>

- Mr. Pous claims that the Company's method for estimating interim retirements for the Company's production plants is inappropriate and recommends a different method.
- The methodology used by the Company widely accepted and is most appropriate for estimates of interim retirements.

- Mr. Pous' methodology is an approximation of the Company's more accurate methodology.
- As I will demonstrate, Mr. Pous' methodology is in fact a poor approximation and significantly understates the Company's interim retirements when compared to the Company's actual experience.

Mass Property Life Analysis

- Mr. Dunkel and Mr. Pous have recommended different service life estimates than those in the depreciation study for certain transmission and distribution plant accounts.
- While some of the differences are due to a different interpretation of historical data, Mr. Dunkel and Mr. Pous have not taken into account a number of other considerations that I have presented in the depreciation study and in discovery.

Mass Property Net Salvage

- Mr. Dunkel has proposed a radical change to the longstanding and widely accepted traditional straight line method for accruing for net salvage in depreciation rates.
- Mr. Dunkel has provided very little evidence that such a significant departure from the traditional ratemaking treatment for net salvage is either widely accepted or necessary, except to provide an incorrect interpretation of a Federal Energy Regulatory Commission ("FERC") Order.

- Mr. Dunkel's methodology defers costs to future customers and results in customer rates that are higher than the traditional method on a cost of service basis.

II. DEPRECIATION CALCULATIONS BASED ON FORECAST ACTIVITY THROUGH 2013

Q. Please explain the process you used for forecasting activity to 2013.

A. The depreciation study itself was based on the most recent historical year end data available at the time of the study. For reasons discussed below, for the purposes of calculating depreciation rates and accruals the estimated plant and reserve balances as of December 31, 2013 were used to calculate the depreciation rates and accruals for each plant account and generating plant. At the time this calculation was performed, actual plant additions and retirements were available the first eight months of 2012. In addition to this recorded information, the Company's capital budget for 2012 and 2013 was used to estimate additions for the remainder of 2012 and for 2013. I then used the estimated survivor curves and net salvage estimates from the depreciation study to estimate the retirements, cost of removal and gross salvage for this period. Using the actual and projected additions, retirements, cost of removal and gross salvage, I was able to calculate the annual depreciation accruals for 2012 and 2013, as well as the ending plant and reserve balances at December 31, 2013. The year-end 2013 date corresponds with the date these rates will be in effect, and so the December 31, 2013 balances were used to calculate the appropriate depreciation expense and rates at the date of the implementation of the Company's depreciation rates.

Q. What is the reason for this approach?

A. The reason for this approach is that because of the time period between the December 31, 2011 test year for the study and the implementation of the depreciation rates as of December 31, 2013, the depreciation rates will no longer be appropriate, due to the significant capital investments the Company has made and will make for 2012 and 2013. As I will explain, this is particularly true for the Company's power plants which use the life span method.

Q. Would applying the depreciation rates calculated at December 31, 2011 to projected 2013 balances result in a reasonable estimate of depreciation expense at December 31, 2013?

A. No, it would not. The depreciation rates would be too low, as Mr. Dunkel actually unwittingly demonstrates in his direct testimony[1]. The primary reason depreciation rates would be too low is because for life span property (e.g. the Company's power plants), new additions have a shorter life than the life of the entire unit. As a result, new additions will have a higher depreciation rate.

Q. Please provide a simple example to illustrate this concept for life span property.

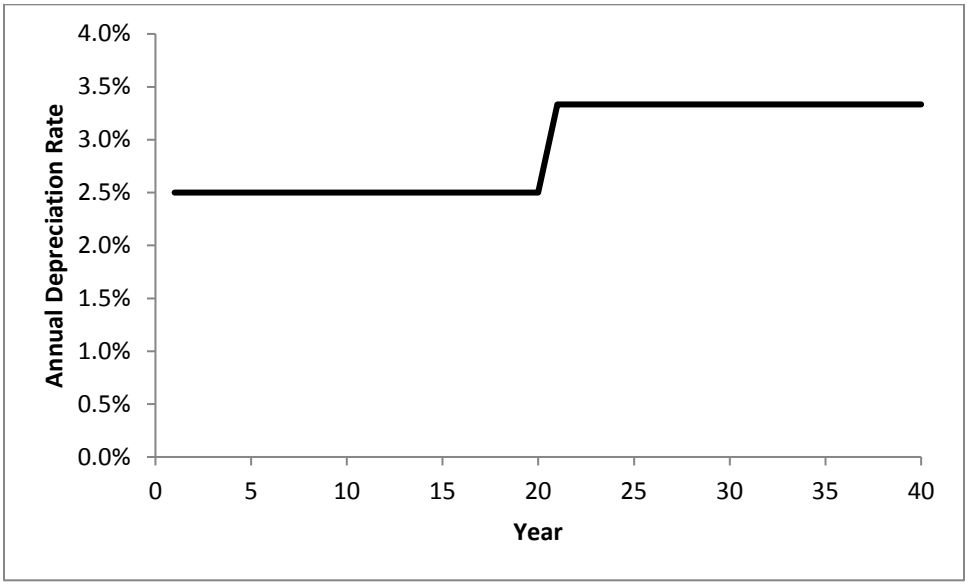
A. Consider as a simple example a power plant that was placed in service at a cost of $10 million. The plant has a 40 year life span. $5 million in plant is added at age 20. Assuming for the point of illustration there are no interim retirements and no interim net salvage, then the depreciation expense for the first twenty years is $250,000, based on the forty year life of the original assets installed.

[1] Direct Testimony of Mr. William Dunkel, p. 22, lines 336-400.

However, at age 20 $5 million is added that has a life of 20 years. Thus, the depreciation expense increases to $500,000[2]. Thus, the depreciation expense doubles, while the plant balance only increases by 50 percent. The depreciation expense increases not only because there are more dollars on the books, but also because the new investment has a shorter 20-year service life.

To illustrate this point further, the depreciation *rates* over the full 40-year life span of the plant are shown in Figure 1 below. As the chart demonstrates, the addition made in year 20 results in a significant increase in the depreciation *rate*. The depreciation rate increases from 2.5 percent to 3.33p percent. For this reason, the application of the existing 2.5 percent rate beyond year 20 would be inadequate to recover the costs of plant in service.

Figure 1: Annual Depreciation Rate, Age 0 to Age 40



[2] Based on a twenty year life for $5 million of the investment and a forty year life for the remaining $10 million in investment.

Q. Does the same concept apply to PacifiCorp's power plants?

A. Yes. For example, the plant balance for Account 312, Boiler Plant Equipment, was approximately $575 million at the end of 2011. For the calculation at the end of 2013, the plant balance is projected to be approximately $688 million. Due to the increase in investment, the depreciation rate at 2013 increases to 5.72 percent from 5.11 percent. Almost all of this increase is due to an actual recorded – not projected – addition of $114 million that occurred in the first part of 2012. If the proposals of Messrs. Dunkel, Pous and Gimble were accepted to exclude activity beyond the end of 2011, then the depreciation rate would be much too low. For this account, at this plant alone, the 2013 depreciation accruals would be over $4 million too low at the date of implementation[3].

Q. Mr. Dunkel argues that the proposal based on projected 2013 balances "goes far beyond adjusting just for the higher investment expected at the end of 2013 as compared to the investments at the end of 2011[4]." Is he correct?

A. No, he is not. The increases in depreciation expense from the calculations at the end of 2011 to the calculations at the end of 2013 are due entirely to changes in plant and reserve balances (i.e. due to "higher investment"). No life or net salvage parameters have changed from the 2011 calculations to the 2013 calculations. The reason depreciation increases more than Mr. Dunkel expects is due to the concept that depreciation rates for life span property will increase as new investment is added.

[3] The calculated depreciation expense at year end 2013 in the study is $39,361,986. Based on the 5.11 percent rate it would be $35,180,870.
[4] Direct Testimony of Mr. Dunkel, p. 22, lines 344-346.

Q. Is Mr. Dunkel's argument that only $46.1 million, of the total $121.7 million increase from 2011 to 2013, is caused by "higher projected investment" correct?[5]

A. No, it is not. Instead, Mr. Dunkel's discussion actually presents a convincing argument as to why depreciation rates need to be recalculated at 2013 and why using the 2011 depreciation rates is inadequate – that is, Mr. Dunkel's discussion actually demonstrates the exact opposite of what he intends to show.

In his testimony, Mr. Dunkel calculates the total increase in depreciation expense from 2011 to 2013 to be approximately $121.7 million, based on the calculation of new depreciation rates at the end of 2013. If instead the depreciation rates calculated at the end of 2011 are applied to the 2013 plant balances, the increase in depreciation expense is only approximately $46.1 million. While Mr. Dunkel claims that the additional $75.6 million change in depreciation expense cannot be "explained by the projected increase in investment,:[6] this difference is in fact due to the concept I have explained in the example set forth in Figure 1 above. Specifically, because a large portion of the new investment is at PacifiCorp's generating facilities that use the life span method, the lives of these new investments are shorter than those of existing plant. Thus, the depreciation rates must increase to account for the shorter lives.

Q. Please explain what the $75.6 million number Mr. Dunkel cites actually represents.

A. Due to the fact that depreciation rates must increase to account for the shorter lives of

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[5] Direct Testimony of Mr. Dunkel, p. 22, lines 336-340.
[6] Dunkel Direct Testimony, p. 21, line 332 to p. 22, line 333.

new investment, the $75.6 million actually represents the shortfall in depreciation expense that would occur if the depreciation rates calculated at 2011 are simply applied to forecast 2013 plant balances – if the 2011 depreciation rates are used for 2013 balances, the depreciation expense of $75.6 million would be too low. Simply put, this $75.6 million amount is precisely why depreciation rates need to be recalculated at 2013 in order to accurately reflect plant in service at the date of implementation.

Q. Mr. Pous and Mr. Gimble refer to your approach as the inclusion of "interim additions." Is this an accurate description?

A. I do not agree with either witness' characterization of my approach. In the context of the arguments and citations provided by both Mr. Pous and Mr. Gimble, their definition and use of the term "interim additions" is inaccurate. In fact, it is notable that Mr. Pous' own testimony provides two different definitions of interim additions, which are not consistent with one another. On page 11 of his testimony, Mr. Pous defines interim additions as "theoretical or estimated future dollars of capital for either replacing existing facilities or adding new facilities," and then notes that "such additions are referred to as interim since they do not reflect the dollars of investment in service as of the end of the depreciation test year."[7] Mr. Gimble provides a similar definition in his footnote on page 4 of his testimony.[8]

This definition is incorrect and, in particular, is incorrect as it applies to the sources cited by Mr. Pous in his testimony. In fact, Mr. Pous' definition is

[7] Direct Testimony of Mr. Jacob Pous, p. 11, lines 291-294.
[8] Mr. Gimble has since revised his definition to be the same as set forth in National Association of Regulatory Utility ("NARUC").

contradicted by his own testimony. In footnote 4 on page 3 of his testimony, Mr. Pous cites the definition from the National Association of Regulatory Utility Commissioners' ("NARUC") *Public Utility Depreciation Practices*, which defines interim additions "as used in life span analysis, additions made subsequent to the year in which the unit was placed in service."[9] In other words, interim additions are additions made to life span property (such as a power plant) that occur at any time after the initial year in which the plant was placed in service. Interim additions are not "future additions." Instead, they include both past and future occurrences.

Q. How do interim additions differ from the proposal to use data through 2013 in the depreciation study?

A. They are two distinct concepts. The additions through 2013 are not just for life span property, but for all types of plant. For example, PacifiCorp has included forecast additions for Account 364 Poles, Towers and Fixtures. Since this account does not represent life span property, these additions are not interim additions.

Q. Is most of the activity from 2011 to 2013 future interim additions, which Mr. Pous discusses at length in his testimony?

A. No. The activity from 2011 to 2013 contains approximately $2.2 billion in additions. Of this amount, approximately $1.3 billion is for assets that are not life span property – that is, over half of the additions are not interim additions at all. Additionally, of the approximately $900 million in interim additions for life span property, approximately $432 million are for actual recorded additions that occurred from January 2012

[9] National Association of Regulatory Utility Commissioners, *Public Utility Depreciation Practices* (1996), p. 321. Mr. Gimble has revised his definition to be consistent with this definition.

through August 2012. Thus, of the full $2.2 billion in additions, only approximately $464 million, or 21 percent of the total, was for projected future interim additions. Further, this projection was for only sixteen months, and was based on capital investments the Company either already has made by this time or plans to make in the near future.

Q. Instead of the term "interim additions," what term would you use to describe the projected activity through 2013?

A. The terms "forecast test year" or "future test year" are often used to describe this process. The future test year refers to forecast activity beyond the end of the study date. The term "historic test year" is used to refer to the last date of available historical data. For the RMP study, the historic test year is the end of 2011 and the future test year is the end of 2013. The use of a future test year is accepted for ratemaking in other jurisdictions, and reduces regulatory lag in the ratemaking process.

Q. Why is it important to understand this distinction?

A. The main reason is because Mr. Pous cites sources from NARUC and from a FERC order related to interim additions as evidence that our proposal to use forecast data through 2013 is inappropriate. However, the NARUC citations Mr. Pous presents are related to a different concept. Based on my review of available information for the FERC Order he cites, the discussion in that Order may also be related to a different concept.

Q. Please explain these concepts further.

A. The NARUC passage cited on page 11 of Mr. Pous' testimony is describing a process

of forecasting future interim additions for *every year* that a life span unit will be in service. That is, the process described in NARUC is a forecast of additions far in the future, beyond the implementation date of calculated depreciation rates. It is not referring to the process employed by RMP in this case of estimating plant and reserve activity for a limited period of time in order to calculate the most appropriate depreciation rates at the date of implementation. Specifically, in the passage of NARUC cited by Mr. Pous, NARUC describes a process of using interim additions in which "it is possible to estimate the probable future retirements and additions to a particular piece of property and thus arrive at a single depreciation rate applicable over the entire life of the property."[10] This is not the process I have employed. The additions forecast for the 2013 calculations are based on PacifiCorp's capital budget, and thus they are for additions the Company is planning to make in the near future. This is a very different process from estimating future additions for the entire life spans of each plant. Additionally, the forecast of activity to 2013 will not result in "a single depreciation rate applicable over the entire life of the property" as the process in NARUC describes. Instead, future additions to life span property beyond 2013 will increase the depreciation rates in the future.

Q. What reason does NARUC give for not including all future interim additions?

A. NARUC claims that "this is an unsatisfactory practice inasmuch as considerable speculations would be required to make such an estimate on future additions."[11]

[10] Pous Direct Testimony, p. 11, lines 314-316.
[11] Pous Direct Testimony, p. 11, lines 316-318.

Given that PacifiCorp's proposal is a different practice altogether, NARUC's concerns do not apply to PacifiCorp's depreciation study.

Q. Does the activity projected to 2013 contain "considerable speculations?"

A. No. As I have described, the first eight months are based on actual plant activity, and the remainder of 2012 and all of 2013 are based on the capital budget. These are not "considerable speculations", but are instead either actual spending or investments the Company is planning to make in the near future.

Q. Have you reviewed the FERC decision Mr. Pous presents in his testimony?

A. I have reviewed the FERC opinion cited by Mr. Pous,[12] as well as the Administrative Law Judge's ("ALJ") Decision in that case.[13] Mr. Pous did not provide any other information about the case, which is three decades old, so it is difficult to determine the exact circumstances of FERC case cited by Mr. Pous. However, based on my review of the ALJ's Decision, it seems possible that the proposal rejected by FERC was in fact different from what PacifiCorp has proposed in this case. In fact, I would interpret some of the language in the Decision to mean that FERC would actually accept the process PacifiCorp has used in this case.

I should note that it is difficult to be certain of the exact facts and issues in FERC case cited by Mr. Pous, as he has not provided any further information or evidence that the proposal by Commonwealth Edison ("Edison") was in fact the same proposal made by PacifiCorp in this case. However, as I will discuss, there is enough information in the ALJ's Decision to doubt that the proposal in the FERC case was in

[12] FERC Opinion No. 165.
[13] 15 FERC P 63048.

fact the same as in this case. Further, as I will discuss in more detail, a FERC Order from 30 years ago does not preclude U.S. jurisdictions from adopting a future test year approach, as other states do currently use this approach.

Q. Please provide more information on this FERC proceeding.

A. Yes. The proposal recommended by Edison in Dockets No. ER79-182 and ER80-106 included estimated "future backfitting additions and future retirements,"[14] which represent the "budgeted future interim additions" to which Mr. Pous refers.[15] FERC Staff was one of the parties opposed to the inclusion of these future additions. The ALJ's discussion of FERC Staff's position notes that Staff argued that the inclusion of these additions "would circumvent the overall test period method of ratemaking by adding future costs to forecast test year costs as long as they were budgeted for by the filing company"[16] (emphasis added). From this discussion, it actually appears as if FERC has accepted a "forecast test year" (i.e. a future test year), but the future additions at issue were for spending that would occur beyond the future test year.

Q. Given this discussion, does the case cited by Mr. Pous appear to be related to the same issue as for this case?

A. No, in my opinion it does not. Based on the passages cited above, the FERC case Mr. Pous cites appears to actually be related to projected additions beyond a forecast test period. This is not the issue in this case, in which additions have only been forecast to the end of the test period, or the implementation date of the calculated depreciation dates.

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[14] 15 FERC P 63048, p. 24.
[15] Direct Testimony of Mr. Pous, p. 12, lines 329-330.
[16] 15 FERC P 63048, p. 25.

Q. Does any other discussion in the FERC case cited by Mr. Pous support your interpretation?

A. Yes. The ALJ's Decision is based in large part on "the long-established principle that an item may be included in rate base only when it [is] 'used and useful."[17] FERC Order 165 also notes that the ALJ's Decision was "predicated on the used and useful concept."[18] This concept does not apply to a future test year, which represents the forecast of plant in service that will be used and useful at the implementation of rates. In other words, the proposal by PacifiCorp to use a forecast 2013 test year does not mean that customers will be paying for assets that are not used and useful at the time the depreciation rates are implemented. Instead, the 2013 test year corresponds with the implementation date, and thus represents the best estimate of assets that will be used and useful at the time the depreciation rates are implemented. In contrast, the proposal by Mr. Pous and others to use the depreciation rates calculated at 2011 will be insufficient to equitably allocate the costs of assets that are used and useful at the implementation date.

Q. Are depreciation rates based on a future test year used in other jurisdictions?

A. Yes. In Pennsylvania this is a widespread practice and all rate cases are based on a projected future test year. The practice is also used in Florida, North Carolina and Indiana.

[17] 15 FERC P 63048, p. 27.
[18] 23 FERC at paragraph 61,488.

Q. Please address Mr. Dunkel's comments in footnote 24 on page 19 of his testimony related to his claim that you have not calculated depreciation rates using projected activity for any studies performed within the past 16 months.

A. In the response to DPU_7-8, I had explained that in for some of the cases included in my response "depreciation rates or expense beyond the historic test year outside the study" was included in rate filings. While Mr. Dunkel claims that such a practice "is not similar to the 'Appendix' Mr. Spanos filed in this proceeding," he is incorrect. While he may not be familiar with the term, the use of a "future test year" is exactly the same approach as I have proposed in this study.

For example, DPU_7-8 lists two depreciation studies from Pennsylvania, one for Duquesne Light Company and one for PPL. Rate cases for both companies will include depreciation rates calculated using a future test year, just as has been done for RMP in this case.

Q. Regarding the calculation of depreciation rates based on a future test year, Mr. Pous states that "it is hard to recall any instances of an equivalent request by other United States utilities." Are you aware of Mr. Pous' involvement in any cases in which a future test year was used?

A. Yes. Mr. Pous submitted testimony in Florida Power & Light Company's ("FPL") 2009 general rate case and depreciation study, Florida Docket Nos. 080677-EI and 090130-EI. The depreciation rates proposed and accepted in the FPL filing were based on a projected future test year of 2009, based on plant and reserve activity projected from the historic test year balances at year end 2007. In other words, the depreciation rates approved by the Florida Public Service Commission in that case

were based on the same methodology as in this filing for RMP. Notably, Mr. Pous did not object to the practice in the FPL case.

Q. Please summarize your recommendation on this issue.

A. Given the significant capital expenditures required for RMP by the time of the implementation of the depreciation rates filed in this study, the inclusion of projected activity is necessary to mitigate regulatory lag and to match the proper depreciation rates to the time of the implementation of these rates. The projected additions included in these calculations are not "considerable speculations", but are instead based on actual and projected spending that the Company will need to incur in order to continue the safe and reliable operation of its facilities. For the reasons set forth in this testimony, the inclusion of these costs should be included in the calculation of depreciation rates; otherwise, significant costs will be deferred to future customers.

III. THEORETICAL RESERVE IMBALANCE

Q. What is a theoretical reserve imbalance?

A. A theoretical reserve imbalance ("TRI," "reserve imbalance" or "imbalance") is calculated as the difference between a company's book accumulated depreciation, or book reserve, and the calculated accrued depreciation, or theoretical reserve. Mr. Dunkel refers to a situation in which the book reserve is greater than the theoretical reserve as a "reserve surplus" and a situation where the book reserve is less than the theoretical reserve as a "reserve deficiency." He also refers to a theoretical reserve imbalance as a "theoretical reserve variance."

Q. What is the book reserve?

A. The book reserve, also referred to as the "book accumulated depreciation" or the

"accumulated provision for depreciation," is a running total of historical depreciation activity. It is equal to the historical depreciation accruals, less retirements and cost of removal, plus historical gross salvage. The book reserve also represents a reduction to the original cost of plant when calculating rate base.

Q. What is the theoretical reserve?

A. The theoretical reserve is an estimate of the accumulated depreciation based on the current plant balances and depreciation parameters (service life and net salvage estimates) at a specific point in time.

Q. Is the theoretical reserve the "correct" reserve?

A. No, it is instead an estimate based on the current plant balances and current estimates of service life and net salvage. The theoretical reserve can be used to compare the actual book reserve to a theoretical benchmark, but it should not be thought of as what the reserve "should be."[19] Depreciation is by nature an estimate of future events that will transpire decades into the future. To assume that the theoretical reserve is the correct reserve is to assume a precision of estimates that is not possible.

Q. Is a theoretical reserve imbalance a common occurrence?

A. Yes, it is. The theoretical reserve is a simplified model of a company's reserve position, based only on the current plant balances, service life estimates and net salvage estimates. The Company's book reserve is instead the cumulative history of all reserve activity, including retirements, gross salvage, cost of removal, adjustments, and the historical annual depreciation accruals approved by the

[19] Mr. Dunkel uses the phrase "should be" on, p. 9, footnote 6 of his direct testimony.

Commission. Given the simplification inherent in the theoretical reserve model, it is common for the theoretical reserve to differ from the book reserve.

Q. If a theoretical reserve imbalance exists, does a company normally take action to adjust the book reserve?

A. No, in most jurisdictions an explicit adjustment to the book reserve is not necessary. In the majority of jurisdictions, including for RMP in Utah, the remaining life technique is used. Using the remaining life technique, the unrecovered costs (or "future accruals") are depreciated over the remaining life for each depreciable group. Based on this process, when using remaining life technique there is an automatic adjustment, or self-correcting mechanism, that will increase or decrease depreciation expense to account for any imbalances between the book and theoretical reserves. Thus, the depreciation rates presented in the depreciation study already include an adjustment for the theoretical reserve imbalance. No further adjustment is needed.

Q. Do authoritative depreciation texts provide guidance regarding theoretical reserve imbalances?

A. Yes. Mr. Townsend paraphrases the discussion of theoretical reserve imbalances in the NARUC's publication *Public Utility Depreciation Practices* (the "NARUC Manual"). Mr. Townsend is correct that NARUC notes that "the use of an annual amortization over a short period of time or the setting of depreciation rates using the remaining life technique are two of the most common options for eliminating the imbalance."[20] However, since RMP already uses the remaining life technique, this passage offers no justification for changing from RMP's longstanding practice of

[20] NARUC, p. 189.

using the remaining life technique, which renders a specific amortization over a short period of time unnecessary. As I will discuss, other guidance in the NARUC Manual suggests that such an adjustment should only be made in unique circumstances for companies that use the remaining life technique.

While Mr. Townsend suggests that the "decision as to whether and how to correct the reserve imbalance is subjective,"[21] additional discussion in the NARUC Manual is not supportive of using a different period of time in the case of RMP. In the same section quoted by Mr. Townsend, NARUC is clear that an explicit adjustment requires both materiality and a specific knowledge of factors that have led to a theoretical reserve imbalance. NARUC states:

> "When a depreciation reserve imbalance exists, one should investigate why past depreciation rates, average service lives, salvage, or cost of removal amounts differ from the current estimates. Care should be taken to analyze these effects before correcting for the reserve imbalances. Instances occur where subsequent experience shows the original estimates no longer to be appropriate. It should be noted that only after plant has lives its entire useful life will the true depreciation parameters become known. Recognizing the nature of depreciation and its requirement for future estimations, no adjustment in annual depreciation accruals to reflect a reserve requirement, based on current rates, should be made unless there is a clear indication that the theoretical reserve is materially different from the book reserve."[22]
>
> (Emphasis added)

Q. Is there a clear indication that the theoretical reserve is materially different from the book reserve?

A. No. While both Mr. Townsend and Mr. Dunkel cite reserve imbalances in the 10's or 100's of millions of dollars, these amounts are large only due to the size of

[21] Direct Testimony of Mr. Neal Townsend, p. 4, lines 75-76.
[22] NARUC Manual, p. 189.

PacifiCorp's investment base. When put into context – that is when compared to the size of the investment balances as well as the uncertainty inherent in future estimates - the reserve imbalances are not material. For steam plant, for example, which is the main focus for both Mr. Dunkel and Mr. Townsend, the theoretical reserve imbalance of approximately $48 million represents only two percent of the total theoretical reserve[23]. For all of production plant the theoretical reserve imbalance is less than one percent of the theoretical reserve. These represent very minor differences when put in perspective, and offer no justification for any deviation from the remaining life technique.

Further, as I will discuss in more detail below, if in the future more information becomes available and results in a change in estimate, these "reserve surpluses" could very easily become "reserve deficits." This provides additional justification to not amortize any reserve imbalances over a shorter period of time and to continue to use the remaining life technique.

Q. Do Mr. Dunkel and Mr. Townsend explain why they believe the theoretical reserve imbalance is material enough to require an explicit adjustment?

A. No. It is indeed surprising that Mr. Dunkel considers these amounts material, given that he claims that a $1.8 billion change in plant investment is "relatively small."[24] Indeed, as discussed in the previous section, Mr. Dunkel has opposed the $75.6 million impact of properly reflecting future test year balances in depreciation calculations. This $75.6 million of *annual* expense is in fact more than twice as large

[23] Even excluding Carbon, the reserve for Steam is less than 5% of the theoretical reserve.
[24] Dunkel, p. 21, lines 327-328

as the entire theoretical reserve imbalance for production plant. Given these other discussions in his testimony, it would be inconsistent for Mr. Dunkel to consider the reserve imbalance amounts to be material.

Mr. Townsend indicated in the response to discovery[25] that he does believe the theoretical reserve imbalance is material. He provided no support for this opinion, other than to state that he considered "the relevant factors as identified in the NARUC Paper." As I have explained in detail, there is no evidence that the imbalance is material, and further an explicit adjustment is not necessary since the remaining life technique is used.

I should also clarify other statements Mr. Townsend makes in this data response. He states that "PacifiCorp must also consider this imbalance material, given that it has proposed adjustments using the remaining life technique." This is incorrect. I do not believe the imbalance to be material. Further, Mr. Townsend's interpretation of NARUC is incorrect, as additional discussion in NARUC explains that the use of the remaining life technique does not require a determination of materiality.

Q. What additional discussion on the use of the remaining life technique does NARUC provide?

A. In its discussion of the remaining life technique, NARUC also notes that "the desirability of using the remaining life technique is that any necessary adjustments of depreciation reserves, because of changes to the estimates of life and net salvage, are accrued automatically over the remaining life of the property. Once commenced, adjustments to the depreciation reserve, outside of those inherent in the remaining life

[25] UAE response to RMP 1.3.

rate would require regulatory approval."[26] In other words, for companies that have the longstanding practice of using the remaining life technique, such as RMP, a determination of materiality is unnecessary. Additionally, not only is an additional adjustment to the reserve unnecessary, but one should only be made in unique enough circumstances to require special regulatory approval. The situation for RMP does not meet this requirement.

Q. Do other authoritative depreciation texts provide further guidance on the theoretical reserve imbalance?

A. Yes. Wolf and Fitch's *Depreciation Systems* is another highly regarded depreciation text. Wolf and Fitch explain that:

> "The CAD [theoretical reserve] is not a precise measurement. It is based on a model that only approximates the complex chain of events that occur in an actual property group and depends upon forecasts of future life and salvage. Thus, it serves as a guide to, not a prescription for, adjustments to the accumulated provision for depreciation."

In other words, the theoretical reserve is an estimate, not a precise calculation of what the reserve "should be." Given the small percentage differences between PacifiCorp's book reserve and theoretical reserve, there is no reason to use a separate amortization. Such a recommendation suggests a degree of precision that the theoretical reserve does not provide.

Q. Is an amortization over a fixed period normally used in jurisdictions that use the remaining life technique?

A. No. Consistent with the NARUC discussion outlined above, for jurisdictions that use the remaining life technique it is rare to have an additional amortization of the

[26] NARUC, p. 65.

theoretical reserve imbalance. Generally, the use of a separate amortization only occurs when a large unit of property (such as a power plant) is retired before the full service value can be recovered. Since in such a situation the costs cannot be practically recovered over the remaining life, a different period is used.[27]

Q. Mr. Dunkel provides an analogy of a doctor's bill to explain the treatment of a theoretical reserve imbalance. Do you agree with this analogy?

A. No, this is not an accurate analogy for the issue at hand. Mr. Dunkel provides an example of a doctor's bill for which the customer needs to settle due to an underpayment (or overpayment).[28] However, there is a very important distinction between the situation Mr. Dunkel presents and that of a theoretical reserve imbalance. Specifically, in the example Mr. Dunkel provides, the amount of the overpayment is precisely known. This is not true for a theoretical reserve imbalance, which is instead based on an estimate of the future. The NARUC Manual is clear in its explanation that "only after plant has lived its entire useful life will the true depreciation parameters become known."[29] In Mr. Dunkel's example, the "life" of the doctor's service has already ended, and the true costs are known. For depreciation estimates, and the theoretical reserve, the task is to estimate the time at which future retirements occur. This is very different from Mr. Dunkel's analogy.

Additionally, the doctor's bill is a one-time service to be settled between two parties - the doctor and the patient. Considerations for depreciation such as the timing

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[27] This is in fact the situation with Carbon. It should be emphasized that the five year period agreed to in settlement for Carbon represents the period *after* the plant is retired. Thus, the amortization period used is in fact *longer* than the remaining life.
[28] Direct Testimony of Mr. Dunkel, p. 9, lines 130-133.
[29] NARUC, p. 189.

of recovery, rate base impacts, and intergenerational equity do not affect the transaction in Mr. Dunkel's analogy.

Q. Mr. Dunkel states that the remaining life technique is used "in part because it does not require the parties to specifically select a specific amortization period."[30] Do you agree?

A. No. The remaining life technique is used for a number of important reasons, and the convenience of not having to go through the trouble of selecting a specific period is not the primary concern. Most important is that the remaining life technique matches cost recovery of assets to the consumption of these assets. It makes little sense to amortize the reserve imbalances of short-lived assets over the same period of time as long-lived assets[31]. Instead, the period of time the assets will remain in service is the most reasonable period of time.

The use of a fixed period as proposed by Mr. Dunkel will not match costs with consumption. It will instead accelerate or decelerate recovery, and will not result in an even recovery over the remaining lives of assets in service. I should also note that that Mr. Dunkel's implication that the remaining life technique does not require the selection of a "specific" period is technically incorrect. Using the remaining life technique, the remaining life of each property group is specifically selected for the recovery of the unrecovered service value of the group of assets. It is also the more

[30] Dunkel, p. 14, lines 184-186.
[31] Mr. Dunkel is in effect doing exactly this, proposing to amortize the reserve imbalance for Carbon, which will only be in service until 2015, over the same period as the Company's other coal plants, which are estimated to be in service for as much as thirty more years.

precise and equitable selection, as the "selected" period is the time that the assets will remain in service.

Q. Are there any other reasons the remaining life is preferable to a specific amortization?

A. Yes. The remaining life technique establishes a consistent methodology in which all depreciable groups are treated in a consistent manner. It therefore prevents parties from creating an inequitable amortization period in order to achieve a desired result.

Q. Why does Mr. Dunkel propose to amortize the reserve imbalances over a period other than the remaining life?

A. Similar to Mr. Townsend, Mr. Dunkel's primary justification for his proposal is based on the situation in steam production where there is a reserve deficiency for Carbon, which will only be in service until the end of 2015, and a reserve excess for the remaining plants, which will be in service longer than Carbon. Mr. Dunkel argues that the remaining life technique produces an "improper result"[32] because the remaining life is shorter for Carbon than for the other plants.

Q. Does the use of the remaining life technique produce an improper result?

A. No. For each plant, any unrecovered costs are recovered over the remaining lives of the assets at the plant, and as a result costs are most equitably matched to the consumption of the assets. The fact is that Carbon, which has a reserve deficiency, will be retired in a short period of time. The only proper result is therefore to recover these costs over a short period of time.

[32] Dunkel, p. 14, lines 187-188.

Q. Why does the carbon plant have a theoretical reserve imbalance?

A. The Carbon plant has a theoretical reserve imbalance for two related reasons. First, the plant will be retired sooner than was anticipated in prior depreciation studies. Second, the cost to decommission the plant will be higher than anticipated in prior depreciation studies.

Q. Is there a possibility that the same factors that led to a reserve imbalance at carbon could also lead to reserve imbalances at the company's other steam plants?

A. Yes. There is a very real risk that the Company's coal-fired plants in particular could be retired sooner than is presented in the depreciation study. For example, federal greenhouse gas legislation would likely result in the retirement of coal-fired units earlier than shown in this study. The result of such legislation would be that any theoretical "reserve surpluses" calculated in this proceeding would immediately become real-life reserve deficiencies for plants that would retire early. Were Mr. Dunkel's proposal accepted and the "reserve surplus" for each plant were amortized over a short period of time, this would only exacerbate any actual reserve deficiencies that would occur.

Q. Will any of the proposals made by Mr. Dunkel result in reserve deficiencies?

A. Yes. I have discussed previously how the use of depreciation rates calculated at 2011 for 2013 plant will be too low. Mr. Dunkel is proposing to use the 2011 depreciation rates. Since these rates will be too low at the time they are implemented, their use will result in reserve deficiencies for the Company's generating plants. This concept

should also be a reminder that the reserve imbalance is not a precise number, but will be affected by future experience.

Q. Are there also reasons that the "reserve surpluses" in transmission and distribution plant could be overstated?

A. Yes. As I will discuss in the section on mass property net salvage, the net salvage estimates for these functions of plant are actually very conservative when compared to the Company's historical experience. If removal costs continue at the levels experienced in recent years, the net salvage estimates in this study could prove to be too low (i.e. not negative enough). In such a case the currently estimated "reserve surplus" could actually prove to be a "reserve deficiency."

Q. Please summarize your recommendation related to the theoretical reserve imbalance.

A. The theoretical reserve imbalance for PacifiCorp's assets is not material in a manner that warrants a departure from the longstanding use of the remaining life technique. As I have explained, Mr. Dunkel's and Mr. Townsend's criticisms are unfounded and often based on a lack of understanding of the issue. I recommend the continued use of the remaining life technique.

IV. PRODUCTION PLANT NET SALVAGE

Q. What is the basis of the company's terminal net salvage estimates for production plant?

A. With the exception of the Carbon Plant, which Mr. Andrews will address in detail, the Company's estimates are the same as those stipulated in the Company's previous depreciation study of $40/kW for Steam Production Plant, $20/kW for Other

Production Plant gas plants and $9/kW for Wind Plants. The Company provided evidence supporting these estimates in the prior study, as well as additional information in discovery[33] in this proceeding.

Q. What are Mr. Pous' terminal net salvage estimates for production plant?

A. Mr. Pous has proposed $30/kW for all steam plants, $8/kW for other production gas plants and $5/kW for wind plants.

Q. How does Mr. Pous' discussion of Nevada power impact his analysis?

A. Mr. Pous devotes a considerable amount of time discussing a decommissioning study performed for Nevada Power by Black and Veatch. Much of this discussion is focused on the Carbon Plant, which Mr. Andrews addresses in his rebuttal testimony. However, Mr. Pous' recommendation for other production gas plants is based entirely on an outdated estimate for Nevada Power based on revisions to this Black and Veatch study.

Q. Are nevada power's currently approved decommissioning estimates based on the Black and Veatch study Mr. Pous discusses?

A. No. In the most recently concluded depreciation case for Nevada Power, Nevada Docket No. 11-06007, the Nevada Commission approved different decommissioning estimates than those discussed by Mr. Pous. These estimates were based on more recent decommissioning studies performed by URS and Sargent and Lundy, which were in turn modified by the Nevada Commission in its Order. Given that his references to Nevada Power are out of date, much of Mr. Pous' support for his estimates, especially for other production gas plants, is incorrect.

[33] Response to DPU.

Q. Do you agree with Mr. Pous' presentation regarding Nevada Power?

A. No. Much of his presentation is either incorrect or misleading. Due to many of the statements he makes in his discussion of Nevada Power, Mr. Pous was asked in discovery to provide the "$/kW estimates currently approved by the Nevada Commission for each of Nevada Power's power plants." Mr. Pous' response only referred to an earlier data request response that OCS provided to DPU that contained selected pages from the testimony of Nevada Staff witness Mr. Paul Maguire filed in Docket No. 11-06007.

Q. Do any of these pages contain the approved decommissioning estimates for Nevada Power?

A. No. While there is a page in this response that shows a decommissioning estimate of $8/kW for combined cycle plants, this page does not represent the approved estimate, or even the estimate proposed by Mr. Maguire in Docket No. 11-06007. It is instead from a schedule showing estimates from the revised Black and Veatch study. However, these estimates were no longer being used. Had Mr. Pous been less selective in his presentation he would have included the pages of Mr. Maguire's testimony that showed Mr. Maguire's estimated decommissioning costs to be different from $8/kW for combined cycle plants.

Q. Does the information provided by Mr. Pous include the actual approved decommissioning estimates for Nevada Power?

A. No.

Q. What are the approved decommissioning estimates for Nevada Power?

A. I have presented the approved decommissioning estimates in a $/kW basis for each of

Nevada Power's plants in Table 1 below. For the combined cycle plants, the estimates range from $8.6 / kW to $20.5 /kW (and to $69.3 $/kW if the older Clark plant is included). Contrary to Mr. Pous' presentation in his testimony and discovery, the actual approved Nevada Power estimates do not support a change from the $20/kW estimate currently approved for PacifiCorp. The Nevada Power estimates most certainly do not provide support for Mr. Pous' significant reduction in decommissioning costs to $8/kW, as the estimate for each combined cycle plant is greater than $8/kW.

Table 1: Approved Decommissioning Estimates for Nevada Power Company

Plant	Cost/kW
Steam Production Plants	
Clark	69.3
Reid Gardner 1-3	90.4
Reid Gardner 4	91.7
Sunrise 1	33.7
Navajo	41.4
Combined Cycle Plants	
Clark 5-8	69.3
Harry Allen 5, 6, 7	18.3
Higgins	20.5
Lenzie	11.9
Silverhawk	8.6
Other Plants	
Clark 4	5.1
Clark 11 to 22	6.9
Goodsprings	107.3
Harry Allen 3, 4	14.2
Sunrise 2	33.7

Q. Has the company provided additional information on decommissioning estimates for other utilities?

A. Yes. The Company provided a number of $/kW estimates for other utilities'

combined cycle plants in the previous depreciation study. The Company also supplemented this information with additional $/kW estimates in this study. The estimates provided in the previous study for other utilities' combined cycle plants range from $13.1 to $95.9 per kW, with an average of $22.3 per kW. The estimates for other utilities' provided in this study in the response to DPU 3.10 range from around $6 per kW to around $115 per kW (most range from $13 to $38 per kW), with an average of $20.5 per kW. The information provided for these plants supports the Company's estimate of $20 per kW.

Q. Do the Nevada Power estimates support PacifiCorp's estimates for steam production plants?

A. Yes. The estimates shown in Table 1 for coal plants range from $41.4/kW to $91.7/kW, and are all higher than the Company's estimate in this proceeding and much higher than Mr. Pous' estimates. The Sunrise plant, which is not a coal unit, has an estimate of $33.7 / kW, which is also higher than Mr. Pous' estimate.

Q. What is the basis for Mr. Pous estimate for steam production plant?

A. As he describes on page 33 of his testimony, Mr. Pous' estimate is based on an assumption the Company may not decommission its plants, but instead that there is a one percent probability that the Company could sell its plants at the end of their lives and a 10 percent probability that the Company will have positive net salvage, which Mr. Pous incorrectly claims is what occurred with the Company's Hale plant. By weighing these probabilities with his assumed probability of decommissioning occurring at the Company's estimate of $40/kW, Mr. Pous arrives at an estimate of $30/kW.

I will explain why Mr. Pous was incorrect about the Company's Hale Plant, and that the actual outcome was similar in today's dollars to the Company's $40/kW estimate. Mr. Andrews will explain why a sale similar to Centralia - which occurred when Centralia was close to 30 years old – will not occur *at the end of PacifiCorp's plants' lives* when these plants are close to 60 years old. Thus, Mr. Pous' calculated weighting, properly applied, still results in the $40/kW estimate in the depreciation study.

Q. Why does Mr. Pous claim that there was positive net salvage for the Hale plant?

A. He makes this claim because the Company was able to sell the land for the Hale plant for approximately $3.2 million.

Q. Is land depreciable property?

A. No, land is non-depreciable. Any proceeds from the sale of land should therefore not affect the net salvage estimates for depreciable property.

Q. Why does Mr. Pous believe that the sale of land should be considered sales proceeds for depreciable property?

A. Mr. Pous makes little justification for this unconventional claim, other than to state in a footnote that:

> While the Company incurred cost of removal to improve the site, land, it booked the sale of land to an account not associated with the depreciation reserve. If cost of removal for depreciable plant is incurred to increase the sale value of the land, then sale proceeds should be considered as an offset to demolition costs.[34]

Q. Is Mr. Pous' statement correct?

A. No. First, his characterization that the Company incurred a cost to "improve the site"

[34] Direct Testimony of Mr. Pous, p. 29, footnote 33.

is incorrect. The Company incurred costs to clean up the site and restore due to the operation of depreciable assets for a power plant operating on the site. These were not improvements to the site, but costs incurred to return the site to a condition closer to its original condition. These costs were related to the depreciable property on the site, not to the land itself.

Q. Mr. Pous notes that the company recorded the sale of land to an account "not associated with the depreciation reserve." Was this the correct accounting treatment?

A. Yes. The FERC Uniform System of Accounts is clear that the proceeds for the sale of land should not be recorded to Account 108 Accumulated provision for depreciation of electric utility plant. The Company was correct to record the sales proceeds in this way. Additionally, nowhere does FERC state that cost of removal should be offset by the sale of land.

Q. Should the proceeds for the sale of land be included in depreciation rates?

A. No. Land is not a depreciable account. The Company has other ratemaking mechanisms for which the proceeds from the sale of land accrue to ratepayers.

Q. If the sale of the land is properly excluded, do the decommissioning costs for Hale support the company's estimate?

A. Yes. As I have noted previously, additional information provided in this and previous studies also supports the Company's estimate.

Q. What do you recommend regarding the company's terminal net salvage estimates?

A. Based on the discussion above as well as Mr. Andrews' testimony, Mr. Pous' claims

are incorrect and not supported. The Company's estimates, approved in the stipulation from the most recent depreciation study, are most appropriate.

V. PRODUCTION PLANT INTERIM SURVIVOR CURVES

Q. Please explain the method you proposed for depreciation of production plant accounts.

A. In RMP's depreciation study I have proposed to use the life span technique for each of the Company's generating units. The life span technique is appropriate for accounts in which large groups of property will be retired at once. Power plants are a textbook example of this type of property, as all of the assets associated with a generating unit - such as structures, turbines, generators and other electrical equipment - will be retired when the unit is taken out of service.

Life span property experiences two types of retirements – final retirements and interim retirements. Final retirements are those that occur when the entire unit is taken out of service. Interim retirements, on the other hand, are retirements of components that occur before the final retirement date for the entire unit. To properly calculate the depreciation for each generating unit, one must estimate both the date of final retirement and the level of interim retirements that will occur before that date.

Q. Does Mr. Pous agree that the life span method should be employed for power plants?

A. Yes. But while he agrees that depreciation for generating units should account for interim retirements, he proposes a different method for doing so.

Q. Please explain the difference between your proposed method for accounting for interim retirements and the method proposed by Mr. Pous.

A. In the depreciation study, I have utilized the proposed retirement date for each generating unit. In addition, I have estimated an Iowa type survivor curve for each production plant account that takes into account the fact that some of the property at these plants will be retired before the final date of retirement. Mr. Pous also proposes using the life span technique and adjusting for interim retirements. However, instead of using an Iowa curve with a distinct retirement dispersion pattern that matches the type of property in each plant account, he estimates an "interim retirement ratio" and adjusts the remaining life for each generating unit within each plant account based on this interim retirement rate.

Q. How is this method different from using an interim survivor curve?

A. Although he claims there is a difference, Mr. Pous actually employs the same basic method as I do – that is, he selects a curve that represents interim retirement activity for each account. The basis for his selection is instead a less precise analysis of annual retirements. Thus, despite his concerns that my methodology "relies on actuarial analysis of historical data,"[35] Mr. Pous' estimate is in fact based on analyses of the same data.

As I will explain, his method is simply an approximation of the more precise method I have employed. By using a constant interim retirement ratio to adjust for interim retirements for each production plant account, Mr. Pous has still selected an interim survivor curve to forecast interim retirements. However, instead of selecting a

[35] Direct Testimony of Mr. Pous, p. 21, line 609.

curve with variable retirement dispersion, such as the Iowa R, L or S type curves that the Company has proposed; Mr. Pous has instead chosen a curve that assumes a constant level of interim retirements each year. As I will explain, it is an unrealistic assumption. I will also demonstrate that in the case of PacifiCorp's power plants, his methodology is not only an approximation, but it is a poor approximation and significantly understates PacifiCorp's interim retirements.

Q. On pages 21 through 24 of his direct testimony, Mr. Pous discusses concerns with your method of accounting for interim retirements for RMP's generating units. Are these concerns valid?

A. No.

Q. Mr. Pous refers to the estimation of interim retirements as a "fine tuning adjustment" to the life span method. Do you agree with this characterization?

A. No. The estimate of interim retirements is simply the estimate of the interim retirements that will occur before the final retirement of life span property, and there is no specification of the size of such retirements. The amount of interim retirements can be a large percentage of the total retirements or a small percentage. All that matters for retirements to be considered interim retirements is that they occur prior to the final retirement.

Q. What are Mr. Pous concerns with your method?

A. Mr. Pous' main criticism of my approach is that the use of actuarial analysis for interim retirements is inappropriate, stating that "actuarial analyses are normally performed on more homogeneous types of investments that are not generally

dependent on one another, such as poles and wires."[36] As I will show, this criticism is unfounded. Not only is my methodology widely accepted in the utility industry and supported by authoritative depreciation texts, but the source that Mr. Pous has in the past claimed to sponsor his approach specifically states that my methodology is more accurate.

Mr. Pous also argues that my estimates overstate interim retirement activity. As I will demonstrate, his arguments to this effect are flawed, and in fact his estimates significantly understate the interim retirement activity the Company is experiencing.

Q. Do you agree with Mr. Pous' assertion that actuarial analysis is not appropriate for production plant accounts?

A. No. The use of Iowa curves for interim retirements for this type of property has been widely accepted in the U.S. and Canada and is supported by authoritative depreciation texts. It has also been accepted in prior proceedings by this Commission.

Q. Does Mr. Pous cite any sources that recognize his methodology for interim retirements?

A. Yes, Mr. Pous has cited NARUC's *Public Utility Depreciation* Practices. As I will discuss, this text also supports the methodology I have used. Additionally, in other proceedings in which both Mr. Pous and Gannett Fleming have testified he has presented an additional source that recognizes his methodology. He has testified previously that the California Public Utilities Commission's publication *Determination of Straight-Line Remaining Life Depreciation Accruals Standard*

[36] Direct Testimony of Jacob Pous, p. 21, lines 610-612.

Practice U-4 ("Standard Practice U-4") "sponsored" his methodology.[37] As I will show, not only does Standard Practice U-4 support my methodology, but it is clear that my methodology is more accurate than that of Mr. Pous.

Q. Do you agree with Mr. Pous that both of these texts are authoritative depreciation texts?

A. Yes.

Q. Do either of these sources support Mr. Pous' contention that your method is inappropriate for life span property?

A. No. In fact, the opposite is true. The Standard Practice U-4 source that Mr. Pous has claimed "sponsors" his approach makes it clear that my method is superior. The method Mr. Pous employs is presented on page 28 of this text. The actual passage reads as follows (for brevity the description of the calculations has been excluded):

> To the remaining span a small correction is applied for so-called 'interim retirements' of smaller units comprising part of the major unit. Interim retirements and additions include such items as changes within a building or changes at an electrical generating station not altering the basic structures, etc. <u>As an approximation</u> the assumption can be made that future annual interim retirements will occur at a consistent ratio to the present plant balance…<u>In more accurate applications, this correction may be developed from an actuarial analysis of mortality data for the interim retirements.</u> (Emphasis added).

Thus, the source that Mr. Pous has claimed "sponsors" his methodology clearly states not only that his method is an "approximation," but the method I have proposed to develop interim survivor curves (i.e. from actuarial analysis of interim retirements) is "more accurate." In 1961, when Standard Practice U-4 was written, there may have

[37] Direct Testimony of Mr. Pous in Nevada Docket 10-06003, p. 42; and Direct Testimony of Mr. Pous in Florida Docket 090130-EI, p. 65.

been a need to rely on an approximation that was simpler from a computational standpoint. While Mr. Pous claims that the use of interim survivor curves is "cumbersome,"[38] he is incorrect. Today, with the help of computer software such computational considerations are not an issue. Accordingly, we should not sacrifice the improved accuracy of my method for the sake of Mr. Pous' convenience. Mr. Pous' proposal is akin to saying that we should use slide rules instead of computers because that is what was used fifty years ago.

Q. Does NARUC's "public utility depreciation practices" recognize your method?

A. Yes, it does. My method is also recognized by NARUC in its publication *Public Utility Depreciation Practices*. According to NARUC, developing an observed life table from historical data, which "can be fitted to generalize life curves, e.g., Iowa curves or curves based on the Gompertz-Makeham formula," and using the fitted curve to account for interim retirements is appropriate for life span property. This is precisely the method I have employed.

Q. Has your methodology been used in other depreciation studies?

A. Yes. My company uses this method for life span property in all of our studies for these types of asset classes. We have used it in numerous jurisdictions across the United States and Canada. This methodology has also been accepted by this Commission for structures and improvements for Questar Gas Company.

[38] Direct Testimony of Mr. Pous, p. 21, line 605.

Q. Are you aware of any commissions that have rejected your approach to using interim survivor curves?

A. No. In one case in Florida[39], the final decision utilized Mr. Pous' methodology instead of mine. However, the Commission did not reject the use of interim survivor curves, and was clear that the use of interim survivor curves is in fact an acceptable method. The Florida Public Service Commission ("FPSC") specifically noted "that both FPL's [my] method and OPC's [Mr. Pous'] method are industry accepted practices." In other words, the FPSC opted to use a different method for its own depreciation calculations for reasons that were not articulated in the Order. Further, the FPSC specifically stated that it "agrees with FPL's [my] criticism that OPC's [Mr. Pous'] use of a constant retirement rate assumes that retirements in the future will mirror those of the past."[40]

Q. Has Mr. Pous challenged Gannett Fleming's methodology for interim retirements in any other jurisdictions?

A. Yes. Mr. Pous made a similar challenge to this methodology in Nevada, in testimony for the 2004 rate proceeding of Sierra Pacific Power Company (Docket No. 05-10004). The Commission agreed with Gannett Fleming in that case and specifically agreed with Gannett's industry-established method of calculating interim retirements in its Order for Dockets No. 05-10003 & 05-10004. Specifically, the Order states:

> "The Commission is convinced that Sierra's [my] proposed methodology for calculating interim retirements is adequate and widely accepted in the industry. The Commission accepts Sierra's approach to calculating interim

[39] Florida Docket 090130-EI.
[40] Florida Public Service Commission Order, Docket Nos. 080677-EI and 090130-EI, p. 31.

retirements."[41]

Gannett Fleming has also proposed the same approach for interim retirements in the vast majority of depreciation studies for which there are life span accounts. To the best of my knowledge, this approach has been accepted in each of these cases.

Q. You have stated that Mr. Pous' method is "an approximation" and "less precise." As a result of being less precise, does Mr. Pous' method result in inappropriate results in this case?

A. Yes. Mr. Pous' method involves comparing the annual levels of retirements to the annual plant balances for each year in his analysis. As a result, this analysis compares annual retirements to a mix of balances of many different ages. In contrast, the actuarial analysis I have used is more accurate because it segregates the investment by age and compares the retirements that occur at each age to the actual balances of plant that have survived to each age. Because Mr. Pous' analysis does not distinguish between the investment that has survived to different ages of plant, his analysis can lead to inappropriate results and understate retirements if the Company has added many new assets (for which there will be fewer retirements in the current period).

This has in fact happened in Mr. Pous' analysis for this proceeding. The Company has made significant investments in its steam plant. For example, for Account 312, the Company has added almost $1.7 billion in investment since 2006. Thus, approximately 43 percent of the investment in this account is less than six years old at the time of the study. Yet Mr. Pous' analysis compares the retirements that have happened in recent years to the total balance, including these significant new

[41] Nevada Public Utilities Commission Order, Docket Nos. 05-10003 & 05-10004. P. 85.

additions. This represents a substantial mismatch in his analysis, and results in estimates of interim retirements that are far too low.

Q. On page 21 of his testimony, Mr. Pous argues that because the property in production plant accounts is not homogeneous, using an interim survivor curve to estimate interim retirements is inappropriate. Is this concern valid?

A. No, Mr. Pous is incorrect. Property in these accounts is grouped according to the Uniform System of Accounts, just as is the case for transmission, distribution and general plant property. Mr. Pous has not objected to Iowa survivor curves for plant accounts in these functions, despite the fact that some Transmission and Distribution plant accounts, such as Accounts 353 and 362 - Station Equipment, also do not include homogenous-type investments.

As I have discussed above, Mr. Pous' methodology does not properly consider the ages of assets in service, and as a result will understate interim retirements. Actuarial analysis does not include this same flaw, and thus produces better results. It is therefore more appropriate than the "approximation" proposed by Mr. Pous.

It is also important to recognize that the actuarial life analysis I have used for interim survivor curves is only related to interim retirements. Final retirements are instead based on estimates of the retirement date for an entire generating unit. Since not all assets are retired as interim retirements, the assets in production plant accounts subject to interim retirements are actually more homogeneous than Mr. Pous' testimony implies. Instead, Mr. Pous' example on page 21 of his direct testimony comparing electric motors or pumps with smoke stacks is misleading. While the motors and pumps may be replaced as interim retirements, the smoke stack may

instead be retired concurrent with the retirement of the entire unit (i.e. as a final retirement). The interim survivor curves proposed in the depreciation study are estimates of only *interim* retirements, and have been developed based only on the actuarial study of *interim* retirements (incorporating informed judgment based on other factors as well). Actuarial techniques have not been used for final retirements, and as a result Mr. Pous' example is not representative of the methodology I have employed.

Q. Please provide an example to illustrate the difference between Mr. Pous' proposal and the company's proposal.

A. The difference is perhaps best illustrated by the same analogy Mr. Pous uses for life span property, that of a car. While a typical car might have a service life of ten years, and during the life of the car various components will have to be replaced such as batteries, tires, etc. Thus, although the car itself will have a life span of 10 years, the actual average service life of the car will be shorter once you take into account the additional retirements due to the replacing of each of the components.

Q. In this example, how would Mr. Pous estimate the interim retirements a car would experience?

A. Using Mr. Pous' method of adjusting for interim retirements, one would estimate the percentage of the car's cost that would be retired each year and adjust the average service life based on this estimate.

Q. Does this method accurately estimate interim activity?

A. No, not for the life of the car. As any car owner knows from his or her own experience, this method does not accurately estimate actual interim retirements. The

problem with Mr. Pous' methodology is that it assumes that retirements will occur at a constant level throughout the life of the car. Obviously, this is not a true reflection of how car repairs are spread out over the life of a car. Instead, there will likely be few retirements in the early years of the car's life, but as the car and its components age, the level of retirements increase. So while in the first few years only minor items will need to be replaced, as the car gets older the owner will have to replace the tires, the brakes and possibly even major items such as the transmission. These items are all more expensive, so it is clear that retirements will increase in the later stages of the life of the car. The pattern of retirements throughout the life of the car is referred to as the "dispersion pattern".

Q. Does Mr. Pous' proposal account for the fact that interim retirements tend to increase as property gets older?

A. No.

Q. Does Mr. Pous' proposal account for a dispersion pattern?

A. No. As I have explained previously, his method instead makes the unrealistic assumption that retirements will occur at a constant level every year.

Q. Does the company's proposed method take into account this sort of retirement dispersion?

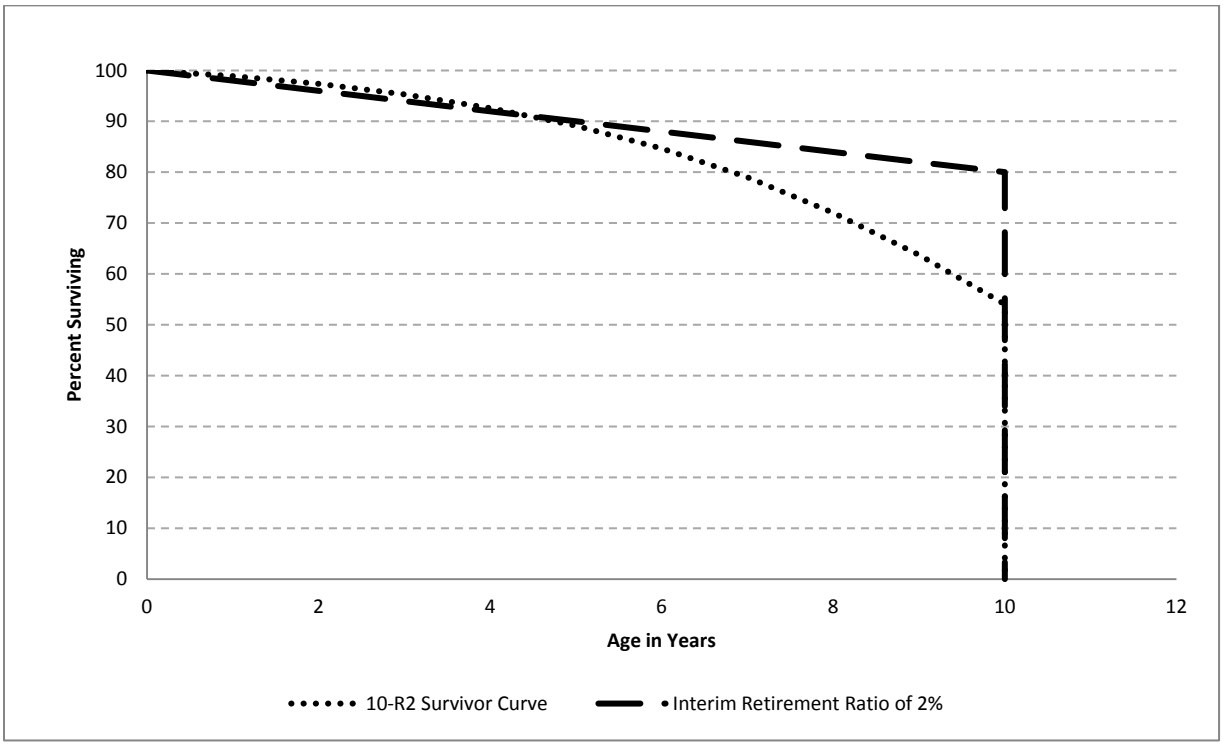
A. Yes. Instead of assuming a constant level of interim retirements, a more accurate approach is to use the Company's method and estimate these interim retirements with a survivor curve that better mirrors actual interim retirement experience taking into account the dispersion pattern. This is exactly what I have done in the deprecation study.

Q. Please use the example of a car to help explain the difference between the two methods and your criticism of Mr. Pous' method.

A. Figure 2 graphically shows the results of using these two methods. The dashed line illustrates Mr. Pous' method assuming an interim retirement rate of 0.02, which means that two percent of the original cost of the car will be retired each year. The dotted line illustrates the Company's method using a 10-R2 survivor curve. As the graphs illustrate, Mr. Pous' method results in a constant level of retirements for each year until the final retirement at age 10. As discussed earlier, this is not an accurate estimate of actual replacement expenditures throughout the life of the car. Instead, the 10-R2 curve is a better reflection of actual interim retirements. There are very few retirements in the early years but retirements increase as more expensive parts need to be replaced.

The average service life for each estimate is the area under the curve. As expected, in each case the average service life is less than ten years. However, both methods lead to different results. The average service life using Mr. Pous' method is nine years, but using the Company's method and a 10-R2 survivor curve results in a more accurate average service life of 8.5 years.

Figure 2: Comparison of Life Span Property with a 10-R2 Survivor Curve and an Interim Retirement Rate of 0.02



As discussed previously, Mr. Pous' method fails to account for an increase in retirements as the property ages (e.g. brakes on a car). Thus, the average service life resulting from his method is too short, as it assumes that the level of interim retirements for the final five years of the life of the car will be the same as for the first five. This is of course an unreasonable assumption. Mr. Pous' estimates in this proceeding apply the same unreasonable assumption to PacifiCorp's power plants.

Q. Please provide an example from the depreciation study that illustrates why your method is more appropriate than that of Mr. Pous.

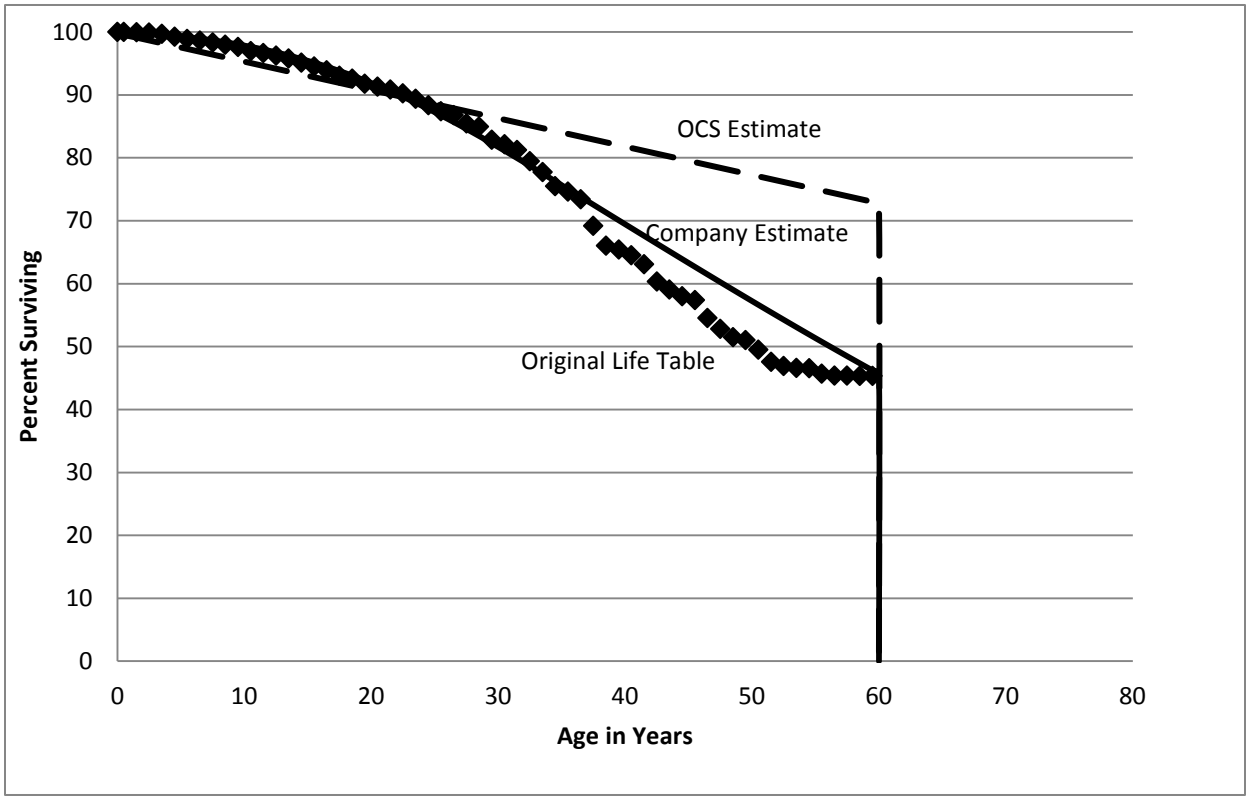
A. I will use Account 312 Boiler Equipment. Mr. Pous addresses the same account in his testimony. Specifically, he argues that a problem with my analysis is that "the results of the Company's actuarial analysis in general do not provide reasonable matches

between the Observed Life Table ("OLT") (actual historical data pattern) and the assumed Iowa Survivor Curve the Company proposes as the best match of the OLT[42]." As an example, Mr. Pous' references Account 312. However, although Mr. Pous claims that his estimates were "developed from the historical reported levels of retirement activity,"[43] his estimates actually represent a much worse fit of the historical data.

To demonstrate the inadequacy of Mr. Pous' estimates, I have shown a graph of the original life table, my estimate and Mr. Pous' estimate in Figure 3 below. The diamonds on the graph represents the Company's historical data, the solid line represents the Company's interim survivor curve estimate, and the dashed line represents Mr. Pous' estimate. As the figure shows, Mr. Pous estimate is a much poorer fit of the historical data than my estimate. The figure also illustrates that Mr. Pous' estimate predicts far fewer estimates than the Company has actually historically experienced. That Mr. Pous' estimate significantly understates interim retirements is a topic I will address later in this section of my testimony.

[42] Direct Testimony of Mr. Pous, p. 22, lines 639-642.
[43] Direct Testimony of Mr. Pous, p. 25, lines 726-728.

Figure 3: Comparison of Company and OCS Interim Retirement Estimates with Company Historical Data for Account 312 Boiler Plant Equipment



Q. Mr. Pous criticizes your estimate as not representing a good fit of the historical data. Is there a reason why your estimate does represent as good of a fit for later ages?

A. Yes. The reason is that I have incorporated judgment into my estimates, and specifically that the historical data beyond age 37 will not be as reflective of future experience. Notably, my estimate is a conservative estimate of future retirements when compared to all of the Company's data. An estimate that represents a better fit of all data points would actually represent an estimate of more interim retirements than the survivor curves I have selected.

Given the responses to discovery I have provided, it is surprising that Mr. Pous argues that the estimate I have made is not a "particularly good fit of the data"

and that the survivor curve "clearly begins to deviate from the OLT after 37 years of age and continues that deviations through the remainder of the data."[44] Despite his protests elsewhere in his testimony that I that I have not provided enough information in the depreciation study and in discovery, I have actually explained in detail in the response to interrogatories from OCS why my estimates give more consideration to data points through age 37, for which my estimate does represent an excellent fit of the historical data. Based on his testimony, Mr. Pous appears to have ignored this information.

In the response to OCS 1-14, I explained I placed more emphasis on the data points through age 36.5:

> "The best fit curves from the overall experience band indicated average service lives that were shorter than the approved interim retirement rates, as the best fit curves were in the 45 to 55 year range with low to mid mode curves providing the best fits. The historical data also showed that retirements occurred at a higher rate subsequent to age 36.5, which corresponds to the age of the oldest units at the Huntington and Jim Bridger plants, and represents all ages with exposures greater than $200 million. As a result, the data through age 36.5 represents the historical experience of a larger number of the Company's coal fired power plants. The best fit curves through age 36.5 ranged from 45 to 60 years.
>
> Based on discussions with Company personal, PacifiCorp's expectations were that the estimates based on the trend in the historical data through age 36.5 better represented their outlook for interim retirements for this account. The historical data provides clear support for an estimate that forecasts more interim retirements than estimated in the previous study. The 60-L1 survivor curve represents an excellent fit through these ages."[45]

[44] Direct Testimony of Mr. Pous, p. 22, lines 643-647.
[45] PacifiCorp response to OCS 1-14 Attachment.

Q. On page 23 of his testimony, Mr. Pous argues that the amount of interim retirements projected to occur based on your estimates is unreasonable. Do you agree?

A. No. While Mr. Pous claims that "there is no evidence that demonstrates" the level of interim retirements based on my estimates "is reasonable or realistic,"[46] Figure 2 above actually provides compelling evidence that not only are the levels of interim retirements in my estimates reasonable, but they are actually conservative estimates when compared to the actual data. As I will discuss, there is additional evidence to support that my estimates are reasonable. Further, it should be noted that Figure 3 demonstrates that Mr. Pous' estimates represent far too little interim retirement activity.

Q. Mr. Pous compares the average level of retirements for approximately the past 100 years to the level of retirements based on your estimates in an effort to demonstrate that your estimates are unreasonable. Is this a meaningful comparison?

A. No. This is a very misleading comparison. One hundred years ago the Company had far fewer plants and far, far less investment. Of course retirements were lower than they are today and were lower than they will be in the future. Most of the Company's steam plant investment has been installed in the past 40 years. Indeed, over 80 percent of the investment in Account 312 has been installed since 1981 and over 98 percent has installed since 1972. Thus, a comparison based on retirements from the past 100

[46] Direct Testimony of Mr. Pous, p. 24 lines 682-684.

years "on an annual basis"[47] is seriously flawed.

Further, as I have explained, as plants age interim retirements should be expected to increase, due both to wear and tear and in order for the plants to meet modern regulations for air quality, water usage and ash disposal. The original design lives for the equipment in most of PacifiCorp's steam fleet is for 40 years or shorter, and therefore over 98 percent of the investment is of a younger age than the original design life of this equipment. In order to attain the life spans of approximately 60 years for each plant that are far beyond the design life for this equipment, it is reasonable to expect that significant capital investments will need to be made, resulting in significant interim retirements. Thus, it is reasonable to expect retirements to occur at a higher level in the future than in the past.

Q. You have explained why Mr. Pous' effort to put interim retirement activity into "proper perspective"[48] was flawed. Can you put both your and Mr. Pous' estimates into a more proper perspective?

A. Yes. Rather than comparing the Company's projected interim retirements to a full 100 year history, a comparison to more recent history demonstrates that not only are these estimates reasonable, but given the expectation that retirements will increase as PacifiCorp's fleet ages the Company's estimates represent conservative estimates.

In his testimony, Mr. Pous discusses an annualized future retirement amount based on $1.4 billion in total projected interim retirements and an approximate 19-year remaining life for the Company's investments. This equates to approximately

[47] Direct Testimony of Mr. Pous, p. 23 lines 680-681.
[48] Direct Testimony of Mr. Pous, p. 23, line 673.

$72.7 million in retirements per year. A comparison to the Company's recent history (as opposed to a flawed comparison of the Company's full 100 year history), shows that in the most recent ten years the Company's retirements for steam plant have averaged approximately $66.9 million per year and in the most recent five years they have averaged approximately $94.5 million per year. Thus, the Company's projected interim retirement values on an annual basis are very much reasonable when compared with the Company's actual experience. In fact, they are much lower than the most recent five year experience.

Q. How do Mr. Pous' estimates compare with the company's actual experience?

A. Simply put, Mr. Pous' estimates are inadequate when compared to the Company's experience. Based on the Company's 2011 plant balances, Mr. Pous' estimates are that the Company will make approximately $26.2 million per year in interim retirements[49]. Thus, Mr. Pous' estimates are that the Company's future interim retirements on an annual basis will be less than 40 percent of its most recent ten year experience and less than 30% of its most recent five year experience. Considering that retirements should be expected to increase as PacifiCorp's plants age, it should be clear that Mr. Pous' estimates forecast far too little interim retirement activity.

Q. What is your conclusion in regards to estimates of interim retirements for production plant?

A. The interim survivor curve estimates I have proposed in the depreciation study are based on widely accepted methods for life span property. This methodology is

[49] Calculated as the 2011 plant balance for each account multiplied by Mr. Pous' interim retirement ratio for each account.

supported by authoritative depreciation texts, has been accepted by jurisdictions across the United States and Canada, and has been accepted by this Commission. In contrast, Mr. Pous has proposed a methodology that is merely an approximation of the use of Iowa curves for interim survivor curves, and which results in estimates of interim retirements that are far too low. His proposals are less accurate, fail to incorporate any informed judgment, and are based on unrealistic assumptions for this type of property. As I have demonstrated, contrary to Mr. Pous' claims that "no evidence" supports the levels of interim retirements I have estimated, the evidence does in fact strongly support my estimates and instead clearly demonstrates that Mr. Pous' estimates are inadequate. For all of these reasons, the Commission should accept the interim survivor curves presented in the depreciation study.

VI. MASS PROPERTY LIFE ANALYSIS

General Issues

Q. Are there any general issues you would like to address?

A. Yes. I would like to address Mr. Pous' claim that despite the information provided in the depreciation study and in discovery there is a "failure in this case to explain and provide detailed support for its life selections for most accounts in the mass property area" and his recommendation that "the Commission order the Company to provide a clear and complete basis for each of its life and net salvage selections in future depreciation studies."[50]

[50] Direct Testimony of Mr. Pous, p. 73, lines 2003-2007.

I would like to make clear that I have provided sufficient support for the bases of each selection in the study. Mr. Pous even acknowledges that a "significant amount of documents"[51] have been provided for the study, and more importantly has ignored much of the information provided in these documents. Given that he has ignored information provided to him, and that for the mass property accounts in which Mr. Pous has made different recommendations from mine the differences are due to different judgments based on the interpretation of historical data, I consider it unlikely that the inclusion of an even more significant amount of documents would have resulted in different recommendations for any party. As such, since the information Mr. Pous seeks is either redundant, unable to be quantified, or was in fact already provided but ignored by Mr. Pous, his request for additional documentation would only serve to burden the Company and add to the costs of filing a depreciation study while providing no value to the results of the depreciation study.

Q. Have any other parties made a similar complaint?

A. No.

Q. Please provide examples of what information you have provided that Mr. Pous has ignored.

A. I will explain the information related specifically to actuarial analysis later in this section. In regards to SPR analysis, Mr. Pous has ignored the response to an interrogatory that has explained the selection process for each Utah distribution plant account for which he has proposed a different service life estimate. I will discuss this in more detail in the SPR section. I have also explained in the section on Production

[51] Direct Testimony of Mr. Pous, p. 73, lines 2010.

Plant Interim Survivor Curves that Mr. Pous ignored a detailed description of the survivor curve selection process for those accounts.

Q. Mr. Pous claims that you have failed "to explain and provide detailed support of its [your] life selections."[52] Do you agree?

A. No. I have provided a description of this process in the depreciation study and in discovery responses. Additionally, in the response to OCS 1-10 I provided notes from my meetings with Company personnel regarding the assets included in the depreciation study. The attachment to this response included 42 pages of notes from meetings and responses to inquiries I asked of Company personnel.

In regards to how this information impacted the life analysis, I have explained in the depreciation study that for the transmission plant accounts for which Mr. Pous has proposed adjustments, this information did not lead to a significant departure from the results of the statistical analysis. This does not mean that this information was not part of the judgment that informed my selected survivor curves. Instead, the information provided reinforced that the analysis of the historical data should provide a reasonable indication of future expectations for each of these accounts.

Q. What information have you provided regarding the statistical analysis?

A. For the accounts for which Mr. Pous has proposed different estimates than mine, the statistical analysis was the primary basis for the life estimates in the depreciation study. While Mr. Pous claims I have provided no detail related to my considerations, the presentation in the depreciation study is clear as to which data points I considered to be important to the analysis. In the charts of survivor curves in the depreciation

[52] Direct Testimony of Mr. Pous, p. 73, lines 2003-2004.

study (for example, on page III-121 for Account 354), I have only included points I considered in the graphical depictions of the original life tables. This presentation of the data points that were considered in the analysis is standard practice for Gannett Fleming and is used in the vast majority of our studies, including many in which Mr. Pous was the witness. Additionally, Gannett Fleming has explained the curve fitting process and the selection of data points in testimony rebutting Mr. Pous in numerous proceedings. Many of the concepts explained later in this rebuttal, such as fitting the middle portion of the survivor curve, have been explained in other proceedings in which Mr. Pous was the witness. To repeat these concepts in every proceeding is unnecessary, as they are widely accepted and understood by depreciation professionals.

Q. Does informed judgment impact the life analysis?

A. Yes, there will always be judgment involved in the curve selection process. Judgment is by definition based on considerations that are not quantifiable. Mr. Pous' protests in his testimony are in fact a request that I do the impossible – that I quantify every aspect of my judgment. Such an undertaking – providing a detailed narrative of every single consideration that has crossed my mind in the curve selection process – is not a typical practice for depreciation studies, as much of the information is redundant and the costs outweigh any benefits. Such a process would not result in different results or a different recommendation of depreciation expense. The results would in fact be the same, but would be incurred at a far more significant cost.

There has been ample information provided to Mr. Pous to perform his own study, and make his own recommendations, as he has done. In my mind it is safe to

assume that he would have made similar estimates had I provided the type of detailed descriptions he desires for each of my estimates. I base this assumption in part on the fact that considerations that I and my firm have presented to Mr. Pous are consistently ignored by him in this and in other proceedings.

Q. Is your study sufficiently supported?

A. Yes. However, informed judgment, based on my experience as an expert in the field of depreciation, is a part of the depreciation process. To the extent that Mr. Pous and Mr. Dunkel have presented different judgments from mine, I will respond to their recommendations in the sections that follow.

Actuarial Life Analysis

Q. Please describe the process for transmission property life analysis.

A. For accounts in which aged data is available, which includes RMP's transmission plant accounts, all parties in this proceeding agree with the use of a statistical analysis using aged retirements known as the Retirement Rate Method. This process is described in the depreciation study. The results of the analysis produced an average service life and dispersion curve for each of the accounts studied. These results were provided in pages III-4 through III-19 of the depreciation study. The statistical support for the estimates for transmission plant is presented in the section of the depreciation study entitled "Service Life Statistics," and can be found on pages III-96 through III-149.

Q. How do the analyses of the historical data provided by Messrs. Dunkel and Pous differ from that provided in the depreciation study?

A. The main differences have to do with fitting smooth Iowa curves to the original life

tables developed from the historical data. Both Mr. Dunkel and Mr. Pous interpret the historical data differently than I do, which has led to different survivor curve estimates.

Q. For curve matching, can the selection of data points impact the results of the analysis?

A. Yes, it can. It is very important to determine which data points from the original survivor curve should be included in the analysis, and which should be emphasized more than others. Depending on the data points included, the curve fitting process can yield different results.

Q. Please explain further the selection of data points.

A. When fitting a survivor curve – either visually or mathematically – not all points in the historical data should be given the same weight. Mr. Pous does agree with the concept that not all points have the same value in the analysis; however, he tends to exclude meaningful information from his analysis. In his testimony, he opines that "it is more important to match a standard Iowa Survivor curve with the middle and upper portion of an OLT than the tail portion (end of the curve), depending on the dollar level of exposures at issue."[53] Mr. Dunkel presents a different opinion of the selection process, and for some accounts has included data points based on relatively small dollar exposures and that are not significant.

Mr. Pous is correct that the dollar level of exposures is an important consideration in determining which portion of the original curve is most representative of future life expectations. However, the dollar level of exposures is

[53] Pous, p. 51, lines 1438-1440.

only one consideration, and it is just as important to recognize which portions of the curve provide the most information about the retirement pattern for a group of assets. For this reason, Mr. Pous' emphasis on the top (and to a lesser extent the "upper portions of the mid-range") tends to ignore data points that provide an important indication of the survivor curve.

Contrary to Mr. Pous' assertion, the academic literature on survivor curves indicates that the most representative portion of the survivor curve is the middle portion of the curve, generally the portion between 80 percent and 20 percent surviving. The reason that this portion is most representative is because the middle portion of the curve is where the majority of retirements occur. There are relatively few retirements at the "head" of the curve, and relatively few at the "tail."

In the development of survivor curves in Bulletin 125 of the Iowa Engineering Experiment Station, Robley Winfrey (who developed the Iowa Survivor curves) provides analysis showing that when doing curve fitting, the emphasis should be placed not on the first 20 percent of the curve or the last 20 percent but rather on the information in the middle years. Mr. Winfrey's analysis is based on the probable error involved in fitting a smooth survivor curve to an observed life table with varying percentages surviving. He concludes:

> "When survivor curves are to be classified according to the 18 types and the probable average life to be determined, it is recommended that more weight be given to the middle portion of the survivor curve, say that between 80 and 20 percent surviving, than to the forepart or extreme lower end of the curve. This inner section is the result of greater numbers of retirements and also it covers the period of most likely the normal operation of the property."[54]

[54] Bulletin 125, Iowa Engineering Experiment Station, Winfrey, Robley, 1935, p. 91.

Thus, Mr. Pous' contention that the head and upper mid portion of the curve are the most important portions of the survivor curve is not supported by the literature. To the contrary, the upper portions of the curve generally have percents surviving that exceed 80 percent.

There is some validity to Mr. Pous' claim that the dollar levels of exposures have importance in the analysis. However, the dollar level of exposures 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 study, is to generally exclude data points once they reach a level of exposures not considered to be significant.

Q. Mr. Pous refers to a one percent criteria used to determine which points are significant. Do you agree with his approach?

A. Mr. Pous states that "both Gannett Fleming and I generally rely on the portion of the OLT up to the point at which the dollar level of exposures declines to approximately one percent (1%) of the initial dollar level of exposures in the curve-fitting process."[55] His implication is that only these points should be relied upon for the accounts in question, and to this point I do not agree. As a general rule of thumb, the exclusion data points beyond where the level of exposures is less than one percent (1%) of the largest dollar level of exposures for the account may represent a reasonable starting point for life analysis (this is the criteria Gannett Fleming's software uses by default), but this is not a firm rule. There are cases where data points beyond this threshold should be considered, and also cases where data points prior to

[55] Direct Testimony of Mr. Pous, p. 51, lines 1440-1443.

the one percent threshold should not be considered. Indeed, the former is true for the accounts at issue in this proceeding. Data points beyond this threshold are in general supportive of a higher mode curve, and I have therefore given these points consideration in my analysis.

The most important concept the depreciation analyst should keep in mind is that the goal of life analysis is to determine the *future* life characteristics of a property group. Thus, when determining which portion of the curve to emphasize, the most important consideration is whether the data points are representative of the future.

Q. For the accounts in question in this proceeding, are there reasons to consider points beyond this one percent threshold?

A. Yes, there are a number of reasons. The first is that PacifiCorp has made significant investments in transmission assets in recent years, and in particular in new transmission lines. Thus, the early ages have much higher exposures than all other years. This makes a one percent (1%) threshold exclude data points with useful and significant information.

Second, the one percent (1%) threshold for many of these accounts occurs before the curve has even reached 80 percent surviving. Thus, the exclusion of points beyond this threshold results in the exclusion of the most important information about the survivor curve.

Q. For the accounts in question, what information can you determine from the data points beyond this threshold?

A. One of the important characteristics that can be determined from these data points is that the historical data for the transmission line accounts shows higher mode curves –

that is, retirements tend to increase considerably as the property ages. This is common for these types of property.

Q. Why is this an important characteristic?

A. This is of particular importance because for each account in which Mr. Pous has recommended a different service life from mine, he has done so by selecting a lower mode curve. The impact and reasonableness of these selections by Mr. Pous is hidden to some degree by the presentation in his testimony, in which he only shows a portion of the survivor curve.

Q. Please explain what you mean by Mr. Pous' presentation in his testimony.

A. In the graphical presentations in his testimony, Mr. Pous only shows a portion of the survivor curve. In many cases, this is a small portion of the curve and does not even extend to 80 percent surviving. As a result, this presentation understates the actual differences between his estimates and mine. Thus, despite his pronouncements that his presentation "does not truncate or eliminate useful information,"[56] it does in fact exclude significant information about both his estimate and mine, in addition to the exclusion of data points that provide useful information (e.g. points beyond 80 percent surviving).

Further, while Mr. Pous argues that his presentation "simply permits a better visual representation for the Commission to consider,"[57] this is not the case. In addition to the exclusion of important information, Mr. Pous' presentation also amplifies differences at early ages that are not particularly meaningful.

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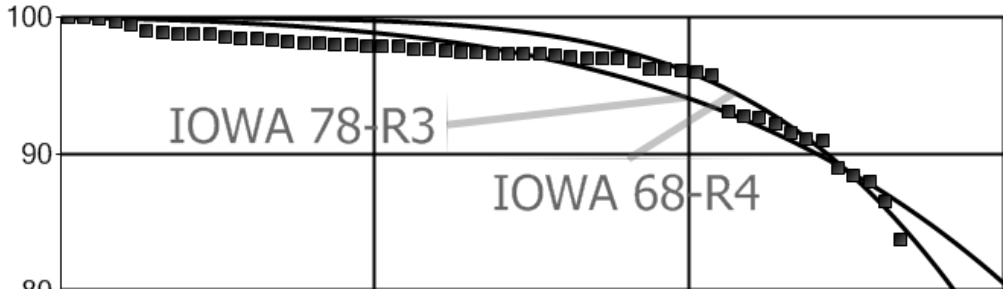
[56] Pous, p. 53, lines 1508-1509.
[57] Pous, p. 53, lines 1509-1510.

Q. Please provide an example to show how this presentation can be misleading.

A. Below is a graphical representation similar to Mr. Pous' for Account 354. I have included the original life table for the overall band for this account on pages III-122 to III-123 of the depreciation study. In the chart below, I have compared the original life table with my estimate and the curve Mr. Pous claims is the best fit, similar to his presentation on page 60 of his testimony. Leaving aside that additional data points for the original life table should be considered – a point I will discuss shortly – this presentation only shows points for each curve through approximately 80 percent surviving. In other words, it does not show the portions of the original or smooth survivor curves that the academic literature shows to be the most meaningful.

Figure 4: OCS Presentation of Survivor Curves for Account 354 Towers and Fixtures



From this perspective, it may appear that the 78-R3 (which is not actually Mr. Pous' estimate) fits many of these data points better. However, even with this presentation it should be clear that the portion for which the 78-R3 is a better fit are the earliest ages in which very few retirements have occurred. Once retirements begin to occur more frequently, and the original data begins to decline more rapidly, my estimate does in fact become the better fit.

It should also be noted that in this presentation the differences between the 68-R4 and 78-R3 appear to be relatively minor. The graphs appear to be fairly similar,

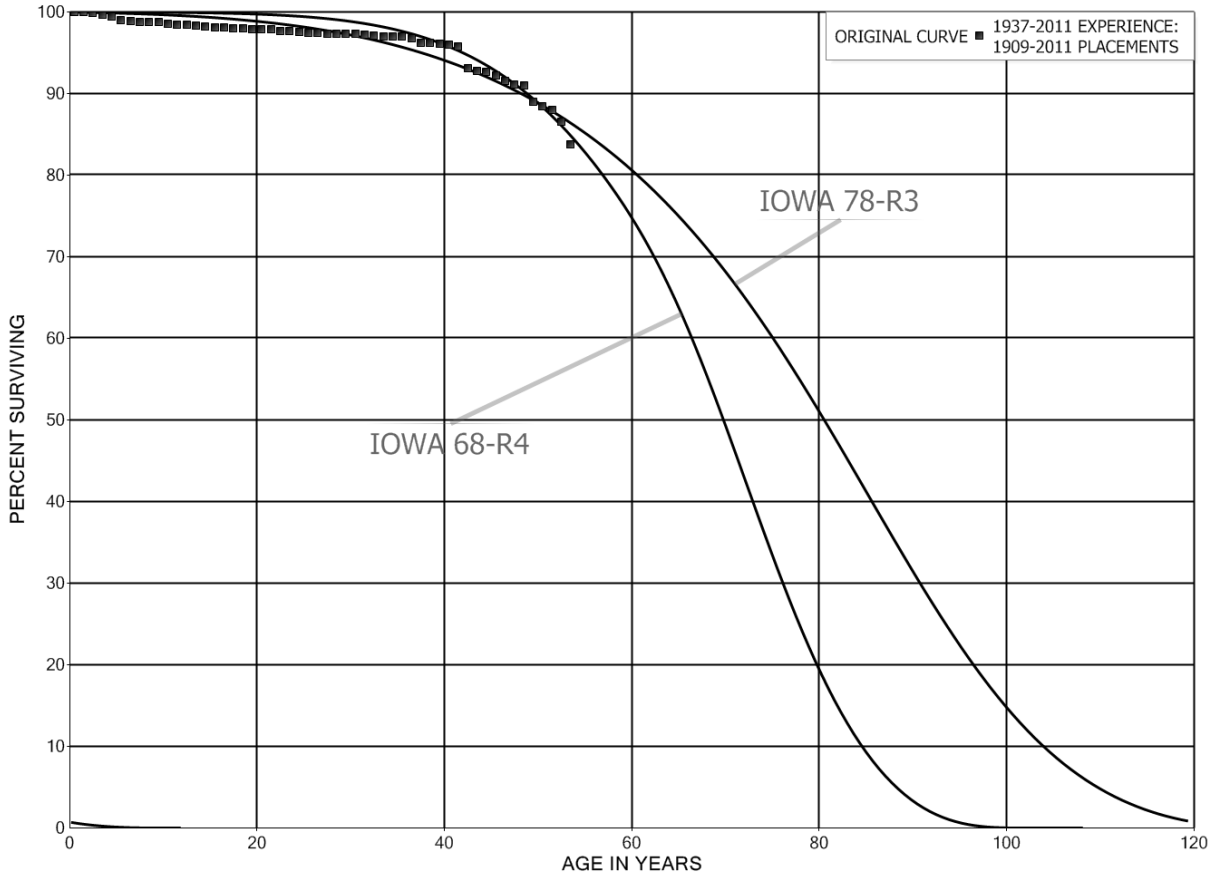
even though there is a significant 10-year difference in life between the two.

Q. How do these curves compare when the entire curve is viewed?

A. I have presented this below in Figure 5. This presentation helps to show that for the full survivor curve, the differences in the early portion of the curve are in fact minor, and they do not provide much information about the survivor characteristics of the property being studied. This is what I mean when I say that Mr. Pous' presentation amplifies minor differences.

Just as important, when the entire curve is viewed, it is much easier to see the differences between my estimate and that of Mr. Pous. As the chart illustrates, in selecting his "best fit", Mr. Pous is assuming that retirements will occur much less frequently than for my estimate for the ages that fall outside of his graphical presentation. This is important, as he has therefore concluded that - without any additional evidence – the best fit curve is a full ten years longer than my estimate. This also represents a significant change over the approved average service life estimate of 65 years. In my judgment, looking at Figure 5 below, my curve is in fact the better fit. At worst both are very similar fits based on the analysis of a limited number of data points. However, even if they are similar fits there is no evidence to favor such a large change in service life as proposed by Mr. Pous.

Figure 5: Comparison of Survivor Curves for Account 354 Towers and Fixtures

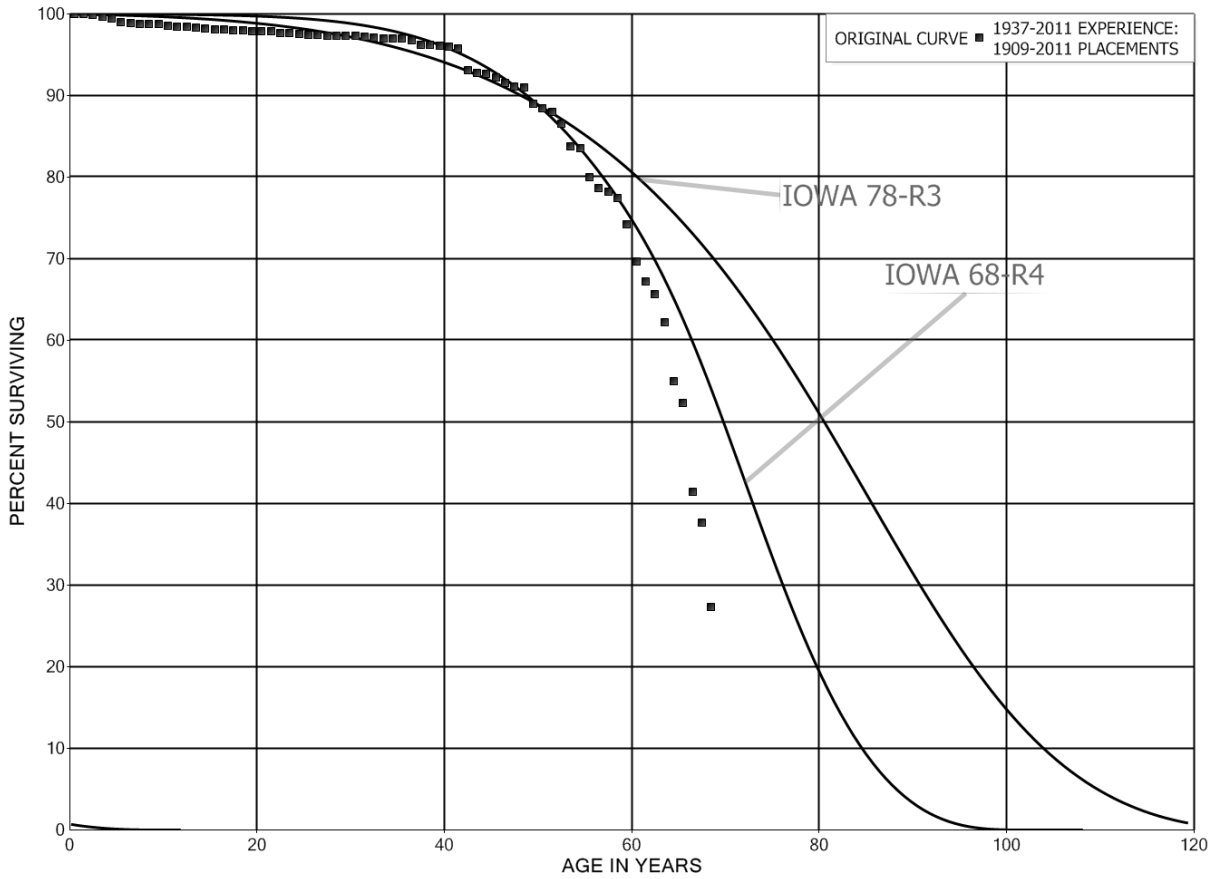


Q. You say that based on a more proper view of the data, there is no evidence for a large change in service life. Is there any additional evidence in the data that your estimate is superior?

A. Yes. If we consider additional data points, it is clear that my estimate of a higher mode and shorter service life is a much better representation of the historical data. Figure 6 below shows both survivor curves compared to the historical data through age 68.5. These ages are based on exposures of at least $100,000. While this amount may be less than one percent (1%) of the maximum exposures, it still represents a robust sample of towers. Given that towers at this age are all at least 68 years old, the cost to install each tower was on average less than $1,000. Thus, these exposures still

represents a sample of around 100 towers. This is a large enough sample to not be discarded, especially because it provides information about the most meaningful portion of the curve.

Figure 6: Comparison of Survivor Curves for Account 354 Towers and Fixtures



As can be seen, Mr. Pous' "best fit" is a very poor fit for these ages. My estimate represents a much better fit, and in addition is conservative in the consideration given to the later data points.

Q. For which actuarial accounts has Mr. Pous proposed different estimates from those in the depreciation study?

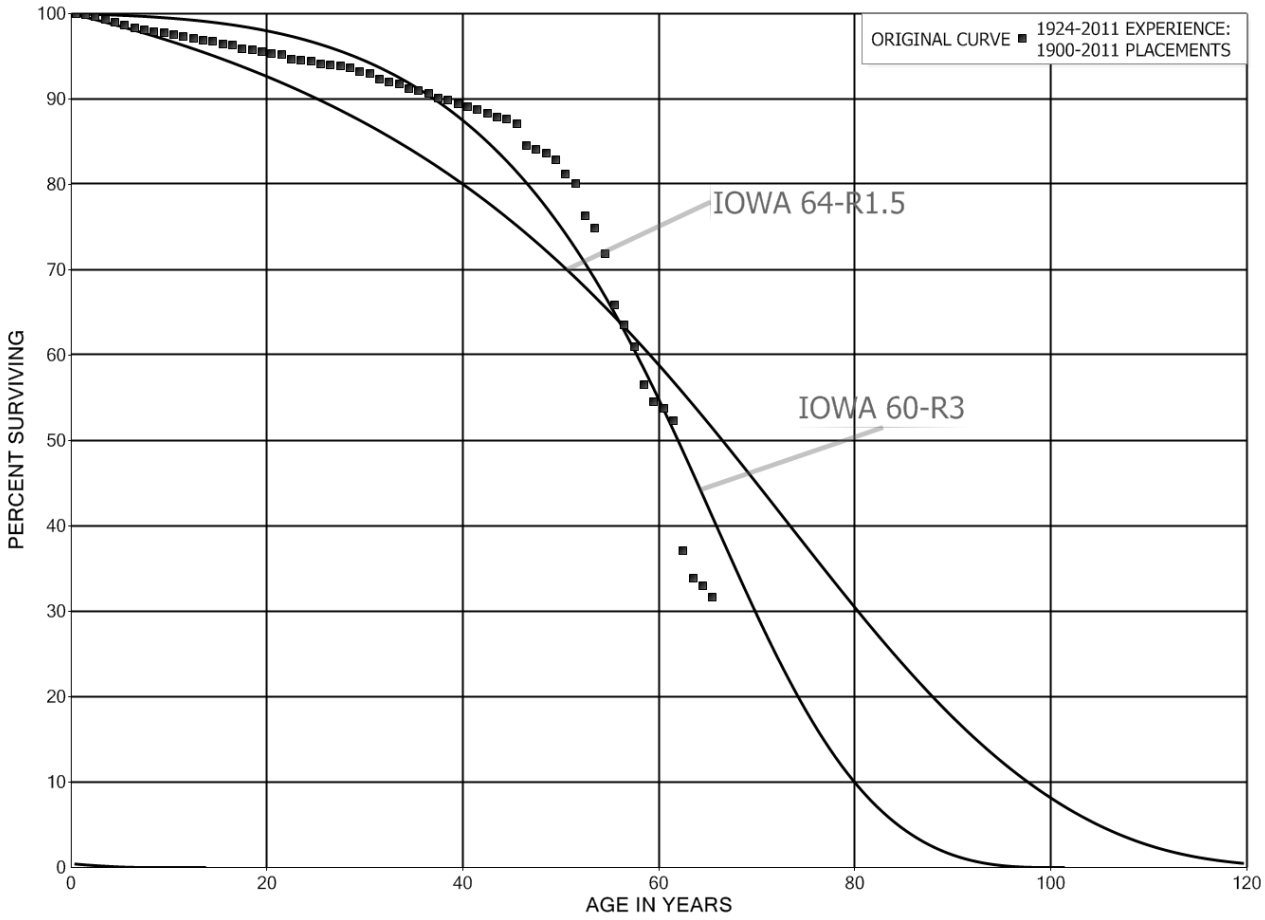
A. Mr. Pous has proposed different estimates for Account 354 Towers and Fixtures, Account 355, Poles and Fixtures, and Account 356 Overhead Conductors and

Devices. In each case, the primary basis for his estimates is a different interpretation of the historical data. I have addressed Account 354 in detail above. For Account 355 the analysis is very similar to Account 354. However, for Account 356 Overhead Conductors and Devices, Mr. Pous' estimate is not only a poor fit of the data, but his analysis and presentation in his testimony appears to be for data for a different account.

Q. For account 356, is Mr. Pous' estimate a better fit of the historical data than your estimate?

A. No. Contrary to Mr. Pous' presentation in his testimony, the 64-R1.5 survivor curve represents a poor fit of the historical data. Despite the labels on the graph, the graphical depiction shown on page 67 of his testimony does not appear to actually represent either the historical data for this account or the 60-R3 survivor curve I have estimated. I have shown a graph of both my estimate and Mr. Pous' compared to the historical data in Figure 7 below. As the figure shows, Mr. Pous' 64-R1.5 estimate is a very poor fit of the historical data.

Figure 7: Comparison of Survivor Curve Estimates for Account 356 Overhead Conductors and Devices



Q. Why does Mr. Pous claim that the "64-R1.5 life-curve combination is an overall superior fit to the olt compared to the company's proposal?"[58]

A. Based on the presentation in Figure 7, it is unclear why he considers the 64-R1.5 to be the better fit. However, it appears that in the graphical presentation on page 67 of his testimony Mr. Pous has in fact plotted the original life table for a different account (namely Account 355). Additionally, while there is a curve on his chart labeled

[58] Direct Testimony of Jacob Pous, p. 67, lines 1837-1839.

"60R3," this curve does not actually represent a 60-R3 survivor curve. Instead, it appears to represent the 60-R2 survivor curve estimate for Account 355.

In other words, Mr. Pous has presented a graph of the data for a different account, has presented the graph of the estimate I have made for a different account, and has then used this graph to argue that his estimate is a better fit of the data. This clearly represents an error on his part. However, demonstrates additional shortcomings with the graphical presentation he has made throughout his testimony. As I have noted above, the presentation Mr. Pous provides is misleading in that it does not show a large portion of each survivor curve. Had Mr. Pous instead presented a graph of the full data set and survivor curves, it would be easier to see that he used the wrong data and curves for this account.

Q. For which accounts has Mr. Dunkel proposed different survivor curves from your estimates?

A. Mr. Dunkel has proposed different survivor curve estimates for Account 353 Station Equipment, Account 353.7 Supervisory Equipment and Account 357 Underground Conduit.

Q. What is the basis for Mr. Dunkel's estimates?

A. Mr. Dunkel discusses in his testimony the treatment of certain historical transactions that cause him to recommend a different survivor curve estimate for Account 353. I will address this in detail below. For Accounts 353.7 and 357 his estimates are based on the historical data. He claims that he "found no compelling reason to be as far

away from the actual data as PacifiCorp is recommending"[59] and that the life he recommends is "in the range of lives used for that account by other utilities."[60] I will explain that there are compelling reasons to use the estimates that I have made, and that for Account 353.7 his estimate is in fact longer than the estimates for most utilities.

Q. Please discuss account 353 station equipment.

A. For this account Mr. Dunkel claims that I have treated certain transactions in the data "inconsistently"[61] and that the consistent treatment results in his estimate being the better fit of the historical data.

Q. What transactions is Mr. Dunkel referring to?

A. Mr. Dunkel is referring to the sale of the Midpoint substation that occurred in 1988.

Q. Did you treat this transaction inconsistently in your study?

A. No. Similar to his presentation regarding theoretical reserve imbalances and for net salvage, Mr. Dunkel's testimony gives the incorrect impression the recommendations I have made are an intentional attempt to increase depreciation expense.[62] This is simply incorrect. In order to make such a statement Mr. Dunkel is ignoring information provided in discovery that explains the treatment I have given to the sale of the Midpoint substation.

[59] Dunkel Direct Testimony, p. 43, lines 749-750.
[60] Dunkel Direct Testimony, p. 44, lines 749-750.
[61] Dunkel Direct Testimony, p. 42, lines 725-726.
[62] Dunkel.

Q. Please explain further the treatment for life and net salvage analysis.

A. First, to address Mr. Dunkel's claim that this transaction was "excluded" from the net salvage analysis, the Midpoint sale occurred in 1988. The net salvage data in the depreciation study begins in 1992. Thus, all transactions prior to 1992 were not included in the net salvage analysis, since these data were not available. Mr. Dunkel's testimony gives the impression that I consciously excluded this transaction in order produce a more negative net salvage estimate and higher depreciation. This is incorrect, as the transaction occurred prior to the data used for net salvage analysis.

As for life analysis, the specific identification of the retirement for the Midpoint sale was not available to me at the time I made the service life estimates for this account. The information has been researched by the Company after my study was completed and provided to other parties in discovery. However, at the time of my study I did recognize that this transaction likely represented an unusual retirement and took this into consideration as part of the judgment for the life analysis for this account. Additionally, I included in my analysis more recent experience bands that did not include this transaction.

Q. Have you explained in discovery that this transaction was a consideration that you took into account?

A. Yes. I actually explained this in multiple data requests.[63] Mr. Dunkel does not appear to have taken my responses to these data requests into account, which explain that the treatment of this transaction was not in fact inconsistent.

[63] Responses to OCS 1.71 and OCS 1.14.

Q. Has your review of Mr. Dunkel's testimony affected your analysis?

A. No, based on the information I have presented in the response to OCS 1.14, I still consider the 57-S0 survivor curve in the depreciation study to be the best estimate for this account. This estimate incorporates information other than just the statistical analysis, including that newer substation components have less tolerance in the design, and therefore are expected to have a somewhat shorter life than older equipment.

Q. Have you provided any information in discovery on any of the other accounts for which Mr. Dunkel has proposed a different survivor curve?

A. Yes. I have explained a number of considerations related to Account 353.7 Supervisory Equipment in the responses to OCS 1.73. The 20 year life is more reflective of the type of assets in this account. Additionally, certain retirements were excluded from the presentation in the report, but should still be considered in the analysis. The inclusion of these retirements shows the 20-R2 to be a much better fit than Mr. Dunkel's estimate. While Mr. Dunkel may claim that he "found no compelling reason" for my estimates, I have presented a number of important reasons why a 20 year service life is a better estimate than a 25 year service life in the response to OCS 1.73.

Additionally, while Mr. Dunkel claims that the estimates of other utilities support his estimate for this account, he is incorrect. His opinion appears[64] to be based on a review of industry statistics I provided in discovery,[65] and specifically

[64] Based on Mr. Dunkel's response to RMP 1.10.
[65] Response to OCS 1.3.

only the estimates for the assets labeled "supervisory equipment." However, the assets labeled "SCADA equipment" in the industry statistics I provided are also similar equipment to this account (RTUs, etc.). The estimates for these assets are typically 15 to 20 years.

Q. Can you address Mr. Dunkel's estimate for account 357?

A. Yes. Mr. Dunkel's estimate is based on an analysis of the historical data. However, based on his presentation in his testimony he is considering all data points. Almost all of the assets in this account have been installed very recently. Only $100,000 has reached age 13.5 in the original life table. Beyond age 33.5 there are less than $100,000 in exposures. Additionally, the historical data does not fall below 90 percent surviving. Thus, the historical data actually provides very little determinative information about the survivor characteristics for this account. Given the limited historical data, I have recommended no change in the service life, which at this time is the most reasonable estimate for this account.

Simulated Plant Record Analysis

Q. Please describe the process for utah distribution property life analysis.

A. For the accounts in which sufficient aged data was not available, a semi-actuarial analysis known as Simulated Plant Record ("SPR") analysis was used. All parties in this proceeding agree with the use of SPR analysis for these accounts, which is described in the Depreciation Study. The results of the analysis produced an average service life and dispersion curve for each of the accounts studied. Mr. Dunkel and Mr. Pous have proposed different service life estimates than those I have recommended in the depreciation study for certain accounts based primarily on the results of the

statistical analyses for these accounts. They have not taken into consideration other information that I have presented in discovery.

Q. Mr. Pous claims that the company has "declined to provide information that it relied upon associated with its claimed informed judgment and input from company personnel other than for account 364."[66] Is Mr. Pous correct?

A. No. As mentioned in the general section, I have provided information related to the service life estimates in the depreciation study, my notes from interviews from Company personnel, and in the responses to many data requests. In particular, in the responses to data requests I have explained further the judgment used for the SPR accounts for which both he and Mr. Dunkel have proposed adjustments. In OCS 1-56, Mr. Pous asked me to explain the selection of curves for which I "did not select the statistically best fitting SPR life-curve combination." In regards to the two accounts for which both Mr. Pous and Mr. Dunkel have proposed different survivor curve estimates, I responded:

> "For Accounts 367, 368 and 369, the approved service life estimates were retained. The approved estimates for each of these accounts were consistent with the estimates in other jurisdictions, which were based on actuarial analysis as opposed to SPR. The SPR analysis for Utah property also showed curve types with average service lives in the same range as the approved estimates. The best fitting curves for these accounts deviated from the experience of PacifiCorp in other jurisdictions, and did not provide justification to deviate from the approved service life estimates."[67]

Neither Mr. Pous nor Mr. Dunkel appears to have taken this information into account.

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[66] Direct Testimony of Mr. Pous, p. 58, lines 1637-1639.
[67] Response to OCS-1.56.

Q. Is your consideration of the estimates for PacifiCorp's property in other jurisdictions consistent with your review for other Utah distribution plant accounts?

A. Yes, it is. In OCS 1-14 I had provided a detailed narrative of the survivor curve estimate for Account 364 Poles, Towers and Fixtures. In that response I explained that one of the reasons for not selecting the best statistical fit was the expectation that lives for Utah property would be similar to those for property in other PacifiCorp jurisdictions. I further explained in OCS 1-56 that "the reasons for using a curve other than the best fit for Account 365 were consistent with the reasons outlined in this narrative for Account 364."

As noted above, in OCS 1-56 I also noted that there were similar considerations for Accounts 367, 368 and 369. Since actuarial data was available for many of PacifiCorp's other jurisdictions, the estimates for these jurisdictions were based on more detailed data than was available for Utah property. For this reason, as I have explained in data request response, I considered the statistical indications for PacifiCorp's other jurisdictions to be an important indicator of the service lives for Utah property, since all assets are operated and maintained by the same management. Additionally, the estimates for each of these accounts are the same as those approved in the previous depreciation study. Given that PacifiCorp's other jurisdictions have similar lives to the approved estimates, and that there were similar statistical fits in the same range of lives, I do not think that the statistical analysis alone should result in a change in service life from the approved estimates.

For Accounts 364 and 365, these considerations led to longer service lives

than the best-fits in the statistical analysis, but for Accounts 367, 368 and 369 these considerations resulted in shorter service lives than the best-fits in the historical analysis. Thus, I employed a balanced approach in the depreciation study, with the consistent approach of considering the lives of similar property in PacifiCorp's other jurisdictions. In contrast, both Mr. Pous and Mr. Dunkel have not presented a balanced approach. Instead, both have accepted this approach for the two accounts where lives in the depreciation study were *longer* than the statistical best fits, but have ignored these considerations in cases in which the lives are *shorter* than the best statistical fits.

Q. What is your recommendation for the SPR accounts?

A. Based on the information I have provided in discovery, the recommendations I have made for these accounts represent the most reasonable service life estimates. My recommendation is that the estimates from the depreciation study should be accepted.

VII. MASS PROPERTY NET SALVAGE

Q. How will you address Mr. Dunkel's proposal to deviate from the industry standard and longstanding straight line method for accruing for net salvage?

A. There are two primary issues I will address regarding Mr. Dunkel's proposal. The first is that his proposal is inappropriate in general, and specifically is not widely accepted, not endorsed by any authoritative depreciation texts (including those he cites), defers costs to future customers and will cost customers more over the long run.

The second issue is that Mr. Dunkel's application of his methodology is inappropriate. The estimates I have made in the depreciation study are in fact

conservative (i.e. less negative) when compared to the Company's actual experience. However, Mr. Dunkel has improperly used these conservative estimates as the starting point for his calculations and as a result calculates net salvage estimates that are far too low even based upon his own methodology.

General Discussion

Q. Do you have any general comments on this issue?

A. Yes. I would like to briefly discuss comments made by Mr. Dunkel discussing FERC and the Uniform System of Accounts ("USofA"), as well as his general tone regarding this issue.

Q. What does Mr. Dunkel say in his testimony regarding the FERC USofA?

A. Mr. Dunkel makes the statement that the USofA "requires the future retirement costs to be increased for future inflation, and also requires that the present-value of those inflated future retirement costs be used."[68] This is not a correct statement concerning the ratemaking treatment for future retirement costs (a.k.a. cost of removal), and Mr. Dunkel's testimony is misleading in its presentation of FERC's intent. As I will discuss in detail later in my testimony, Mr. Dunkel's discussion of the USofA is centered around a FERC accounting order (FERC Order 631) intended to provide guidance on the adoption of a new GAAP standard, SFAS 143. Both SFAS 143 and FERC Order 631 are related to the recognition of *liabilities* for retirement costs a Company is legally obligated to incur.

That is, the intent of both of these accounting statements is to recognize on the

[68] Dunkel, p. 47, lines 784-786.

balance sheet costs a company will be legally required to spend in the future. Neither SFAS 143 nor FERC Order 631 provides any direction on the proper ratemaking treatment for cost of removal. In fact, FERC is quite clear in Order 631 - in a passage quoted by Mr. Dunkel in his own testimony - that the issue of the ratemaking treatment for cost of removal "is beyond the scope of this rule."[69] I will discuss FERC Order 631, as well as other FERC pronouncements, and show that FERC is in fact supportive of the traditional straight line method of accruing for net salvage and removal costs.

Q. In addition to Mr. Dunkel's presentation regarding the FERC USofA, are there any other aspects of his presentation that you would like to discuss before going into more detail?

A. Yes. Mr. Dunkel's discussion of this issue in his testimony gives the impression that the Company's methodology for net salvage is an attempt to "overcharge"[70] customers and that the Company's approach is an attempt to unfairly burden certain generations of customers. For example, Mr. Dunkel states that in determining its net salvage estimates the Company "is using the step that increases the cost" and "excluding the step that would reduce the cost"[71] (emphasis in original).

His presentation is misleading for a number of reasons. First, the methodology used by the Company is not an attempt to overcharge customers – the impression one might get from reading Mr. Dunkel's testimony. Instead, the Company is simply following the long established and widely accepted practice for including net salvage

[69] Dunkel, p. 51, lines 852-858.
[70] Dunkel, p. 52, line 869.
[71] Dunkel, p. 49, lines 811-812.

in depreciation rates, an approach based on nominal costs that is consistent with the treatment for historical capital expenditures and for rate base. This longstanding practice has been developed over many years based on analyses in rate cases and authoritative texts, and has been consistently accepted as the most equitable and reasonable approach for ratemaking.

Additionally, Mr. Dunkel's use of the terms "cost" and "overcharge" are misleading. In his testimony, these terms refer only to depreciation expense. However, depreciation also impacts other components of customer rates, most notably rate base. The total "charge" to customers through rates is not just the depreciation expense, but also includes the impact of these other components. Mr. Dunkel's testimony focuses on a single issue – depreciation expense – but does not consider any other impacts on customer rates. As I will demonstrate in this testimony, in the context of ratemaking, the general system of recording costs and the recovery of those costs in nominal dollars is actually a benefit to customers and results in lower customer rates than alternative systems – including that proposed by Mr. Dunkel.

Q. Please elaborate on the "system" you describe for ratemaking.

A. It is the longstanding and well established practice in the industry, for both this jurisdiction and for other jurisdictions, that capital costs are recorded at the cost expended for the time period in which these costs are expended. That is, these expenditures are recorded at original cost or in nominal dollars. The capital expenditures are then charged to customer rates in two ways, through the return *of* capital (namely depreciation expense) and through the return *on* capital (largely through return on rate base). The longstanding practice for the return of capital, based

on decades of case history and FERC instructions, is to use the straight line method of recovery, based on the recording of expenditures in nominal dollars. This is true for both the original cost of an asset and for its net salvage costs at retirement, and the total of these costs is referred to as the "service value" of the asset.

The longstanding practice for the return of capital is that rate base is determined based on deducting the historical accumulated depreciation from the original cost of assets in service. No provision is made to inflate these historical costs to current dollars, or to use a present value approach.

Q. What is the effect of these practices on customer rates?

A. The net effect is that customer rates are generally lower than had an alternative approach been used, such as recognizing costs in current dollars or using a present value approach. Customers benefit from the fact that rate base is recorded at historical cost, and is therefore much lower than had an inflated or present value approach been used. Customers also benefit because the return of historical capital expenditures is also based on the much lower historical cost, as opposed to recovered in current dollars or at present value. Finally, as I will demonstrate, the use of the straight line recovery of future net salvage costs will also normally have the net effect of reducing customer rates. While period depreciation charges are higher than under an alternative method, the accumulated depreciation is also higher due to higher historical depreciation accruals. As a result, rate base is lower than under an alternative method. Since the rate of return is normally higher than depreciation rates, the net effect is in fact lower customer rates using the approach used by the Company and the Utah Commission.

Q. Please summarize your testimony on this issue.

A. In contrast to the presentation in Mr. Dunkel's testimony, the Company is not proposing a methodology that is harmful to customers or that is inconsistent with FERC and widely accepted ratemaking practices. Instead, it is Mr. Dunkel that has proposed a significant change in methodology. Further, despite his claims that "proper depreciation rates are fair to all parties, including investors, current ratepayers and future ratepayers,"[72] when the full impact on customer rates of his proposal is considered, his proposal does not actually meet this definition of "proper." Instead, as I will show, his proposal disproportionally benefits current customers, who benefit from a lower rate base from the historical straight line recover of net salvage, at the expense of future customers, who will pay higher customer rates.

Description of Methods

Q. Please explain the differences between your net salvage proposals and those of Mr. Dunkel.

A. Consistent with the FERC USofA and authoritative depreciation texts, for each account I have estimated net salvage as a percentage of original cost, and have then proposed to recover the estimated net salvage using the straight-line method over the lives of PacifiCorp's assets. I will refer to this method as the "traditional straight line method" or "traditional method". Mr. Dunkel has accepted the net salvage estimates

[72] Dunkel, p. 3, lines 80-82.

from my study, but then proposes to use a decelerated method[73] of recovery for these costs.

Q. How have you developed your net salvage estimates?

A. As I describe on pages II-31 through II-36, the net salvage estimates were based on judgment which incorporated the statistical analysis of PacifiCorp's historical data.

Q. Please describe the statistical analysis.

A. In the statistical net salvage analysis, cost of removal, gross salvage and net salvage are expressed as a percentage of retirements. Data was available for the period 1992 to 2011, and overall and moving averages were analyzed to determine trends and provide an indication of the historical net salvage as a percentage of retirements. Based on this analysis, I have made estimates of net salvage expressed as a percentage of original cost.

Q. Are there any specific aspects of your judgment that you would like to address here?

A. Yes. For most transmission and Utah distribution accounts, the approved net salvage estimates were based on a settlement in Docket No. 07-035-13. The result of this settlement was that the net salvage estimates for most of these accounts were much less negative than the indications in the historical data. In the depreciation study, I employed a degree of gradualism in my estimates, meaning that while the data indicated more negative net salvage estimates, I have proposed more gradual changes.

[73] A decelerated method is also referred to as a "deferred" method of depreciation. The NARUC definition in *Public Utility Depreciation Practices* is presented on page 17, and states "The deferred method assigns more depreciation expense to the later years of the life of plant by applying compound interest formulas." This is in contrast to the straight line method, which "distributes the cost of property in equal annual amounts, as nearly as is practicable, over its life."

For this reason, as well as others I will discuss in more detail in a later section, the estimates I have made represent very conservative net salvage estimates.

Q. How does Mr. Dunkel's method differ from yours?

A. Mr. Dunkel has not challenged the estimates I have made, but instead has proposed a different pattern of recovery. Mr. Dunkel's method is a decelerated method of recovery, meaning that instead of recovering costs equally over the lives of the assets, the accruals increase over time. I will present a more detailed comparison of my method and that of Mr. Dunkel later in my testimony.

Acceptance of Methods

Q. What is the purpose of this section of your testimony?

A. In this section I will demonstrate that the present value method that has been proposed by Mr. Dunkel is not widely accepted. First, I will discuss the proscription of the Uniform System of Accounts and explain that only the traditional straight line accrual method meets the definitions and instructions in the USofA.

Next, I will discuss the history of alternative proposals to the straight line method, in other jurisdictions. As the record shows, with the exception of a handful of states, the vast majority of jurisdictions have accepted that only the traditional straight line accrual method produces intergenerational equity and that alternative methods, such as that proposed by Mr. Dunkel, should be rejected as deferrals of costs to future customers.

Uniform System of Accounts

Q. Mr. Dunkel claims that for retirement costs for which the company has a legal obligation, the FERC USofA "requires that the present-value of those inflated costs be used."[74] Do you agree?

A. No. As I will demonstrate, Mr. Dunkel's support for this claim is a FERC Accounting Order explaining how utilities should implement a Federal Accounting Standards Board ("FASB") standard pertaining to the *liabilities* for legal asset retirement obligations. This FERC Accounting Order does not address the ratemaking treatment for depreciation and net salvage. Instead, the USofA is clear that the straight-line method proposed by RMP is appropriate for ratemaking.

Q. Does the uniform system of accounts address the issue of how net salvage costs should be accounted for, and if so, how?

A**.** Yes. As I will show by analyzing various definitions and instructions, USofA provides that net salvage costs should be accrued using the straight-line method over the course of an asset's service life (i.e., recognized in each period in which the asset provides service), and not recovered using a sinking-fund method as proposed by Mr. Dunkel.

Q. Please explain.

A. "Depreciation," as defined in the USofA, refers to the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of electric plant in the course of service from causes which

[74] Direct Testimony of Mr. Dunkel, p. 47, lines 785-786.

can be reasonably anticipated or contemplated, against which the Company is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and the requirements of public authorities.

Depreciation accrual rates are used to allocate, for accounting purposes, the service values of assets over their service lives. As a result, each year of service (and each generation of customers) is charged with the portion of the asset consumed or used in that year. The total annual depreciation is based on a system of depreciation accounting which aims to distribute the cost of fixed capital assets, less net salvage, over the estimated useful life of the unit, or group of assets, in a systematic and rational manner.

Q. You referred to depreciation as the "loss in service value." What is service value?

A. Service value, as defined in the USofA, is "the difference between original cost and net salvage value of electric plant."[75]

Q. Does the USofA also define what it means by "net salvage value"?

A. Yes. "'Net salvage value' means the salvage value of property retired less the cost of removal."[76] Net salvage is described as "positive net salvage' if the salvage value exceeds removal costs, and described as "negative net salvage" (i.e., a net cost) if removal costs exceed the salvage value.

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[75] 18 CFR, Chapter 1, Part 101 Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to the Provisions of the Federal Power Act. Definition 36.
[76] *Id*. Definition 19.

Q. Does the uniform system of accounts prescribe a method of depreciation accounting?

A. Yes. The electric USofA includes General Instruction 11, "Accounting to be on accrual basis," which states, "The utility is required to keep its accounts on the accrual basis." Further, General Instruction 22, "Depreciation Accounting," pertains to electric utilities and states, "Utilities must use a method of depreciation that allocates in a systematic and rational manner the service value of depreciable property over the service life of the property."

Q. What is the accrual basis of accounting?

A. Under the accrual basis of accounting, transactions are counted when the order is made, the item is delivered, or the service occurs, regardless of when any money for such orders, items, or services is actually received or paid. The accrual basis recognizes economic events without regard to when the related cash transaction occurs. Thus, net salvage costs are traditionally recognized when the service is rendered, i.e., during each year of an asset's service life, rather than when the actual salvage-related costs are incurred. To only recognize the costs at the time any salvage-related dollars change hands would be to follow the "cash" basis of accounting, contrary to the instructions of the Uniform System of Accounts.

Q. Does the uniform system of accounts proscribe a depreciation method?

A. As noted above, FERC proscribes that depreciation must be "systematic and rational." It does not proscribe a specific method. However, the history of FERC's rulemaking provides evidence that FERC's intent is not as portrayed by Mr. Dunkel. In FERC's proposed rulemaking for FERC Order No. 618, FERC had originally

proposed to require "depreciation rates for accounting purposes that were based on the straight-line method of depreciation."[77] Due to comments from a number of parties, FERC revised its language so as to not be "overly prescriptive." However, FERC was clear in Order No. 618 that "straight-line depreciation was [is] the method typically used by utilities" and that FERC expects "that that is likely to continue to be the case for most utility property."[78] As I will discuss further, contrary to Mr. Dunkel's presentation, FERC does not accept his decelerated method for accruing for net salvage.

Notably, the comments to the proposed rulemaking were largely in response to the evolution of technological changes and increased competition in electricity markets, which could require the potential need for non-traditional methods (generally accelerated, not decelerated methods) that provide a "better matching of expenses with revenues."[79] Thus, FERC's intent was to not be overly proscriptive so as to limit the methods available under these types of circumstances. The intent was not to allow for the departure from the straight-line method for the methodology Mr. Dunkel proposes for net salvage.

Q. Based on the foregoing definitions, instructions, and rulemaking, what do you conclude the uniform system of accounts requires regarding net salvage?

A. The USofA requires that net salvage, as a component of service value, must be allocated or accrued over the service life of the property in a systematic and rational manner. In addition, based on the above discussion, the intent of the USofA is that the

[77] FERC Order 618, paragraph 5.
[78] FERC Order 618, paragraph 17.
[79] FERC Order 618, paragraph 8.

straight line method should be used except under unique circumstances (such as competitive pressures). Mr. Dunkel has proposed to use the straight-line method for the portion of depreciation expense related to the original cost of plant, but has proposed to use a different decelerated method for the portion of depreciation expense related to net salvage. I would not consider this inconsistent treatment to be either "systematic or rational," as the USofA requires.

Q. Mr. Dunkel cites FERC order no. 631 as evidence that the sinking fund method should now be used for net salvage for legal obligations. Do you agree?

A. No. As Mr. Dunkel notes, FERC Order No. 631 was in response to SFAS 143, which required public companies to record a liability for legal AROs. FERC Order No. 631 modified the Uniform System of Accounts to allow utilities to record the entries required for financial reporting by FAS 143 on the books maintained for regulatory accounting. In fact, the citations Mr. Dunkel makes in his own testimony should make clear that the intent of Order No. 631 was to proscribe the recognition with these liabilities in accordance with GAAP, not to change the ratemaking treatment for depreciation expense.

Mr. Dunkel quotes language from FERC's Notice of Proposed Rulemaking, which states:

> "In summary, the new accounting standard requires the present value of the liability to be recorded for all assets." (emphasis added)[80]

FERC is clear that the reason it has amended the USofA to establish "uniform accounting and reporting for the recognition and measurement of liabilities arising

[80] Paragraph 8 of FERC Notice of Proposed Rulemaking issued on October 30, 2002.

from retirement and decommissioning obligations of tangible long-lived assets, and related costs. More specifically, the Commission is adding new balance sheet accounts to record the liability and depreciation of the related asset [retirement obligation]" (emphasis added).[81] In other words, the intent is to recognize a liability, and the impact is on the balance sheet, not on the ratemaking treatment for net salvage.

Q. Does FERC address the ratemaking impact of Order No. 631?

A. Yes. FERC specifically stated that the order did not affect existing tariffs. In paragraph 60, FERC states "the Commission is not requiring jurisdictional entities with stated rate tariffs to make any tariff filings with the Commission due to this final rule at this time." The Order goes on to explain that:

> "The accounting for removal costs that do not qualify as legal retirement obligations falls outside the scope of this rule. The Commission is aware that there is an ongoing discussion in the accounting community as to whether the cost of removal should be considered as a component of depreciation. However, this issue is beyond the scope of this rule and we are not convinced that there is a need to fundamentally change accounting concepts at this time."[82]

In other words, FERC is clear that Order 631 does not address the ratemaking treatment of net salvage, and Order 631 is instead limited in scope to the treatment of liabilities as set forth in SFAS 143. FERC is explicit that FERC Order 631 does not change the treatment of cost of removal as a component of depreciation. Mr. Dunkel should recognize that FERC Order 631 does not address depreciation expense or ratemaking, since he actually cited this portion of the Order in his testimony. Thus, it

[81] FERC Order 631, Summary paragraph 2.
[82] FERC Order 631, paragraph 37.

is disingenuous for him to claim that "the FERC Uniform System of Accounts (USofA) requires the future retirement costs to be increased for future inflation, and also requires that the present-value of those inflated future retirement costs be used"[83] with the implication that this has any bearing on the ratemaking treatment for net salvage. As I have explained, the proscriptions and intent of other statements by FERC is instead that straight line depreciation be used for depreciation expense.

Q. Why should ratemaking follow the procedure outlined in the USofA?

A. The USofA was developed for public utilities and adopted by regulatory commissions to provide useful information for regulatory reporting and ratemaking purposes. The definition of depreciation used in the USofA resulted from court orders involving public utility rates. That is, it reflects the courts' view of public utility depreciation. It considers issues such as customer equity and matching that are no longer reflected in GAAP. Financial accounting and regulatory accounting each serves a different purpose. Financial accounting is used in developing financial statements for reporting financial information in accordance with GAAP. GAAP's purpose is to establish general principles and provide consistency in accounting across all companies, which provides users comparability among the companies.

Regulatory accounting is governed by FERC and by various state and local regulatory agencies. The purpose of regulatory accounting is to provide accounting information in a manner that assists utility regulators in their ratemaking treatment of regulated companies. As a result, certain accounting concepts under regulatory accounting may differ from those used under GAAP financial accounting.

[83] Dunkel, p. 47, lines 784-786.

Treatment in Other Jurisdictions

Q. Is the traditional straight line accrual method for net salvage widely accepted in other jurisdictions?

A. Yes. With only a few exceptions, the traditional method is accepted in the vast majority of jurisdictions.

Q. Have you asked Mr. Dunkel for cases in which his methodology has been accepted?

A. Yes. Mr. Dunkel declined to provide any information on the acceptance of his proposal, with the exception to reiterate his incorrect assertion that FERC Order 631 has incorporated his methodology into the USofA for ratemaking purposes[84].

Q. Based on his testimony and responses to discovery, has Mr. Dunkel provided any evidence that his methodology has been accepted by any jurisdiction?

A. No. His only evidence in his testimony and in discovery is his discussion of FERC Order 631. I have explained in detail that his interpretation of this Order is incorrect. Thus, it should be quite clear that Mr. Dunkel has provided no convincing evidence of the acceptance of his methodology. Given that he is proposing a significant departure from longstanding and widely accepted practices, he has provided minimal evidence that such a dramatic change is necessary or appropriate.

Q. Are you familiar with any states that have accepted alternative methods for net salvage?

A. Maryland, Delaware and the District of Columbia have also adopted alternative

[84] DPU's response to RMP 1.11.

approaches similar to that proposed by Mr. Dunkel, although alternative methodologies are not exclusively used in all of these states. Pennsylvania has also used a different methodology of expensing net salvage for many years. This methodology was in fact mandated by the Pennsylvania Supreme Court. New Jersey uses an approach similar to Pennsylvania. To my knowledge, all of the other states use the traditional accrual method proscribed by the USofA.

In other words, of the 50 U.S. states and the District of Columbia, 46 (including Utah) use the methodology proposed by the Company, three use methodologies similar to that of Mr. Dunkel, and two uses a different methodology.

Q. Are you familiar with any states that have rejected alternative proposals for net salvage?

A. Yes. In this testimony I will discuss the decisions in a number of jurisdictions. In many of these cases, Mr. Dunkel was a witness and proposed a similar methodology as in this case. In each case that I will discuss, the decisions occurred after the adoption of FERC Order 631, providing further evidence that Mr. Dunkel's interpretation of this Order is incorrect. However, I should note that this is only a sample of cases; the majority of states continue use the straight line method.

Q. Please address the acceptance of net salvage methods in Georgia.

A. Prior to 2010, the Georgia Public Service Commission had approved a methodology similar to that used by Mr. Dunkel in this proceeding. However, Georgia has since returned to the traditional method of calculating net salvage similar to the method used by RMP.

In its 2010 Decision for the Atlanta Gas Light Company the Georgia

Commission ruled that the traditional method was most appropriate. Mr. Dunkel was the witness for PIAS in that case, and had argued for a present value net salvage methodology for net salvage. However, in the Georgia Commission's Short Order it stated that "(t)he [c]ommission finds as a matter of fact that it is appropriate to restore the traditional method for calculating net salvage to avoid deferring costs to future customers."[85] In its Final Order the Georgia Commission affirmed that it found the "traditional depreciation methodology to be reasonable,"[86] and further noted that the "non-traditional approach by Mr. Dunkel may reduce depreciation rates but it is not consistent with regulatory ratemaking accounting rules."[87]

Q. Please address the acceptance of net salvage methods in Michigan.

A. Michigan held a generic proceeding[88] in which a number of net salvage methodologies were considered, including a method similar to that of Mr. Dunkel based on the approach in SFAS 143. The Michigan Public Service Commission has ruled in favor of the traditional accrual method in this generic proceeding. In that Decision the Michigan Commission stated:

> The Commission agrees with Consumers and the Staff that continued use of the traditional, straight–line depreciation method is the most appropriate means of addressing future removal costs.

Mr. Dunkel was the witness for the Attorney General in the Michigan case. The Order discusses his proposal:

> The net present value approach proposed by the Attorney General has been consistently rejected by most Commissions and does not comport

[85] Georgia Public Service Commission Docket No. 31647, Short Order, filed November 3, 2010, p. 4.
[86] Georgia Public Service Commission Docket No. 31647, Final Order, filed December 21, 2010, p. 9.
[87] Ibid, p. 4
[88] Michigan Public Service Commission, Docket No. U-14292.

> with depreciation methods recommended by authoritative sources on depreciation accounting. The accrual for net salvage must be based on estimates of the future cost that will be incurred, not the removal cost at today's price level. Therefore, it is appropriate to ask current customers to pay for future costs of removal at inflated price levels, and, as Mr. Watson pointed out, the rate base offset compensates rate payers for the prior payment for the costs incurred by the utility. Finally, the Commission finds that the Attorney General's proposed method significantly decreases the cash flows available to utilities to meet their infrastructure and other public service obligations. This, in turn, has a negative financial effect on both the utility and its customers by requiring that such obligations be met with more expensive sources of external financing and by driving up the cost generally of obtaining money in the capital markets. The Commission finds that the Attorney General has not shown that the adoption of the net present value method would justify these increased costs for utility consumers.[89]

Q. Please address the acceptance of net salvage methods in California.

A. Various alternative methods for net salvage have been proposed in a number of cases in California. In each case, these approaches were rejected. In the most recent, Docket No. A.06-12-009 for Sempra Energy, a different consulting group submitted testimony on behalf of The Utilities Reform Network ("TURN"), an independent intervenor group, in which TURN proposed an alternative methodology for net salvage. Although the Sempra case resulted in a settlement, the California Commission still addressed the methodology for net salvage and made clear that alternative methodologies would not be accepted. In that Decision, filed August 10, 2008, the commission stated on page 23:

> The alternative methodology proposed by TURN was not adopted in the most recent Pacific Gas & Electric Company (PG&E) and Southern California Edison Company (SCE) GRCs. We would therefore have denied with prejudice the recommendations of DRA, TURN, and UCAN on depreciation and net salvage in a litigated

[89] Michigan Public Service Commission Order, Case No. U-15629 filed September 29, 2009, page 12.

decision. The purpose of this discussion of our likely denial is to avoid an unnecessary repetition in subsequent proceedings. Any party that raises these issues again should have new analysis and new arguments which may persuade us, unlike the arguments raised here or in other recent rate proceedings.

Q. Has FERC ever adopted any of the alternative methods proposed by Mr. Dunkel or his firm?

A. No. As noted above, the rejection of similar proposals to that of Mr. Dunkel by various state commissions has occurred after the release of FERC Order 631. This should confirm that Mr. Dunkel's interpretation that FERC Order 631 applies to ratemaking treatment of costs of removal is incorrect. However, further evidence can be found in that FERC itself has not adopted the methodology proposed by Mr. Dunkel in any of its jurisdictional rate cases. Intervening parties have presented various alternative methodologies to FERC a number of times, and to my knowledge the FERC has always rejected them and adopted the traditional method as used by the Company.

Q. Did you ask Mr. Dunkel whether his methodology has been accepted by FERC?

A. Yes. Mr. Dunkel declined to provide any examples of cases in which his methodology has been accepted by FERC, and instead only again referenced FERC Order 631. His response confirms my understanding that FERC has in fact never accepted his proposed methodology for ratemaking purposes.

Treatment in Authoritative Depreciation Texts

Q. Do authoritative texts on depreciation address the issue of the depreciation method for net salvage?

A. Yes, they do.

Q. What do these texts provide?

A. *Public Utility Depreciation Practices* and *Depreciation Systems* are preeminent texts on the subject of depreciation, and each recognizes that the straight line method is most appropriate for depreciation. *Public Utility Depreciation Practices*, published in 1996 by the National Association of Regulatory Utility Commissioners (NARUC) states "the straight line method is almost universally used in the utility rate making process."[90] It should also be noted that for FERC Order No. 618, NARUC "supported the exclusive use of the straight-line method of depreciation."[91]

The 1994 edition of *Depreciation Systems* is another highly regarded, authoritative text on depreciation matters. Mr. Dunkel cites this source on pages 53 and 54 of his testimony, and attempts to use it in support of his proposal. However, Mr. Dunkel quotes this text out of context. Instead, Wolf and Fitch are clear that "the straight line method of allocation is used almost exclusively by regulated, capital-intensive companies when calculating depreciation accruals for book accounting purposes. The straight line method applies a constant annual accrual rate to the cost of the unit, this yielding a constant annual depreciation charge."[92]

Q. Do these texts explain how net salvage is estimated?

A. Yes. Both explain that net salvage is expressed as a percentage of original costs and is estimated using the same methods I have employed.

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[90] NARUC, Public Utility Depreciation Practices, 1996, p. 61.
[91] FERC Order No. 618, paragraph 7.
[92] *Depreciation* Systems, W. C. Fitch and Frank K. Wolf, 1994, p. 249.

Q. Do either present Mr. Dunkel's present value methodology as a valid approach?

A. No.

Q. How do these authorities impact your analysis?

A. They show that accruing net salvage costs over the life of the related asset has the virtue of being not only the majority approach, but the considered approach as well.

Comparison of Methods

Q. Please provide a comparison of the net salvage methods proposed in this proceeding.

A. For the purpose of our testimony, I have modeled the impact of each estimate on depreciation expense as well as on a total cost of service basis. These examples will demonstrate that Mr. Dunkel's proposal actually results in a higher cost to customers on a total cost of service basis than the use of the traditional method for net salvage. Additionally, I will explain some of the reasons why the straight line method is normally used, including that it is consistent with the treatment of rate base and historical capital expenditures, and that an alternative approach such as Mr. Dunkel's methodology is unnecessarily complicated and results in depreciation rates that need to be updated to the present value every year.

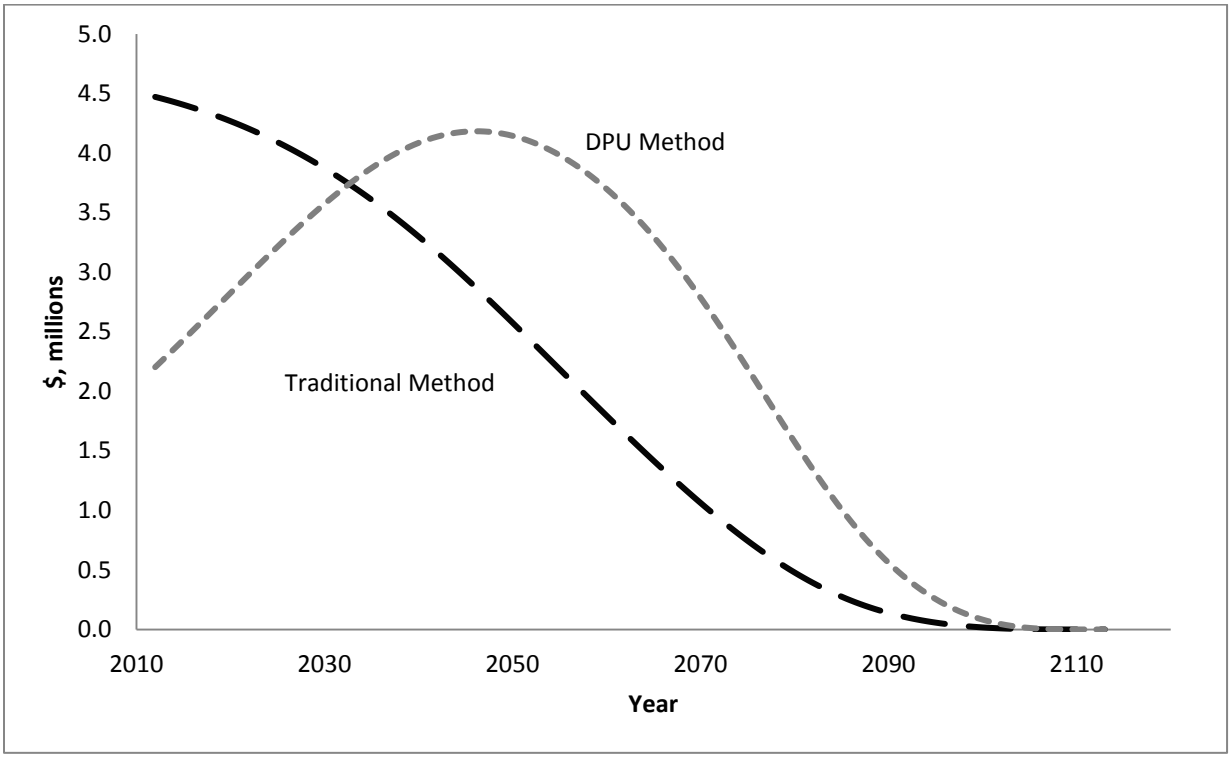
Straight Line Method vs. Decelerated

Q. Please provide an example to show the recovery pattern for both your and Mr. Dunkel's proposals.

A. To illustrate this concept, I will use the same account Mr. Dunkel presents as an example in his testimony, Account 356 Overhead Conductors and Devices. Figure 4

below contains a comparison of the annual depreciation accruals for plant currently in service over the lives of the assets currently in service.

Figure 5: Comparison of Net Salvage Accruals Based on Traditional and DPU Methods, Figure 6: Account 356

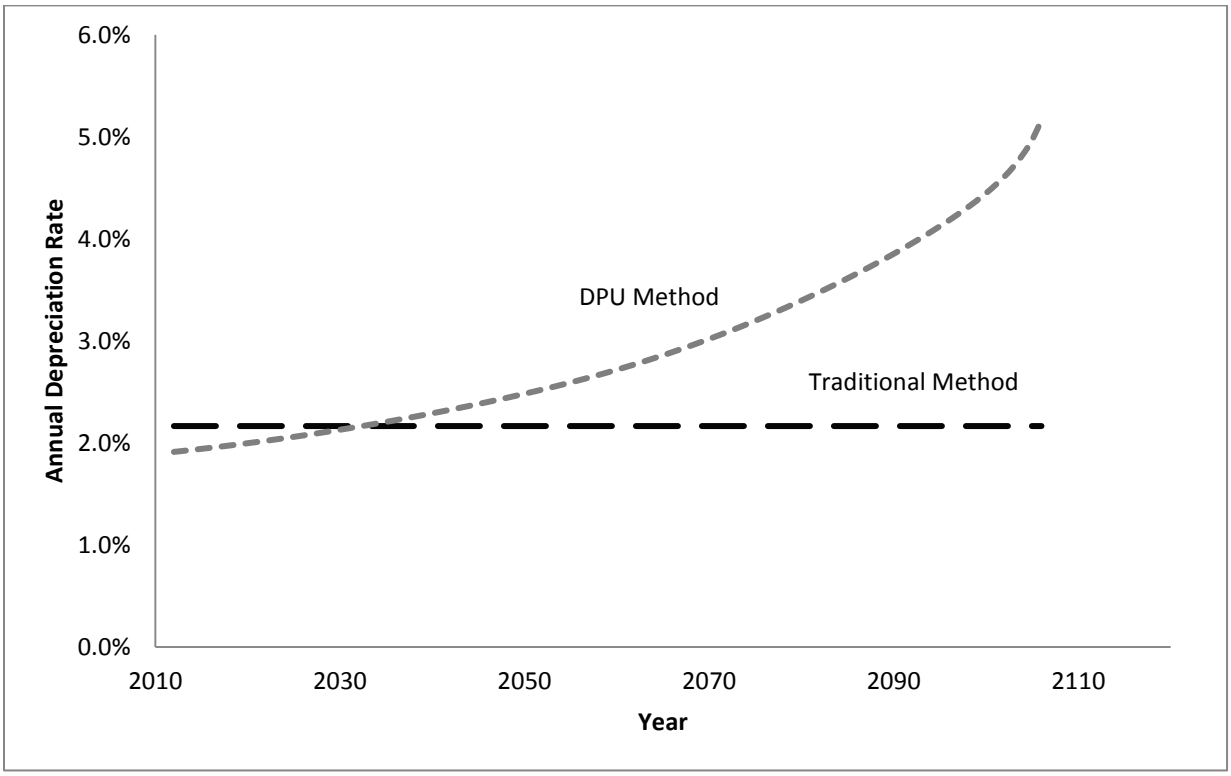


The recovery pattern for the traditional method shown in Figure 6 is the same shape as the survivor curve for this account (shown on page III-133). That is, the recovery pattern matches the consumption of the assets. Mr. Dunkel's proposal instead has a very different recovery pattern.

Q. Please illustrate further the difference between the straight line recovery and the decelerated recovery pattern Mr. Dunkel proposes.

A. Figure 7 below shows the annual depreciation rates for each proposal. As the chart shows, the traditional approach results in a consistent depreciation rate each year. In contrast, Mr. Dunkel's proposal results in increasing depreciation rates each year.

Figure 7: Comparison of Annual Depreciation Rates Based on Traditional and DPU Methods, Account 356



Q. Given the presentation in Figure 7, does this mean that the depreciation rates for assets in service would increase each year under Mr. Dunkel's proposal?

A. Yes. The depreciation rate he proposes for each account would not recover the full service value of the assets currently in service over their lives unless the depreciation rates are adjusted each year.

Q. Does this mean that Mr. Dunkel's proposal is sensitive to the age of the assets in service?

A. Yes. In contrast to the straight line method, under Mr. Dunkel's proposal the depreciation rates need to increase each year in order to recover the net salvage costs for the assets in service.

Impact on Customer Rates

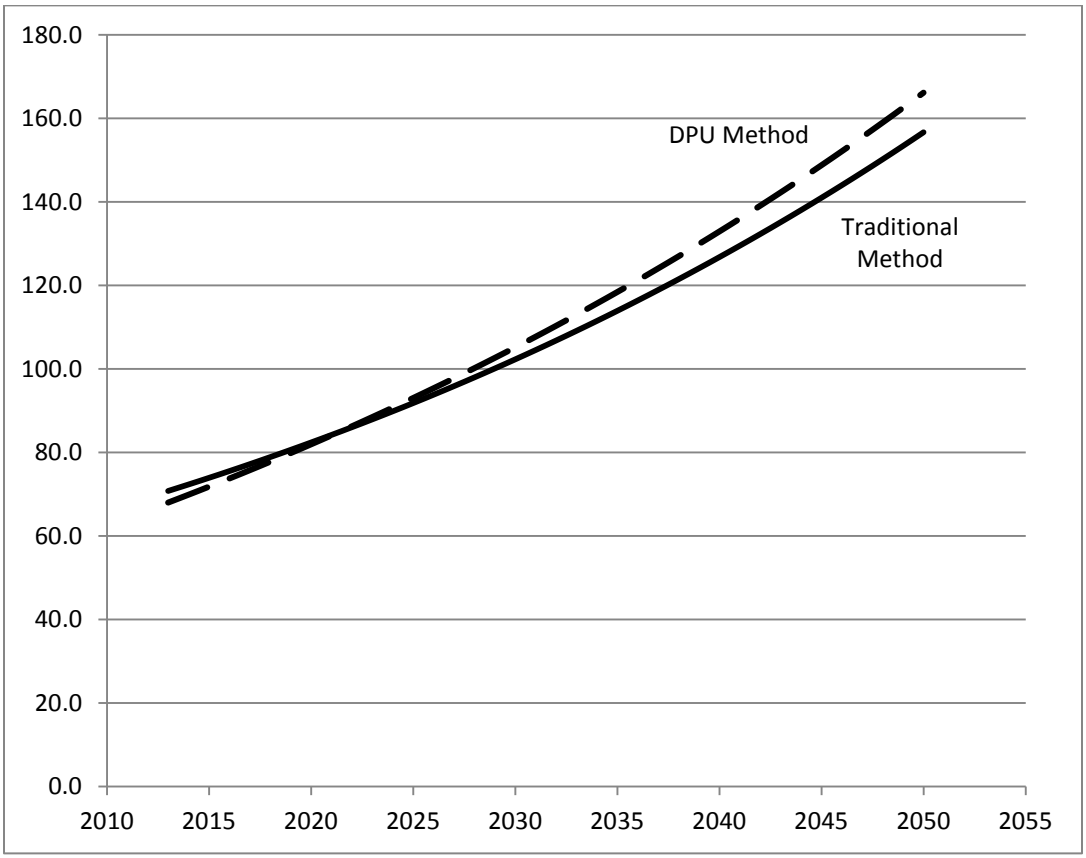
Q. Aside from depreciation expense, do the different methods have any other impact on customer rates?

A. Yes. Any method of depreciation has an impact on rate base over the lives of the plant assets as rate base includes original plant cost less accumulated depreciation. By deferring costs to the future, Mr. Dunkel's proposal will result in higher net plant rate base over the life of the assets than would occur under the traditional accrual method. As a result, these methods will usually produce some short-term savings but result in higher total costs to ratepayers over the lives of the plant assets.

Q. Please provide an example to illustrate the impact on rate base of each proposal.

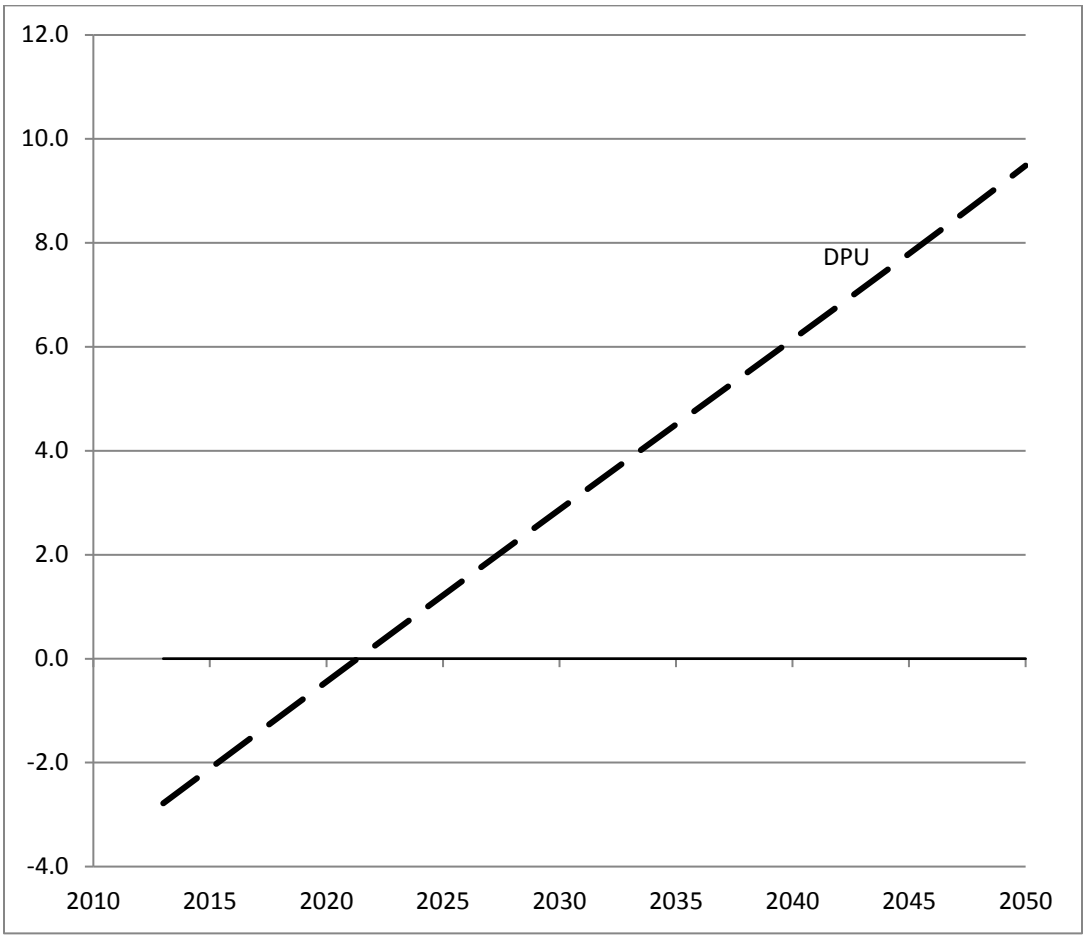
A. To show this impact I will again use Account 356 Overhead Conductors and Devices. To model the impact of each proposal, I have assumed that new additions to plant occur at a rate of three percent per year. Based on this assumption, as well as the proposed survivor curve and net salvage, I am able to project the plant in service and the accumulated depreciation per books based on each proposal. Using the Company's approved rate of return we can calculate the depreciation expense and return on rate base for each proposal. The total of these two amounts for each year for the period 2012 through 2050 is presented in Figure 8 below.

Figure 8: Comparison of Total Depreciation Expense and Return on Rate Base Based on Traditional and DPU Methods, Account 356, 2013-2050



As illustrated in Figure 8, while Mr. Dunkel's proposal initially results in a lower cost of service, within a relatively short period of time, this proposals result in a higher cost to customers. Once the costs cross over, the Mr. Dunkel's proposal will result in higher customer rates indefinitely. The difference between Mr. Dunkel's proposal and PacifiCorp's proposal is further illustrated in Figure 9 below, which graphs the difference between his alternative proposal and PacifiCorp's traditional accrual method.

Figure 9: Difference in Total Depreciation Expense and Return on Rate Base between DPU Proposed Net Salvage Method and PacifiCorp Proposal Account 356, 2013-2050



Q. Mr. Dunkel argues that the methodology you have used represents an "overcharge."[93] Do you agree?

A. No. Mr. Dunkel can only make this statement by ignoring the rate base impacts of each proposal, which I have demonstrated in the preceding examples. The traditional accrual method for net salvage has been used for a long time for RMP customers in Utah. As a result, customer rates are lower than had Mr. Dunkel's proposal been in place for this time. In other words, the consistent use of the traditional method means

[93] Dunkel Direct Testimony, p. 53, line 886.

that the situation for current customers is similar to the situation to the right of the crossover point in Figure 5 – customer rates on a cost of service basis are lower due in large part to the rate base effects of prospectively accruing for net salvage. These costs will continue to remaining lower for future customers than had Mr. Dunkel's proposal been in place.

In contrast, Mr. Dunkel's proposal results only in a short term windfall for current customers, who benefit from the rate base impact of past net salvage accruals but also pay a lower depreciation charge due to artificially low net salvage estimates. As Figures 5 and 6 show, this is only a temporary windfall, and after a transition period future customers will pay more than they otherwise would have. Thus, Mr. Dunkel's proposal is patently unfair – current customers are subsidized by past and future customers.

Q. Is it appropriate to ask current customers to pay for future costs of removal at a price level that is greater than today's price level?

A. Yes. The future cost to remove an item of plant is part of the service value that it renders to current customers and a ratable portion of such costs should be recovered from these customers. That is the definition of depreciation, i.e., the loss in service value during a specific period. As these future costs are recovered from current customers, they are deducted from rate base. This deduction in the amount on which the utility is entitled to earn a fair return, in effect, represents an amount on which the customer earns a return. That is, as customers provide for the future cost of removal, they receive a return on such amounts. This is fair compensation for making payment prior to the cost incurrence by the utility. Further, as already noted, by charging

customers for these costs during the life of the plant the customers that benefit from the plant, or consume its service value, are the ones that pay for such service. Customers paying today for future costs of removal and receiving a return on such payments is no different than the utility recovering today amounts that it invested many years ago, but on which it earned a return until the amount was recovered from customers.

Q. How does the total cost compare for both methods over the long term?

A. Table 2 below shows the total depreciation expense and return on rate base for each proposal for the period 2012 through 2050, and compares the total for each alternative method to the traditional accrual method. As the table illustrates, each alternative proposal results in a higher total cost. Further, these higher costs will be even more significant after 2050.

Table 2: Comparison of Total Depreciation Expense and Return, 2012-2050

	PacifiCorp	DPU
Total Cost	4,214,721,463	4,527,286,164
Difference from PacifiCorp	-	312,564,702

Cost Based

Q. Does Mr. Dunkel argue that the traditional method for net salvage is not "cost-based"?

A. Yes, he does.

Q. How does Mr. Dunkel define the term "cost-based"?

A. He argues that "to be cost-based, the cost must be determined in the same value of currency that will be collected from the ratepayer."[94]

Q. Is it typical for depreciation practices to meet this definition of "cost"?

A. No. Depreciation is normally based on the straight-line recovery of the service value of the assets in service. The service value is equal to the original cost of an asset less net salvage. Both the original cost and the net salvage are based on the nominal cost that either has been or will be expended. Mr. Dunkel's use of the term "cost-based" is more similar to a present value based concept, which is not typically used in ratemaking.

Q. Does the use of historical original cost for plant in service meet Mr. Dunkel's definition of "cost-based"?

A. No, it does not. The original cost of plant in service is recovered using the straight line method over the lives of the assets in service. Based on Mr. Dunkel's use of the term "cost-based," depreciation accruals using the straight line method would not even recover the full cost of the assets in service.

Q. Can you provide an example to illustrate this point?

A. Yes. Mr. Dunkel provides a hypothetical example on page 52 of his Direct Testimony to illustrate his "cost-based" concept. In his example an asset is placed in service in 2013 with a 30-year service life. He also assumes an inflation rate of 3.7 percent

Mr. Dunkel's discussion is based on the retirement cost of the asset, but we will assume that the original cost to install the asset is $300,000, in today's dollars.

[94] Dunkel Direct Testimony, p. 53, lines 889-890.

The straight line recovery of the $300,000 over the 30-year service life recovers $10,000 per year. However, as Mr. Dunkel argues that future dollars will be worth less than today's dollars, the value in today's dollars of the actual depreciation expense charged to ratepayers will be less than $10,000 each year. For example, in the final year the asset is in service, the depreciation expense of $10,000 in 2042 dollars will only be worth $3,487 in today's dollars[95].

Based on a consistent application of Mr. Dunkel's "cost-based" concept, in today's dollars (that is, the "same value of currency" as when the cost is expended) only $186,035 of the $300,000 original cost is actually recovered. By Mr. Dunkel's logic, this would represent an under-charge. It should also be noted that the under-charge for the original cost of the asset is much larger than the "overcharge" for net salvage Mr. Dunkel presents in his testimony.

Q. Is Mr. Dunkel's "cost-based" concept consistently applied?

A. No. Mr. Dunkel only applies this concept to the future net salvage costs for the Company's assets. He does not apply this concept to any other part of the Company's depreciation expense. Thus, while Mr. Dunkel makes many incorrect accusations that the methodologies in the depreciation study are an attempt to increase depreciation expense; it is in fact Mr. Dunkel that takes the inconsistent approach. Mr. Dunkel's approach is only to apply this "cost-based" concept to the portion of depreciation that will *reduce* depreciation expense. Contrary to the long-established and widely accepted use of the straight-line method to recover the full service value of the Company's assets, Mr. Dunkel has proposed to radically change the depreciation

[95] Equal to $10,000 divided by 1.037^29.

methodologies in a way that will decrease depreciation expense in the short term but cost customers more in the long term.

Implementation of Mr. Dunkel's Proposal

Q. Mr. Dunkel claims that your method increases costs for future inflation, but does not apply a present value to those costs. Is this an accurate description of the traditional method?

A. No. The traditional method compares historical retirements to historical net salvage. Because these transactions are recorded at different price levels, there is some inflation included. However, he incorrectly characterizes this approach as calculating "net salvage in future inflated dollars"[96] or "effectively assuming future inflation will equal past inflation."[97] As I will demonstrate, the net salvage estimates in the depreciation study do not include the level of inflation included that Mr. Dunkel assumes in his calculations. As a result, his calculations in fact significantly understate the present value of current costs.

Q. Please provide an example to illustrate the actual impact of inflation on your estimates.

A. Consider Account 356, the calculations for which Mr. Dunkel has included in his testimony. Mr. Dunkel assumes that the net salvage estimate of negative 30 percent includes 60 years of inflation (based on the average service life for this account), and uses this as a starting point for his calculations. As a result, he gets a "present value" net salvage estimate of negative 13.3 percent.

[96] Dunkel Direct Testimony, p. 54, lines 910-911.
[97] Dunkel Direct Testimony, p. 54, lines 906-911.

However, the net salvage estimate was based on historical data that had far less inflation included. The most recent five year average net salvage in the historical data for this account was negative 31 percent. However, the retirements upon which this percentage is based were on average only 27.4 years old, not 60 years old. Thus, there is on average less than half of the years of inflation Mr. Dunkel assumes in his calculations.

Q. If there is much less inflation in the historical data, what should Mr. Dunkel's starting point have been?

A. To properly apply his methodology, Mr. Dunkel should have inflated the net salvage estimate further to include the number of years of inflation that would occur to the average service life. Applying an additional 32.6 years of inflation (60-27.4) to the negative 30 percent estimate would result in an inflated net salvage estimate of negative 78.6 percent[98]. Thus, the traditional method is actually very conservative in terms of the amount of inflation included in the estimates.

If this negative 78.6 percent amount is used as the starting point in Mr. Dunkel's model, the present value net salvage percent that results is negative 34.7 percent. That is, a properly calculated present value method actually results in a higher estimate for this account than my estimate under the traditional approach. Thus, Mr. Dunkel's application of his methodology is in fact significantly understating the present value of net salvage costs.

[98] Based on 3 percent inflation over 32.6 years.

Q. Have you done any further analysis to assess the reasonableness of the company's net salvage estimates?

A. Yes. After reviewing Mr. Dunkel's testimony, I have asked the Company for additional information to help demonstrate not only the reasonableness of the Company's net salvage estimates, but also that they are in fact very conservative estimates.

Q. Which plant account have you used for this analysis?

A. I have used Account 364 Poles, Towers, and Fixtures. The Company has a 2011 plant balance of $319,266,142 for this account, and I have estimated negative 80 percent net salvage for this account for Utah property in the depreciation study, which corresponds to approximately $255 million in future net salvage.

Q. Do you know how many poles the company has in service for this account?

A. Yes. The Company has approximately 379,000 poles.

Q. Has the Company estimated the cost to remove a pole?

A. Yes. The Company has provided an estimate of the cost to remove a typical pole, which currently is approximately $1,226.[99]

Q. Based on these figures, what is the current cost to remove all of the poles in the Company's Utah distribution system?

A. The removal of all poles would be approximately $464 million. Even with a 20 percent gross salvage, this represents net salvage of approximately $400 million.

[99] This is in fact the estimate for a fairly simple removal of a pole, as it assumes that the pole is clean, the lines are not energized, and there is a relatively short travel time. More complex jobs would be more expensive.

Q. How does this compare to the estimate in the depreciation study?

A. This is quite a bit higher than the net salvage costs estimated in the depreciation study, in which the negative 80 percnet net salvage estimate corresponds to approximately $255 million at year end 2011.

Q. What can you conclude based on these analyses?

A. This analysis demonstrates that the estimates in the depreciation study are in fact very conservative estimates of future net salvage costs. Indeed, for this account the net salvage estimate in the depreciation study results in much less net salvage than the current cost to remove the Company's poles in today's dollars.

Mr. Dunkel's discussions of inflation and present value overstate the impact of price level on the net salvage estimates. Had his methodology been properly applied, it would have taken into account both the actual level of inflation included in the historical data as well as the fact that the estimates in the depreciation study for many plant accounts are very conservative when compared to the historical data.[100]

Mr. Dunkel's approach begins with a very conservative estimate of future costs and reduces the value even further. This approach results in net salvage estimates that are far too low, and in many cases that are well below the current cost to remove assets. Indeed, for Account 364 the net salvage estimate in the depreciation study is only approximately 64 percent of the current cost to remove the Company's poles. Mr. Dunkel's estimate starts with the estimate from the depreciation study and reduces the costs further. His estimate of negative 34.4 percent only represents

[100] For Account 364, the historical net salvage data shows an average of negative 132 percent, while the estimate in the depreciation study is negative 80 percent.

approximately 27 percent of the *current* net salvage costs for removing the Company's poles.

Summary

Q. Please summarize your testimony on mass property net salvage.

A. Mr. Dunkel has proposed a radical change to the longstanding and widely accepted traditional straight line method for accruing for net salvage in depreciation rates. Mr. Dunkel has provided very little evidence that such a significant departure from the traditional ratemaking treatment for net salvage is either widely accepted or necessary, and as I have shown his methodology has rarely been accepted in the industry. As I have also demonstrated, his methodology defers costs to future customers and results in customer rates that are higher than the traditional method on a cost of service basis. I recommend that the Commission continue to adopt depreciation rates based on the traditional straight line method for accruing for net salvage.

VIII. CONCLUSION

Q. Does this conclude your rebuttal testimony?

A. Yes.