EXH. JJS-4T
DOCKETS UE-170033/UG-170034
2017 PSE GENERAL RATE CASE
WITNESS: JOHN J. SPANOS

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**Docket UE-170033** **Docket UG-170034**

PREFILED REBUTTAL TESTIMONY (NONCONFIDENTIAL) OF

JOHN J. SPANOS

ON BEHALF OF PUGET SOUND ENERGY

AUGUST 9, 2017

PUGET SOUND ENERGY

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PUGET SOUND ENERGY

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I. INTRODUCTION

Q. Are you the same John J. Spanos who submitted prefiled direct testimony on January 13, 2017, on behalf of Puget Sound Energy ("PSE") in this proceeding?

A. Yes, I filed direct testimony, Exh. JJS-1T, and supporting exhibits, Exh. JJS-2 through Exh. JJS-3.

Q. What is the purpose of your rebuttal testimony?

A. My rebuttal testimony responds to the depreciation-related issues in the response testimonies of Chris McGuire on behalf of the Washington Utilities and Transportation Commission Staff ("Staff"), Roxie McCullar on behalf of the Public Counsel Unit of the Washington State Office of the Attorney General ("Public Counsel"), and Bradley Mullins on behalf of the Industrial Customers of Northwest Utilities ("ICNU") and the Northwest Industrial Gas Users ("NWIGU"). Specifically, my testimony presents the following:

- A discussion of the recovery for Colstrip Units 1 and 2, which will be retired in 2022. I will explain that the various proposals of Staff, Public Counsel and ICNU will result in intergenerational inequity by

deferring the recovery of the costs of these units to future customers who receive no benefit from the plant. This issue will be addressed in more detail in the prefiled rebuttal testimonies of Katherine Barnard, Exh. KJB-17T, and Matthew R. Marcelia, Exh. MRM-1T.

- An explanation for the reason there is a large unrecovered balance for Colstrip Units 1 and 2 is due to past proposals to defer the recovery of these units. Not only does this support the equity of recovering the costs of Colstrip Units 1 and 2 over the units remaining service lives, but it also provides further reason to not defer the recovery costs of other assets, as Public Counsel witness Roxie McCullar proposes.

- A response to Ms. McCullar's proposals to arbitrarily reduce the future net salvage incorporated into PSE's depreciation rates. Ms. McCullar's proposals are not based on sound depreciation methods or principles and will only result in deferring costs to future customers who will have to pay the costs of assets from which they receive no service.

Q. Have any of the parties challenged any depreciation issues other than Colstrip Units 1 and 2?

A. The only party to challenge any depreciation-related issues other than Colstrip Units 1 and 2 is Public Counsel. Both Staff and ICNU have not challenged any other parts of the depreciation study.

Q. How will you address each of these issues in your rebuttal testimony?

A. I will address each of these issues in detail in my rebuttal testimony, starting with Colstrip Units 1 and 2 and then moving to the other issues raised by Public Counsel. However, first I provide a discussion of general depreciation concepts, including the concept of intergenerational inequity. These general concepts are critical to understand in order to determine the most reasonable and equitable depreciation rates. For example, each of the other parties' proposals for Colstrip Units 1 and 2 results in deferring the costs of this plant to future customers, who will not benefit from the use of the plant. Therefore these proposals result in intergenerational inequity.

Further, as I explain in Section III, the current situation for Colstrip Units 1 and 2 is the result of deferring the recovery of this plant in the past. In the instant case, Public Counsel has proposed to defer the costs of other Company assets to the future. Not only is this inequitable, but it also increases the risk that in the future the Commission, PSE and customers would be faced with situations that are similar to Colstrip Units 1 and 2. This is one of many reasons why Public Counsel's recommendations should not be adopted.

II. DEPRECIATION CONCEPTS AND INTERGENERATIONAL EQUITY

Q. What is depreciation?

A. Depreciation is defined in the FERC Uniform System of Accounts ("USofA"):

> 12. *Depreciation*, as applied to depreciable electric plant, means 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 are known to be in current operation and against which the utility 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 requirements of public authorities.

Q. What is the objective of depreciation?

A. The objective of depreciation is to allocate, in a systematic and rational manner, the full cost of an asset (original cost less net salvage) over its service life. The USofA requires this in General Instruction 22-A:

> *Method*. Utilities must use a method of depreciation that allocates in a systematic and rational manner the service value[1] of depreciable property over the service life of the property.

Thus, the USofA confirms that depreciation represents the allocation of the full costs of a company's assets (original cost less any net salvage) over their service lives – that is, over the period of time the assets are providing service. Costs are allocated over the service lives of the assets so that customers pay for the costs of the assets that provide them service. Current customers should not pay for the costs of assets that have already been retired or those not yet in service. Similarly future customers should not have to pay for the costs of assets that are no longer in service because current customers pay too little for their service.

[1] The USofA defines service value as the original cost less net salvage.

Q. What is the definition of service life?

A. The USofA defines service life as follows:

> 36. *Service life* means the time between the date electric plant is includible in electric plant in service, or electric plant leased to others, and the date of its retirement. If depreciation is accounted for on a production basis rather than on a time basis, then service life should be measured in terms of the appropriate unit of production.[2]

As discussed previously, one of the issues in this proceeding is the retirement of Colstrip Units 1 and 2, which will occur in 2022. Thus, the service life for an asset at this plant is the time from the assets' installation until its retirement in 2022. Therefore the USofA definition requires the costs of the assets at Colstrip Units 1 and 2 to be recovered through depreciation by 2022.

Q. What is the concept of "intergenerational equity"?

A. Intergenerational equity is a ratemaking principle in which customers receiving the benefit from the use of an asset (e.g., from electric utility property used to provide electric service) are the same customers who pay the cost of that asset. There are actually two related concepts when considering intergenerational equity as it pertains to depreciation. The first is the inequity that results from a situation in which customers pay for assets from which they receive no service. For example, if a power plant is retired before becoming fully depreciated, then customers subsequent to the retirement will have to pay for an asset from which they are not receiving service. This is inequitable, as one generation of customers

[2] FERC USofA, Definition 36.

bears the cost of an asset from which they receive no service (and that provided service to an earlier generation). The second concept is instead related to the distribution of depreciation charges over the life of an asset. For example, if depreciation expense is higher in the earlier years of an assets life and lower in later years (or vice versa), this could also be considered inequitable because one generation of customers pay a higher share than a different generation.

In my view, the first concept related to intergenerational equity is more harmful to customers than the second. That is, there is a greater degree of inequity that results from a customer paying for an asset that only provided service to other generations of customers – and not to him or her – than results from one generation paying somewhat more or less than a previous generation for the same asset. Additionally, I would add that depreciation is necessarily a forecast of future events (such as the actual retirement date of a power plant) that will occur many years in the future. It is therefore nearly impossible to perfectly allocate costs equally over the lives of a utility company's entire asset base. However, if the temptation is resisted to increase service lives and reduce estimates of removal costs to unreasonable levels for the purpose of reducing depreciation expense in the short term (as, for example, Public Counsel proposes in this proceeding), then the risk of the inequity of having future customers pay for assets from which they receive no service can be mitigated, if not eliminated.

III. COLSTRIP UNITS 1 AND 2 RETIREMENT

A. General

Q. Please explain the issues related to Colstrip Units 1 and 2 in this proceeding.

A. As acknowledged by each of the other parties, Colstrip Units 1 and 2 will be retired in 2022. Because depreciation rates in the past were not at a sufficient level to allocate the costs of these units over their actual service lives, a substantial portion of the costs of these units – both original cost and future terminal net salvage – remain to be recovered from customers. These costs need to be recovered over the remaining period of time the plant will be in service – that is, through 2022 – or else future customers will have to pay the costs of a power plant from which they do not receive service.

Q. What have you proposed in the depreciation study?

A. I have proposed depreciation rates that will recover the costs of the plant over its remaining service life (through 2022) using the straight line method. This proposal is consistent with the USofA and the concept of intergenerational equity, as discussed in Section II. While my study also incorporated a provision for the future net salvage for Colstrip Units 1 and 2, PSE has since proposed an alternative mechanism for the recovery of these costs.

Q. Is your proposal accelerated depreciation?

A. No. While some of the other parties' testimonies imply that PSE's proposal is accelerated depreciation,[3] these implications are incorrect. Accelerated depreciation is a method in which a higher level of depreciation is allocated to the early years of an assets life and a smaller amount is allocated to the later years of an assets' life. My recommendation uses the straight line method, which allocates an equal amount to each period of an assets' service life. However, as I will discuss, in the time since the most recently filed depreciation study, the depreciation rates have been lower than they should have been based on the current retirement date of 2022. Thus, since 2008, when the depreciation rates from the previous depreciation study were implemented, customers have paid too little of the cost of service provided by Colstrip Units 1 and 2. In order to recover the costs of these units over the time they will provide service, depreciation expense has to be higher for the remaining period of these units' lives. The result is actually closer to a deferred pattern of recovery – in which more is recovered in the later years of an assets' life than in the early years – than to an accelerated pattern of recovery.

Q. What have the other parties proposed?

A. Staff, Public Counsel and ICNU each have a somewhat different proposal. However, each shares a common theme – each party believes that future

[3] For example, Mr. McGuire states on page 15 of his testimony that "PSE proposes to accelerate recovery of Colstrip Units 1 and 2…" and Mr. Mullins refers to "…the Company's proposed use of accelerated depreciation…" on page 5 of his testimony.

customers should pay the costs of Colstrip Units 1 and 2 after the facility is retired. These proposals will by definition result in intergenerational inequity, as future customers will be forced to pay the costs of a facility from which they receive no service.

Q. Please further comment on ICNU's proposal.

A. ICNU witness Bradley Mullins recommends an unidentified term of end-of-life accounting to address the recovery of Colstrip Units 1 and 2. First, this is not a recognized term in utility accounting or authoritative text in depreciation. Second, Mr. Mullins references the recovery of the full service value of Colstrip Units 1 and 2 over their useful life as accelerated depreciation, which is incorrect. Based on the USofA, the full service value should be recovered over the useful life. This is not referred to as accelerated depreciation or end-of-life accounting. Finally, Mr. Mullins end-of-life accounting concept requires customers beyond 2022 to pay for costs of the facility which they did not receive benefit.

Q. Staff notes that close to half of the plant has not been recovered by September 30, 2016. Please explain why this has occurred.

A. One of the primary reasons this has occurred is because the current depreciation rates incorporate an anticipated retirement date of 2035. However, this retirement date was not what was proposed by PSE in the 2006 Depreciation Study,[4] which

[4] PSE's 2006 Depreciation Study was filed in PSE's 2007 general rate case, Dockets UE-072300/UG-072301.

was conducted by my firm. Instead, that study recommended a retirement date of 2019, which is relatively close to the actual retirement date of Colstrip Units 1 and 2. As noted by ICNU witness Bradley Mullins, Staff and Public Counsel proposed to increase the life of the facility in that filing, and the 2035 retirement date was eventually agreed to in settlement.

Q Was it incorrect to use the 2035 retirement date that resulted from that filing?

A. Objectively, yes it was, since the plant will close in 2022. Ideally, a retirement date of 2022 would have been used from the original installation of the facility. Because a 2035 retirement date has been used since the last depreciation study, current customers have paid less than their fair share for the facility. This can be seen clearly in Figure 1 of on page 14 of Mr. McGuire's testimony, which shows a pronounced drop in depreciation expense in 2008 – immediately following the previous depreciation study.

However, depreciation is necessarily a process of estimating the future, and because it is impossible to perfectly know the future with certainty, estimates can and will change over time. My point is not to criticize a previous decision to use a 2035 retirement date, but instead to point out that the current situation is the result of choosing to defer the recovery of the costs of Colstrip Units 1 and 2. While this may have lowered customer rates for the past decade, it has left the Commission with a less than ideal set of choices – either significantly increase depreciation expense in the near term through the remaining life of the facility, or defer the

costs to future customers who will receive no benefit from the plant. While neither of these choices is ideal, in my view the first choice, recovering costs through the remaining life of the facility, is more equitable because current customers have paid too little for the use of Colstrip Units 1 and 2.

Q. Why is it important to understand that the current situation for Colstrip Units 1 and 2 is the result of a previous decision to defer depreciation expense?

A. This is important for two reasons. One is related to the most equitable resolution of the recovery of the Colstrip units themselves. Because current customers have generally paid less than their fair share since 2008, it is not unreasonable to ask those customers to pay a higher share over the remaining life of the facility. In my view, this is more equitable than asking future customers – who will receive no service at all from these units – to pay for their costs.

The second reason is that Public Counsel has again proposed to defer depreciation expense to future customers, this time related to future net salvage costs for PSE's property. The experience of Colstrip is instructive of the risks – both to PSE and to customers – of deferring depreciation expense to the future. This experience should provide further reason to reject Public Counsel's net salvage proposals.

B. Staff and Intervenor Proposals Will Result in Intergenerational Inequity

Q. What are the specific proposals presented by each party?

A. As discussed above, my recommendation is for the straight line recovery of the costs of Colstrip Units 1 and 2 over the units' remaining useful lives. This approach is consistent with the USofA, which requires that depreciation allocates the costs of an asset over its service life, and ensures that only customers that have benefited from Colstrip Units 1 and 2 will pay for the facility.

Staff witness Chris McGuire proposes to adjust the book reserve for the plant to a theoretical level, and use this adjusted reserve to calculate depreciation expense and rate base. He then proposes to amortize the amount of the reserve adjustment over 18 years, and additionally proposes that PSE not be entitled a return on this amount. Therefore, Mr. McGuire proposes to recover a portion of the costs of Colstrip Units 1 and 2 over a period of time after the plants retire. I note that the theoretical reserve amount calculated by Staff is incorrect, which I will discuss in more detail in Section III.C, below. If Staff's method were applied correctly, it would produce a much different result than Staff's proposal.

Public Counsel witness Roxie McCullar proposes that a portion of the book reserve be transferred to other steam production plants, including PSE's combined cycle facilities. These Colstrip Units 1 and 2 costs will therefore be recovered over the remaining lives of the other plants in steam production, which means customers would still be paying for Colstrip Units 1 and 2 for 25 years after the plants are retired. I note that Public Counsel's proposal also has calculation issues,

as Ms. McCullar has not properly accounted for the age of many of PSE's facilities. I will explain this in more detail in Section III.D.

ICNU witness Bradley Mullins proposes that the current depreciation rates for Colstrip Unit 1 and 2 be continued through the end of the life of the plant, and that the projected unrecovered balance for the plant be amortized over a ten year period through 2029. Under this proposal, customers would pay for the costs of Colstrip Units 1 and 2 for seven years after the plant is retired.

Q. What is the primary difference between your proposal and that of the other parties?

A. The primary difference is that my proposal will recover the costs of Colstrip Units 1 and 2 over the service lives of these units. Thus, the only customers who will pay for the original cost of the plant will be those who received service from the units. This is, in my view, the most equitable proposal, as it is the only proposal that does not force future customers to pay for a plant from which they receive no service. Further, as discussed in the previous section, customers since 2008 have not paid an equitable share of the costs for Colstrip Units 1 and 2 because a 2035 retirement date was incorporated into the depreciation rates for these units. Thus, because current customers have paid less than their fair share, it is fair to ask them to pay more for the plant from now until its retirement in 2022.

In contrast, each of the other parties' proposals will force future customers to pay for the costs of a plant from which they receive no service. By definition, their proposals produce intergenerational inequity. Each party's proposal would be

unfair to future customers, who would bear the resulting costs from current customers not paying their fair share for the past decade.

C. Calculation Issues in Staff's proposal

Q. Please explain the calculation issues in Staff's proposal.

A. Staff's proposal is based on Mr. McGuire's calculation of what the net plant in service would be if depreciation had been "perfectly allocated" from the installation of Colstrip Units 1 and 2.[5] In other words, Mr. McGuire attempts to calculate a theoretical level of accumulated depreciation, or theoretical reserve. He calculates the theoretical reserve to be about $285 million, resulting in a theoretical net plant value of $30,624,473. However, Mr. McGuire's calculation is incorrect because he assumes that all of the assets at the Colstrip plant were installed with the original construction of the plant in 1975 and have a 47 year service life. This assumption is incorrect – many assets were installed subsequent to 1975. As a result, the correct theoretical reserve is about $211 million and the correct theoretical net plant is about $105 million. Thus, Mr. McGuire's calculation is off by more than $74 million.[6]

[5] See the Response Testimony of Chris R. McGuire, Exh. CRM-1T at 29:1-2.

[6] Similar to Mr. McGuire's calculations, I have excluded net salvage from the calculation of the theoretical reserve, as net salvage is proposed to be recovered via a separate mechanism for Colstrip Units 1 and 2.

Q. Please provide an example to demonstrate that Staff's calculation is incorrect.

A. Consider, for example, Account 312 Boiler Plant Equipment for Colstrip Unit 1. This depreciable group has a total plant balance as of September 30, 2016 of $88,145,748. In Mr. McGuire's calculation, he assumes that this full amount was installed in 1975. This is incorrect. As can be seen on page IX-10 of PSE's depreciation study, Exh. JJS-3, only about $29 million was installed in 1975. That is, less than a third of the assets in this account for Colstrip Unit 1 were installed in 1975. Instead, over half of the balance for this depreciable group has been installed since 2001. These assets will not have a 47 year life, and instead will have a shorter service life. For example, the assets installed in 2001 will have a 21 year service life, not a 47 year life.

Q. How should the theoretical reserve be calculated?

A. The theoretical reserve must incorporate the age of the assets and the actual service lives for each vintage of plant. I have performed this calculation, which I include as Exh. JJS-5 of this testimony. Exh. JJS-5 shows that the theoretical reserve is about $211 million and the corrected theoretical net plant is about $105 million – more than $74 million more than the amount calculated by Staff.

Q. How does correcting these calculations affect Staff's proposal?

A. Staff's proposal results in a depreciation expense for Colstrip Units 1 and 2 of $6.8 million and an amortization expense of $7.1 million, for a total expense of

$13.9 million. However, these amounts are premised on an incorrect calculation of the theoretical reserve and theoretical net plant for Colstrip Units 1 and 2. If the corrected numbers discussed above are utilized, then the annual depreciation expense for these units would be $18.5 million. The theoretical net plant to be amortized would be $30.6 million (instead of the $127.6 million calculated by Staff). Amortizing this amount over 18 years results in an annual amortization amount of $2.9 million. Thus, under Staff's proposal, the total accruals should be approximately $21.5 million – not the $13.9 million Staff has proposed. That is, Staff should have proposed an additional $7.6 million in annual depreciation and amortization expense. Further, rate base should be higher under Staff's proposal. PSE witness Katherine Barnard presents the impact of the higher rate base in her prefiled rebuttal testimony, Exh. KJB-17T.

D. <u>Calculation Issues in Public Counsel's Proposal</u>

Q. Are there technical issues with Public Counsel's proposal?

A. Yes. Public Counsel proposes to allocate a portion of Colstrip Units 1 and 2 book reserves to other plants within steam production plant. Public Counsel uses a theoretical reserve calculated for the different generating units as the basis for this allocation. A theoretical reserve calculation is a function of the estimated life and net salvage estimates, as well as the vintages of plant in service in the calculation. However, for many of the combined cycle plants the vintages on PSE's books are the date the plant was acquired, not the date it actually was placed into service. For example, as can be seen in Table 3 on page 10 of Ms. McCullar's testimony,

the plants with the largest reserve imbalances (referred to by Ms. McCullar as a surplus or deficiency) for Account 312, Boiler Plant Equipment are Goldendale, Sumas and Ferndale. The vintage years used to calculate these amounts are 2007 for Goldendale, 2008 for Sumas and 2012 for Ferndale. However, Goldendale was actually placed into service in 2004, Sumas in 1993, and Ferndale was actually placed into service in 1994. By using the acquisition dates as the vintage years for the theoretical reserve calculation, Ms. McCullar has understated the theoretical amount of depreciation that has occurred for each plant. The result is that the amounts Ms. McCullar refers to as a "surplus" are not reflective of the actual length of time these plants have depreciated. If the vintage years corresponding to the actual dates these assets were placed in service are used, then the actual reserve imbalance is close to $20 million less than shown in Ms. McCullar's table.

IV. PUBLIC COUNSEL'S NET SALVAGE PROPOSALS

Q. What has Public Counsel proposed with regard to net salvage?

A. Public Counsel witness Roxie McCullar makes two distinct, although related proposals with regard to net salvage. The first proposal is related to the terminal net salvage for PSE's power plants. The second is related to net salvage for mass property (e.g., electric poles and wires, gas mains). In both instances, Public Counsel's proposals reduce the amount of net salvage included in depreciation rates and defer these costs to future customers.

I will first address net salvage for mass property, and I will explain that Ms. McCullar's proposal is not based on accepted depreciation practices. Her proposals instead appear arbitrary and designed only to reduce depreciation expense and defer costs to future customers who will, as with her proposal for Colstrip Units 1 and 2, have to pay the costs for assets that no longer provide service. I will then address her proposals for terminal net salvage.

A. Mass Property Net Salvage

i. Introduction

Q. What is mass property net salvage?

A. Net salvage as used in depreciation is defined as gross salvage less cost of removal. When an asset is retired it may have scrap or reuse value, which is gross salvage. There is also a cost to retire the asset. For example, the retirement of an electric distribution pole typically requires a multiple person crew and heavy equipment to remove the pole from the ground and cut the pole for disposal. There may also be disposal costs for the pole. All of these costs associated with the retirement are cost of removal.

Most types of utility property typically experience negative net salvage, meaning that cost of removal exceeds gross salvage. This is true of many of PSE's assets. PSE's actual experience demonstrates that for many types of transmission and distribution assets there are significant costs to retire the assets and these costs generally exceed any gross salvage value.

Q. How is net salvage estimated?

A. Net salvage is expressed as a percentage of the original cost retired. For example, if an account has a net salvage estimate of negative 50 percent, then a $1,000 asset would be expected to, on average, cost $500 to retire, net of any gross salvage. Net salvage estimates are based on a combination of statistical analysis of historical data as well as informed judgment that incorporates other factors.

Q. How is the statistical analysis performed?

A. The standard (traditional), accepted method to estimate net salvage is based on a statistical analysis performed by comparing historical cost of removal and gross salvage to historical retirements as recorded in a utility's property records. By analyzing both annual activity and longer and shorter term averages of the experienced net salvage expressed as a percent of retirements, these data provide a statistical basis for estimates of net salvage.

Q. Is the approach for estimating net salvage you have used in the depreciation study widely accepted?

A. Yes. As I will discuss further, the method I have used is consistent with the approaches described in authoritative depreciation texts.

Q. What has Public Counsel proposed?

A. Public Counsel's witness is not clear on the actual method used, and instead her net salvage estimates appear to be developed arbitrarily based on a false premise that net salvage accruals should be similar to recent net salvage expenditures. Ms.

McCullar presents a comparison of net salvage accruals (i.e., the portion of depreciation expense related to net salvage) with the net salvage expenditures incurred by PSE in recent years. I should first be clear that Public Counsel's approach is not a particularly meaningful comparison. Indeed, if it is taken to its logical extension, Ms. McCullar believes that the annual net salvage accruals in a given year should be the same as (or at least approximate) the costs incurred during that year. This would, in effect, recover net salvage as an operating expense instead of recovering the service value of assets over the assets' service lives. This occurs because Ms. McCullar's approach does not provide for recovery of the full net salvage that will be incurred for plant currently in service, and instead would only recover costs that have already been incurred after the assets are retired. The result of Public Counsel's approach is lower revenue requirements today but deferral of recovery to future customers, with a net result of recovery of less than the full amount of removal costs.

Q. Can you explain further the differences between the traditional method and Public Counsel's approach?

A. Yes. When using the traditional method, net salvage is estimated as a percentage of the original cost of plant. The statistical analysis used in estimating net salvage is based on comparing historical net salvage expenditures to historical retirements. This methodology, which to my knowledge is supported by all authoritative depreciation texts, provides a reasonable basis for net salvage estimation because the amount of net salvage expended in a given year is a

function of the number of assets retired in that year. That is, if PSE were to retire 1,000 poles in one year, it should be expected to have a higher total net salvage cost than if it were to only retire 100 poles. Therefore, it is reasonable to expect net salvage to increase in proportion to the amount of retirements that occur. The traditional method recognizes this relationship. This relationship is important because most companies (including PSE) are expected to have more retirements in the future than they have had historically.

Q. Does Public Counsel's method recognize this important relationship?

A. No, it does not. Ms. McCullar's general methodology fails to recognize that net salvage is a function of the number of assets retired in a given year. By focusing on only the recent net salvage expenditures, Ms. McCullar is effectively assuming that PSE will experience the same net salvage costs independent of whether it retires 100 poles or 1,000 poles. As I will explain in the next section, her approach is not consistent with standard depreciation practices.

ii. <u>Authoritative Depreciation Texts</u>

Q. Do authoritative texts support your approach to estimating net salvage?

A. Yes, they do.

Q. Do these texts support Ms. McCullar's approach?

A. No.

Q. Which texts support your approach?

A. Two widely cited, preeminent depreciation texts are the National Association of Public Regulatory Utility Commissioners' ("NARUC") *Public Utility Depreciation Practices* (the "NARUC Manual") and *Depreciation Systems* by Wolf and Fitch ("Wolf and Fitch"). Each explains that net salvage should be accrued over the life of the related property and should be estimated using the methodology I have used.

Q. Is Ms. McCullar familiar with these texts?

A. Yes. On page 4 of her testimony, Exh. RMM-1T, Ms. McCullar states that she "[c]onsidered the accepted depreciation practices, including those contained in the *Public Utility Depreciation Practices* published by the National Association of Regulatory Utility Commissioners (NARUC)." Her firm has also cited Wolf and Fitch in previous testimonies in other jurisdictions.

Q. Do either of these texts support Ms. McCullar's methodology or her arguments regarding the approach to estimating net salvage?

A. No. Both texts support the methodology I have employed. Neither supports the method of estimating net salvage Ms. McCullar has used.

Q. Please explain.

A. The NARUC Manual states on page 157:

> Historically, most regulatory commissions have required that both gross salvage and cost of removal be reflected in depreciation rates. The theory behind this requirement is

> that, since most physical plant placed in service will have some residual value at the time of retirement, the original cost recovered through depreciation should be reduced by that amount. Closely associated with this reasoning is the accounting principle that revenues be matched with costs and the regulatory principle that utility customers who benefit from the consumption of plant pay for the cost of that plant, no more, no less. The application of the latter principle also requires that the estimated cost of removal of plant be recovered over its life.

The 1994 edition of *Depreciation Systems* states on page 7:

> The matching principle specifies that all costs incurred to produce a service should be matched against the revenue produced. Estimated future costs of retiring of an asset currently in service must be accrued and allocated as part of the current expenses.

Thus, both of these texts use mandatory language when describing the traditional approach of accruing "retirement" or "removal" costs over the life of the plant.

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

A. Yes. Both explain that net salvage is expressed as a percentage of original cost and is estimated using the same methods employed in PSE's depreciation study.

Q. How does NARUC explain how net salvage is estimated?

A. NARUC explains that "net salvage is expressed as a percentage of plant retired by dividing the dollars of net salvage by the dollars of original cost of plant retired."[7] This is exactly the methodology I have used in PSE's depreciation studies.

[7] NARUC Manual, p. 18.

Q. How do Wolf and Fitch explain how net salvage is estimated?

A. Wolf and Fitch also explain that net salvage is expressed as a percentage of the original cost of plant retired, noting "the SR [Salvage Ratio] is the salvage divided by the original cost of the retirements and usually is expressed as a percentage."[8]

Q. Do any authoritative depreciation texts support the Public Counsel's method?

A. I am not familiar with any. Presumably, neither is Ms. McCullar because the sources she has cited support the method I have used.

iii. Issues with Public Counsel's Analysis of Net Salvage for Certain Accounts

Q. Please address Ms. McCullar's discussion of net salvage for gas mains on pages 21 through 24 of her testimony.

A. Ms. McCullar uses Gas Account 376.2 Mains Plastic and Gas Account 376.4 Mains – Wrapped Steel as an example to support her position and approach to estimating net salvage. However, these accounts demonstrate a number of flaws in Ms. McCullar's approach. Both accounts are relatively young, particularly when compared to the overall average service life for each account, and as a result both retirements and net salvage should be expected to occur at much higher levels in the future than has occurred in recent years. Given the age of these accounts, it would be particularly inappropriate to base a net salvage estimate on

[8] Wolf and Fitch, p. 261. Note that, in this context, Wolf and Fitch use the term "salvage" to mean "net salvage."

recent net salvage cost levels. However, this is precisely what Ms. McCullar has used as the basis for her proposal.

Q. Please explain why retirements and net salvage should be expected to be higher in the future for these accounts.

A. Consider Account 376.2 Mains – Plastic, which is relatively new technology in the long history of the gas industry. As a result, all of the assets in this account are relatively new. As can be seen on pages IX-196 and IX-197 of the depreciation study, Exh. JJS-3, all the assets in this account have been installed since 1973, and the vast majority have been installed since 1987. Thus, all of the assets are less than 44 years old, and the vast majority are less than 30 years old.

However, these assets are expected to have relatively long lives. The estimate in the depreciation study is the 60-R3 survivor curve, which has a 60-year average service life. I note that no party has challenged this estimate, and there is no disagreement on the record that the assets in this account are expected to experience service lives in accordance with the 60-R3 survivor curve.

Figure 1: Frequency Curve for 60-R3 Survivor Curve

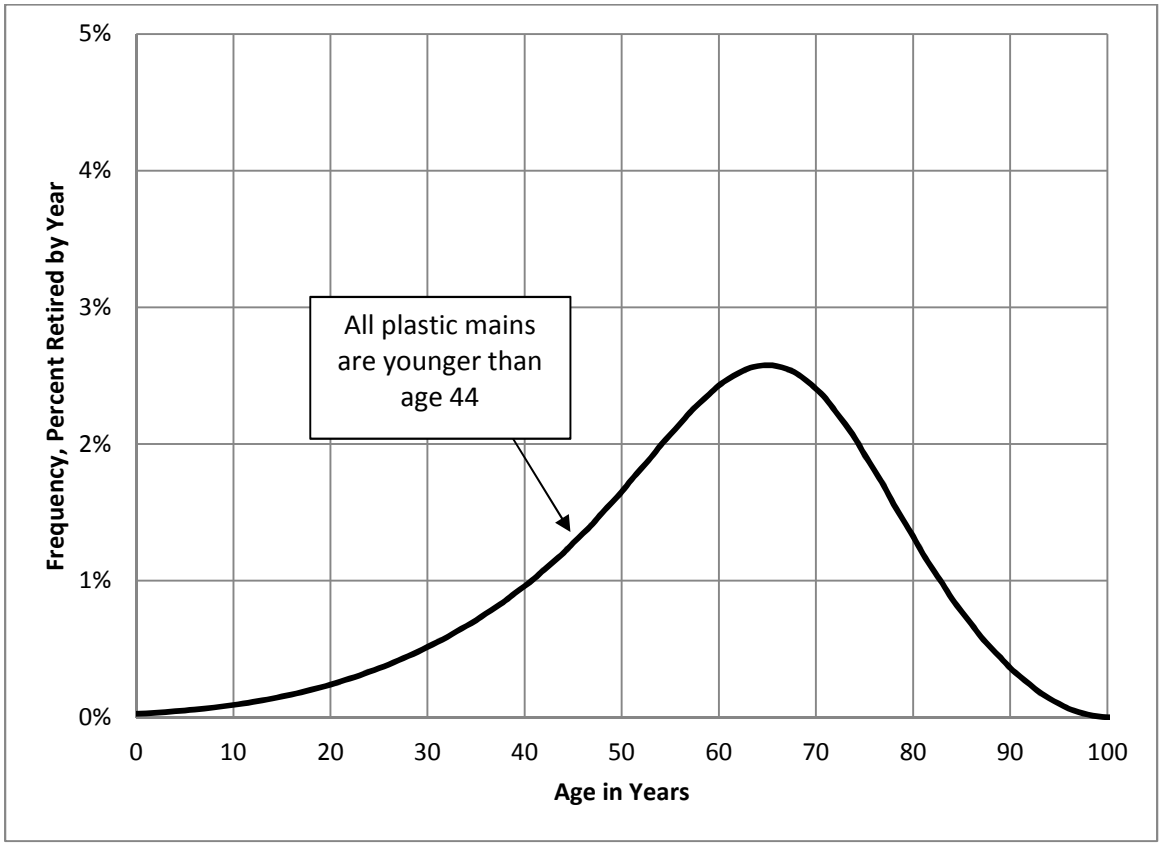


Figure 1 above shows the frequency curve for the 60-R3 survivor curve estimated for this account. The frequency curve shows the percentage of original installations that are expected to retire at each age. As the chart illustrates, the highest level of retirements occur in the 50 to 80 year range, with the highest level of retirements occurring somewhat after age 60. However, as noted in the chart (and discussed above), all of the assets in this account are younger than 44 years of age – and the vast majority are younger than 30 years of age. For this reason,

many more mains should be expected to retire on an annual level in the future than has occurred in the recent past.[9]

Q. If more plastic mains are retired in the future, does this also mean a higher level of negative net salvage will occur in the future?

A. Yes. Further, because there will be higher negative net salvage in the future, and because the USofA and the principle of intergenerational equity require that these costs be allocated over the service lives of the assets, this means that the depreciation accruals for net salvage should be expected to be higher today than the net salvage expenditures currently being recorded. Ms. McCullar appears to be of the mistaken impression that it is problematic for net salvage accruals to exceed recent net salvage costs. However, as I have demonstrated above, net salvage accruals for this account have to be higher than current net salvage costs in order to properly, and equitably, accrue for future net salvage costs.

Q. Is there another issue with Ms. McCullar's proposal for these accounts?

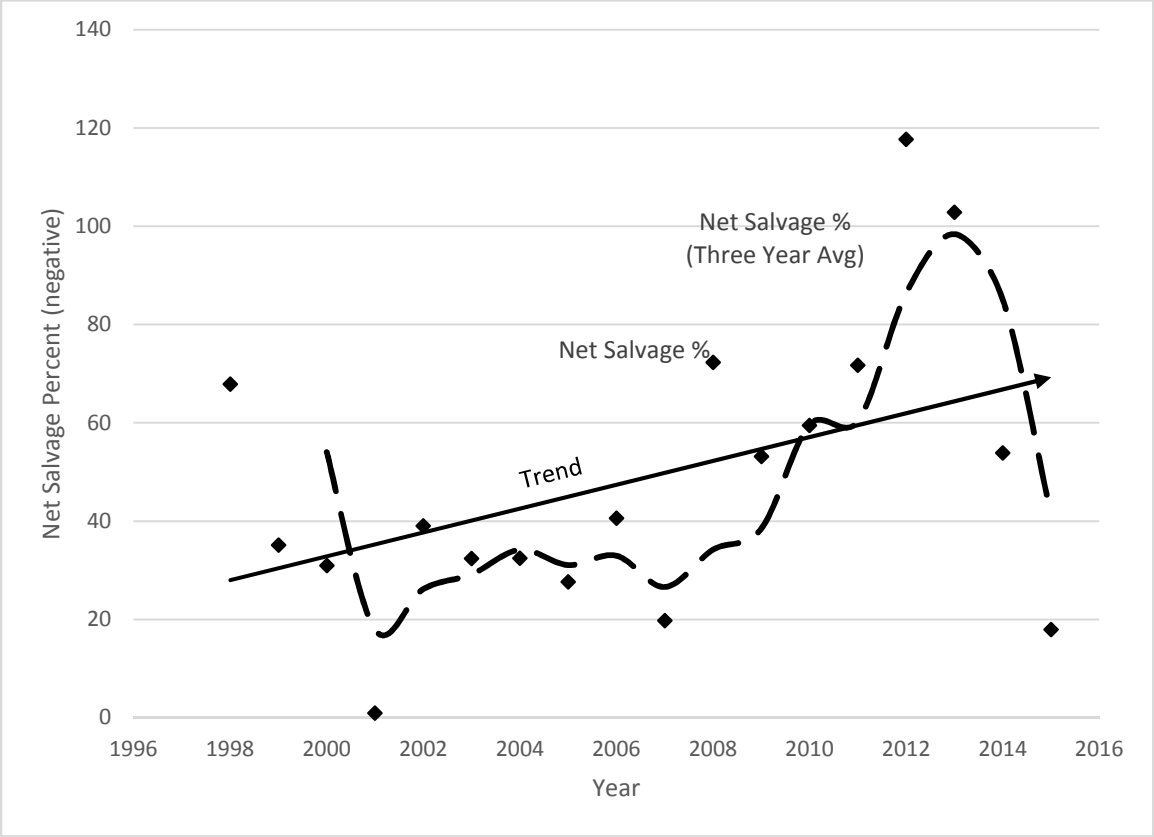
A. Yes. The currently approved estimate for these accounts is negative 35 percent. The net salvage data for this account is shown on page VIII-71 of Exh. JJS-3. When one reviews the data, and the three-year moving averages in particular, it is apparent that while the data supported an estimate of negative 35 percent in the early to mid-2000s, the data now supports a more negative estimate. For example,

[9] I note here that this will be true on both a dollar and unit basis. That is, a larger number of mains should be expected to occur on an annual basis in the future, and a higher dollar level of retirements should be expected.

the most recent five year average is negative 55 percent. Thus, the data, when properly analyzed using standard methods, supports my recommendation of a negative 50 percent net salvage estimate. However, Public Counsel has proposed the exact opposite of the trend in the data: a less negative net salvage estimate of negative 20 percent.

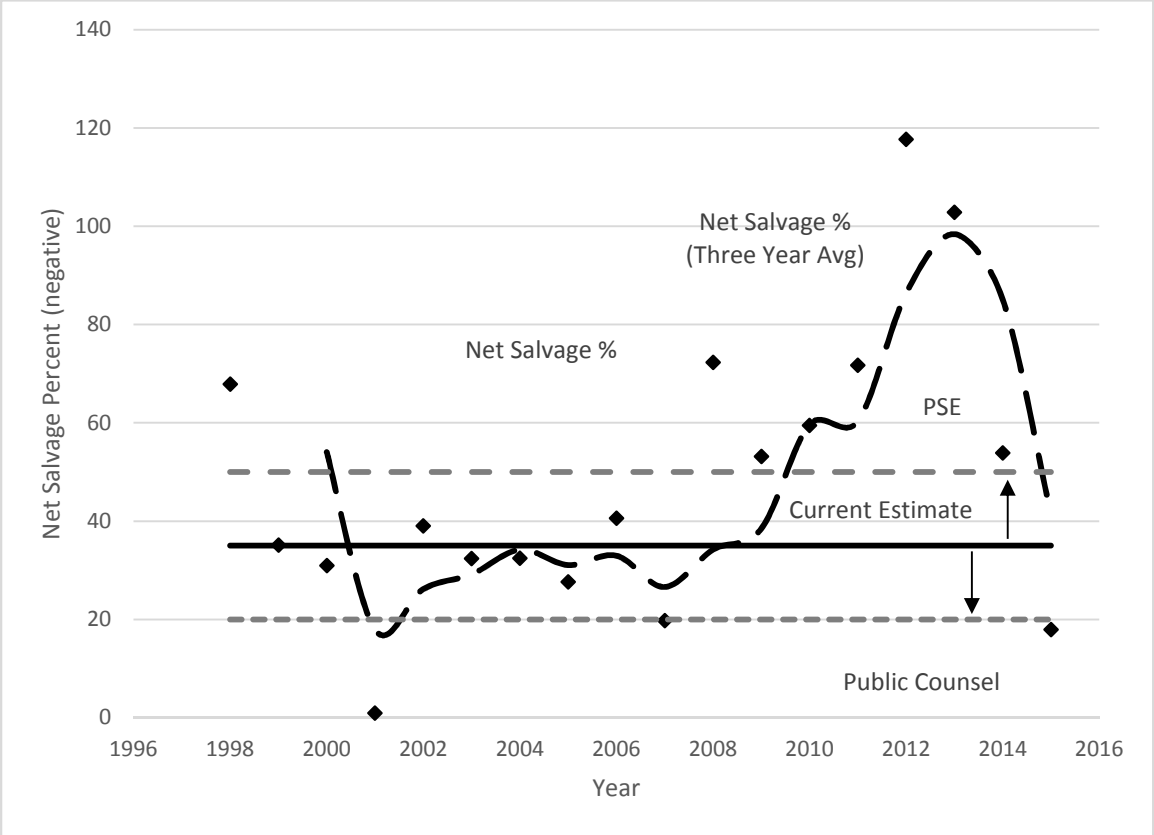
The issues with Public Counsel's estimate are further illustrated in the chart below, which shows the annual and three-year moving average net salvage percentages for the full period of study. As can be seen in the three-year averages, the net salvage percentages were close to negative 35 percent prior to 2008, but have since trended higher. This is further illustrated on the chart with the best fitting trend-line from the net salvage data. This trend also shows that a more negative net salvage estimate is appropriate for the current study.

Figure 2: Net Salvage Trend for Accounts 376.1 through 376.4 and Account 376.6



The issues with Ms. McCullar's estimate for this account can be seen further in Figure 3 below. This chart shows 1) the current estimate, 2) my estimate (labeled "PSE"), and 3) Ms. McCullar's estimate (labeled "Public Counsel"). As the chart illustrates, the data since 2008 supports a more negative net salvage estimate than the current estimate, which is reflected in my estimate. However, Ms. McCullar has proposed the opposite, with a less negative 20 percent. It should be clear that her estimate is inadequate – there has not been a three year average of negative 20 percent since the early 2000s.

Figure 3: Comparison of Net Salvage Data to Net Salvage Estimates for Accounts 376.1 through 376.4 and 376.6



Q. Do Ms. McCullar's other mass property net salvage estimates suffer from similar issues to those for account 376.2?

A. Yes. Ms. McCullar has used a similar approach for her other estimates, and as a result all of her recommendations have similar flaws to those discussed in this section.

B. Terminal Net Salvage

Q. What is terminal net salvage?

A. Terminal net salvage is a type of net salvage related to life span property. Life span property is a term used to describe facilities such as power plants for which all assets at the facility will be retired concurrently when the entire facility is retired. The retirement of the entire facility (such as the retirement of Colstrip Units 1 and 2 in 2022) is a "final retirement" or "terminal retirement." The retirement or replacement of components prior to the terminal retirement are "interim retirements." Life span property also experiences two types of net salvage. "Interim net salvage" is net salvage associated with interim retirements and "terminal net salvage" or "final net salvage" is the net salvage associated with final retirements.

Q. What is Public Counsel's issue with your terminal net salvage proposals?

A. Public Counsel argues that terminal net salvage costs should be expressed in today's price levels, as opposed to escalated to reflect the best estimate of the actual cost that will be incurred by PSE upon retirement. However, Public Counsel's proposal is a deferral of costs to future customers, and it will not result in the full recovery of the costs associated with PSE's power plants through straight line depreciation rates. Her proposal therefore increases the risk of similar situations occurring in the future to the current situation for Colstrip Units 1 and 2, in which there are a higher level of unrecovered costs that need to be recovered over a relatively short period of time.

Q. Is net salvage to be recovered in today's cost (i.e. The cost in today's dollars)?

A. No. In order to recover the service value of PSE's assets, net salvage must be determined at the cost that will be incurred in the future. Under the straight line method of depreciation, these costs are recovered ratably, or in equal amounts each year, over the life of PSE's power plant.

Q. Is recovering the future cost of net salvage consistent with the uniform system of accounts?

A. Yes. The USofA defines net salvage as follows:

> 19. *Net salvage value* means the salvage value of property retired less the cost of removal.

Cost of removal is defined as:

> 10. *Cost of removal* means the cost of demolishing, dismantling, tearing down or otherwise removing electric plant, including the cost of transportation and handling incidental thereto. It does not include the cost of removal activities associated with asset retirement obligations that are capitalized as part of the tangible long-lived assets that give rise to the obligation. (See General Instruction 25).

Finally, cost is defined as:

> 9. *Cost* means the amount of money actually paid for property or services. When the consideration given is other than cash in a purchase and sale transaction, as distinguished from a transaction involving the issuance of common stock in a merger or a pooling of interest, the value of such consideration shall be determined on a cash basis.

(Emphasis added.) Read together, it should be clear from these definitions that the USofA specifies that cost of removal, which must be recovered through

depreciation expense as part of net salvage, is the actual amount that is paid at the time of the transaction. Since net salvage will occur in the future, it is the future cost that must be included in depreciation rates. Estimates of the cost to decommission a power plant today should be escalated to the time of the actual decommissioning of the plant. Public Counsel has not proposed to recover the future terminal net salvage costs, but instead has only proposed to recover the cost of decommissioning PSE's power plants today.

Q. Can you provide an example to demonstrate how Public Counsel's proposals for terminal net salvage will not meet these stated principles related to depreciation?

A. Yes. The terminal net salvage amounts in the depreciation study are stated costs at today's price level. However, many of PSE's plants will not be retired for many years. The net salvage costs therefore need to be escalated so that the proper amounts are allocated over the lives of the plants.

Consider the following example. Assume a Company has a power plant that cost $1,000,000 to construct, will be in service for 40 years, and the net salvage is negative 10 percent. The negative 10 percent represents the cost at retirement, and so in year 40 it will cost $100,000 to decommission the plant. Additionally, assume that net salvage costs escalate each year at a rate of 2.5 percent. The company should be allowed to recover 110% of its investment, or $1,100,000 through depreciation. Using the straight line method, the resulting depreciation

accrual would be $27,500[10] and a depreciation rate of 2.75 percent[11]. This is the proper amount needed to recover the full $1,100,000 over the 40 year life of the power plant.

However, Public Counsel's recommendations for decommissioning would not recover the full 110 percent of the plants original cost. Consider the calculation of depreciation at year 1, when the asset is placed in service. The decommissioning cost of $100,000 stated in year 1 dollars is only $37,243.[12] This is the amount that Ms. McCullar recommends should be included in depreciation expense for PSE's power plants, and her methodology would produce only $25,931[13] in depreciation expense and a depreciation rate of 2.59 percent[14]. Using such a method will not recover the full service value (or 110 percent of the plants original cost) that PSE should be allowed to recover through depreciation. Instead, PSE will only recover $1,037,243 through depreciation expense and will recover less than 40 percent of the actual net salvage costs for the plant. This represents $62,757 less than the full service value of the plant that PSE is entitled to recover.

It should therefore be clear that Ms. McCullar's proposals for decommissioning are inconsistent with the principles I have explained earlier in my testimony. In the example I have provided here, her approach would only recover about one-third of the actual net salvage that should be recovered through depreciation.

[10] (1,000,000-(-100,000))/40=27,500
[11] $27,500/1,000,000=2.75%
[12] $100,000/1.025^40
[13] (1,000,000-(-37,243))/40=25,931
[14] $25,931/1,000,000=2.59%

Q. Are you aware of any commissions that have addressed that the net salvage included in depreciation must represent the future net salvage costs of an asset?

A. Yes. First, I should make it clear that the vast majority of jurisdictions use a method for net salvage in which future net salvage is estimated at its future cost and recovered through straight-line depreciation. To my knowledge, the method of recovering future costs using straight line depreciation is used by 46 of the 50 states as well as by FERC.

One case of which I am familiar that specifically addresses this concept is a generic proceeding in Michigan that addressed the proper treatment of net salvage costs. The Michigan Public Service Commission ("MPSC") concluded that net salvage must be stated as the cost that will occur in the future, not today's cost or stated in today's dollars. Specifically the MPSC stated,

> [T]he net present value approach proposed by the Attorney General[15] has been consistently rejected by most Commissions and does not comport 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

[15] I note here that Ms. McCullar's colleague William Dunkel was the witness testifying on behalf of the Michigan Attorney General in this Michigan case.

> 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.[16]

(Emphasis added.)

Q. Do any authoritative depreciation texts support that the net salvage amount should represent the future cost?

A. Yes. This concept is perhaps put most succinctly in the NARUC Manual, which clearly states:

> [U]nder presently accepted concepts, the amount of depreciation to be accrued over the life of an asset is its original cost less net salvage. Net salvage is difference between the gross salvage that will be realized <u>when the asset is disposed of</u> and the cost of retiring it.[17]

(Emphasis added). It is important to note that NARUC is clear that the net salvage is what is realized "when the asset is disposed of." It is not the present or current value of these costs. NARUC also goes on to say:

> The goal of accounting for net salvage is to allocate the net cost of an asset to accounting periods, making due allowance for the net salvage, positive or negative, that will be obtained <u>when the asset is retired</u>. This concept carries with it the premise that property ownership includes the responsibility for the property's ultimate abandonment or removal. Hence, if current users benefit from its use, they should pay their pro rate share of the costs involved in the

[16] Michigan Public Service Commission Order, Case No. U-15629 (September 29, 2009), p. 12.

[17] NARUC Manual, p. 18.

> abandonment or removal of the property and also receive their pro rata share of the benefits of the proceeds realized.[18].

(Emphasis added.) Wolf and Fitch's *Depreciation Systems* is another highly regarded, authoritative depreciation text. The authors are clear that net salvage should be included in depreciation and that it should be recognized as a future cost. As Wolf and Fitch explain,:

> The matching principle specifies that all cost incurred to produce a service should be matched against the revenue produced. Estimated future costs of retiring an asset currently in service must be accrued and allocated as part of the current expenses.[19]

In the same paragraph the authors are clear that inflation is part of the future cost of net salvage, stating,

> Negative salvage is a common occurrence. With inflation, the cost of retiring long-lived property, such as a water main, may exceed the original installed cost.[20]

Wolf and Fitch then address intergenerational equity, stating,

> The accounting treatment of these future costs is clear. They are part of the current cost of using the asset and must be matched against revenue. While the current consumers would say they should not pay for future costs, it would be unfair to the future users if these costs were postponed.[21]

Finally, Wolf and Fitch argue against a present value or current value concept. The authors note,

> Some say that although the current consumers should pay for the future costs, the future value of the payments, calculated at some

[18] NARUC, a 18.
[19] Wolf and Fitch, p. 7.
[20] Wolf and Fitch, p. 7.
[21] Wolf and Fitch, p. 8.

> reasonable interest rate, should equal the retirement cost. Studies show that the salvage is often "more negative" than forecasters had predicted.[22]

They also state,

> In the accounting framework, depreciation is defined as an allocation process, *not* a valuation process.[23]

(Emphasis in original.) Another text that supports the concept that net salvage must be estimated at the price level it will be incurred (and not its present value) is *Accounting for Public Utilities* by Robert L. Hahne and Gregory E. Aliff. In this text the authors explain that regulatory definitions, including the USofA, require net salvage to be estimated at a future price level:

> Under current practice, regulatory definitions require that salvage and cost of removal be included. More importantly, the regulatory definitions are specific in their requirement that salvage and cost of removal be included at the amounts expected to be received or incurred, i.e., at the price level expected at the time of receipt or incurrence. This is evident in the wording of the definitions. "Amount received" is stated in the salvage value definition and "cost of" in the cost of removal definition. The definition implies future amounts, not current price levels or present values.[24]

V. COLSTRIP UNITS 3 AND 4

Q. Have you performed any additional depreciation calculations for Colstrip Units 3 and 4?

A. Yes. PSE requested I calculate depreciation rates for all Colstrip Units 3 and 4 assets utilizing a different probable retirement date than that which was utilized in

[22] Wolf and Fitch, p. 8.
[23] Wolf and Fitch, p. 4.
[24] *Accounting for Public Utilities*, Robert L. Hahne and Gregory E. Aliff, 6.03[2] at pg. 6-9.

the depreciation study. Exh. JJS-6 sets forth the overall depreciation expense with probable retirement dates for Colstrip Units 3 and 4 as December 31, 2025 and December 31, 2029. The change in probable retirement date resulted in a reduction in the weighted net salvage from the negative 13 percent set forth in the Depreciation Study. If these parameters were utilized, then depreciation expense for steam plant would increase. The depreciation increase using the probable retirement date of December 2029 would be $5.6 million annually, and utilizing the December 2025 date would create an annual increase of $14.0 million.

VI. CONCLUSION

Q. Does this conclude your rebuttal testimony?

A. Yes.