

EXHIBIT NO. _____ (TMP-1T)
DOCKET NOS. UE-170033/UG-170034
2017 PSE GENERAL RATE CASE
WITNESS: THOMAS MICHAEL POWER

BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

DOCKETS UE-170033 and UG-170034
(Consolidated)

PREFILED DIRECT TESTIMONY (NON-CONFIDENTIAL) OF

THOMAS MICHAEL POWER

ON BEHALF OF NW ENERGY COALITION, RENEWABLE NORTHWEST, AND

NATURAL RESOURCES DEFENSE COUNCIL

JUNE 30, 2017

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1 I. INTRODUCTION AND SUMMARY

2 **Q Please state your name and occupation.**

3 A My name is Thomas Michael Power. I am a Research Professor and Professor Emeritus
4 in the Economics Department at The University of Montana, Missoula, Montana. I am
5 appearing in these proceedings, however, as an independent consulting economist, a principal in
6 Power Consulting Incorporated, on behalf of the NW Energy Coalition, Renewable Northwest,
7 and the Natural Resources Defense Council.
8

9 **Q Have you previously testified before this and other regulatory commissions as an
10 expert witness?**

11 A Yes. I have testified before this Commission on several occasions over the past 40 years.
12 I have also testified before federal and state regulatory commissions throughout the United States
13 and Canada on more than 75 occasions. A summary of my professional experience and training
14 is found in Exhibit No. ____ (TMP-2).
15

16 **Q What issues will you address in this direct testimony?**

17 A I will be addressing two main topics.

18 The first section of my testimony discusses the costs and their treatment associated with
19 the retirement of Colstrip Units 1 and 2 (CS 1-2) and what this means for Colstrip Units 3 and 4
20 (CS 3-4).

21 Under normal regulatory practice, retirement costs (recovery of the remaining capital
22 costs not already recovered through depreciation expenses up to that point in time, removal costs
23 less salvage value, and the costs of remediating the site) would have been collected from
24 customers across the entire productive life of the plant. That was not done with CS 1-2 and
25 ratepayers now face substantial retirement costs. I discuss how this happened and the solution
26 Puget Sound Energy (PSE) offers to recover those CS 1-2 retirement costs without a significant

1 increase in rates.

2 Of course, there are other potential costs associated with retirement that are not directly
3 associated with specific generators and sites, such as the cost of the electric supply that may be
4 needed to replace the retired generator. I will not be discussing such replacement costs in my
5 testimony. The Commission has indicated that the issue of replacement power is “not ripe for
6 Commission consideration in this proceeding” and that PSE’s Integrated Resource Plan (IRP) is
7 a more appropriate forum for such discussions. UE-170033 Prehearing Conference Order,
8 February 15, 2017, pg. 4.
9

10 Turning to CS 3-4, the planning for their retirement is part of this rate case in the sense
11 that the retirement date for CS 3-4 for depreciation purposes has to be set and removal and
12 remediation costs have to be included in the annual depreciation expense. Since this was not
13 done appropriately for CS 1-2, I look for cautionary lessons in the planning for CS 1-2 retirement
14 to inform and guide the planning for the retirement of CS 3-4.
15

16 I would note that when I criticize the planning for the retirement of CS 1-2 and
17 recommend that the planning for the retirement of CS 3-4 should be done more completely and
18 openly, I am not taking a position on when any of those units should retire. My point is that the
19 actual retirement dates for those units are unknown and will be determined by the owners of the
20 units based on a multitude of factors, including, and most importantly, market conditions and
21 unit economics. The planning for retirement has to take that uncertainty into account and remain
22 flexible and adaptable to changing circumstances.
23

24 **Q Can you briefly summarize the ultimate conclusions and recommendations that**
25 **follow from your discussion of utility planning for the retirement of generation**
26 **plants?**

1 A Yes. Following from my testimony on how retirement planning for a major generating
2 unit should be carried out and to assure that the planning for the retirement of CS 3-4 proceeds
3 better than the retirement of CS 1-2, this Commission should order PSE to annually report to the
4 Commission on:

5 i. PSE's analysis of the appropriateness of its assumptions about the date of the
6 retirement of both CS 1-2 and CS 3-4 and PSE's latest estimates of the costs associated with
7 those retirements. In particular:
8

9 ii. PSE should report on how well existing depreciation rates are covering the
10 ultimate costs of decommissioning, removal, and environmental remediation associated with
11 retirement.

12 iii. PSE should report on its experience with the actual costs of environmental
13 remediation of the ash and polluted water ponds. This should provide a reality check for PSE's
14 estimation of those costs.

15 iv. Even if it has to be in a confidential filing, PSE should also report on potential
16 conflicts among owners of CS 3-4 over retirement dates and the retirement costs that those
17 owners will share at the time of retirement. We have the example before us of how Talen
18 Montana's interests in getting out of the electric generating business in Montana as quickly as
19 possible might have led (or may still lead) to an earlier retirement of CS 1-2 than 2022. The
20 Commission should be aware of such possibilities and how PSE is planning to deal with them.
21

22 v. PSE should also be required to immediately report to the Commission if there are
23 major changes in the viability of continued operation of CS 3-4 along with an explanation as to
24 the implications of those changes for its customers on how the utility plans to deal with those
25 issues.
26

1 vi. PSE should report on the cost of the electric supply that may be needed to replace
2 the retired generators, as investigated in its IRP.

3 **Q What is the topic of the second section of your testimony?**

4 A The second section of my testimony focuses on the need for PSE to develop a
5 Community and Worker Transition Program to assist the Colstrip area through the retirement of
6 CS 1-2. That testimony deals with the fact that the retirement of the Colstrip generating units
7 will have significant negative economic impacts on the Colstrip area. Workers at the Colstrip
8 facilities and coal mine will be laid off, local government units, including public schools, will see
9 their tax base shrink significantly, other residents and businesses will see a loss of their property
10 values and the values of their businesses, to identify but some of the impacts.

12 Anxiety over these impending economic losses has led to unproductive conflict between
13 the Colstrip owners and those trying to prevent or avoid to the maximum extent possible the
14 economic and social dislocations that will befall the small city of Colstrip and Rosebud County
15 when the Colstrip units shut down. Some of this unproductive conflict could be avoided by PSE
16 taking the lead in developing a Community and Worker Transition Program to help government
17 units, workers, and residents prepare for a future in which coal mining and electric generation
18 play a smaller role in the regional economy.

20 PSE and the other Colstrip owners are not going to suddenly disappear from the Colstrip
21 area. CS 3-4 will very likely continue to operate post-closure of CS 1-2 and site remediation is
22 scheduled to continue for decades into the future. When all the Colstrip units shut down, as they
23 eventually will, the transmission line may be repurposed to move wind electric generation from
24 eastern Montana to the customers of the same utilities who currently own the Colstrip generating
25 units.
26

1 The initiation of an appropriate community and worker transition program can inform
2 PSE and the other owners of the primary concerns of Colstrip area residents and inform local
3 residents of exactly what PSE's and other owners' plans in the Colstrip area will be over the
4 coming decades. This should allow a more productive focus on the unavoidable economic
5 transition that the region will have to make.

6 Accordingly, as a modest first step in beginning such a dialog, I recommend this
7 Commission require the formation of a stakeholder group. I discuss my recommendation in
8 greater detail in section III.

9
10 II. THE FAILURE OF PLANNING FOR THE RETIREMENT
11 OF COLSTRIP UNITS 1 & 2

12 1. Conventional Regulatory Treatment of the Retirement of Rate-Based Electric Generating
13 Facilities

14 **Q Can you outline your objectives in this first major section of your testimony?**

15 A Certainly. In this rate case, the Commission has to decide how PSE is going to recover
16 the costs associated with the planned retirement of CS 1-2. For a variety of reasons, very few of
17 those costs have been recovered through depreciation expenses over the 40-plus years of
18 operation of those plants. Since only about four years, at the most, remain before the retirement
19 of those units, normal depreciation expenses cannot be used to recover retirement costs. Instead,
20 an emergency regulatory treatment is being proposed by PSE to handle those retirement costs.

21 Also in this case, the Commission has to approve the depreciation expenses associated
22 with CS 3-4. To do that, the Commission has to approve a tentative retirement date for those
23 generators and a level of annual depreciation expense that will recover the expected retirement
24 costs of CS 3-4 by the time of that retirement. I note that in order to make a fully informed
25 decision on an appropriate retirement date it would be useful for the Commission to fully
26 understand the factors that bear on this question, most critically the cost of the electric supply

1 needed to replace CS 3-4. As just mentioned, however, the subject of replacement power costs is
2 not part of this proceeding. I discuss this disconnect between decisions flowing from this rate
3 case and resource choices informed by the IRP process later in this testimony.

4 Given the complete failure of planning for the retirement of CS 1-2, there are important
5 lessons or warnings to be found for the eventual retirement of CS 3-4 in reviewing what went
6 wrong in the planning of the retirement of CS 1-2.

7
8 To explore the lessons or warnings provided by what failed to happen in planning the
9 retirement of CS 1-2, I will proceed in the following manner. First I will describe how
10 retirement costs are supposed to be collected from customers as they purchase the electricity
11 from operating electric generators. Second, to show the importance of collecting those costs
12 across all the years of operation of the electric generators, I discuss the size of those retirement
13 costs. Since PSE's discussion of those costs is divided among four separate witnesses, this
14 summary of PSE's testimony on retirement costs may be helpful. Third, I discuss the particular
15 financial arrangements that PSE proposes to use to cover the CS 1-2 retirement costs that have
16 not been recovered during the life of those facilities. I also comment on why that approach is not
17 ideal and certainly cannot be relied upon for the retirement of CS 3-4, although I make no
18 objection to using this approach under the present circumstances. Fourth, I directly draw the
19 appropriate lessons and warnings from that failure of planning for the retirement of CS 1-2.
20 From that, I make recommendations to the Commission about the need for it to monitor on a
21 regular basis the planning that PSE is carrying out so that it can flexibly adjust its recovery of the
22 retirement costs of CS 3-4 despite the uncertainty about its retirement date.
23

24
25 **Q What are the most important costs associated with the retirement of an electric**
26 **generating facility that has been a part of a utility's rate base?**

1 A The most important costs to be considered include:

2 i. The completion of the utility's recovery of the investment cost of the facility.

3 ii. The cost of actually removing the generators and associated buildings and
4 facilities less the salvage value of the removed equipment and materials.

5 iii. The cost of removing waste materials from the generating site and/or storing them
6 in a safe and stable manner and the reclaiming or remediating of the site so that it can be safely
7 used for other purposes.
8

9 As noted above, there are other potential costs not directly associated with the specific
10 generator and site such as the cost of the electric supply that may be needed to replace the retired
11 generators that may cost more or less than the electric supply cost associated with the retired
12 facility. Again, I will not be discussing such replacement costs.

13 **Q How are the retirement costs you mention above typically handled in a regulatory**
14 **setting?**

15 A The equivalent of depreciation accounts is used to systematically collect these retirement
16 costs from customers throughout the useful life of the generator. Depreciation rates for the
17 generators are set and then adjusted periodically so that the capital cost of the generator is
18 recovered by stockholders during that facility's useful life. That useful life is estimated and the
19 annual depreciation rate is set based on that. Those depreciation rates also take into account the
20 expected net salvage value at the time of retirement, which is the difference between the salvage
21 value of the plant being retired and the cost of dismantling that plant and removing it.
22

23 **Q Besides decommissioning and removal costs and salvage value, are there other costs**
24 **that need to be projected and collected during the operation of a generating facility?**
25

26 A Yes. As mentioned above, there are also likely to be environmental mitigation costs that

1 should be collected from customers while the facility is operating. The use of an electric
2 generator can lead to the accumulation of waste materials that need to be removed, safely stored,
3 and/or otherwise remediated so that the site can be used for other purposes after retirement of the
4 generators. Electric generation, especially that fueled by coal, produces streams of waste from
5 the boilers and air pollution control equipment that have to be stored and converted into a safe-
6 inert form or otherwise safely stored. The handling of these as liquid slurries and pastes also
7 produces streams of waste water. This leads to the construction and use of a large area of waste
8 ponds. The loss of polluted water from those ponds to the ground and its recovery via
9 surrounding wells and pumps adds to the liquid wastes that have to be captured and treated.

11 **Q How have the costs associated with remediating these waste storage facilities at the**
12 **generating site typically been treated by regulators when a generator is retired?**

13 A Those environmental remediation costs that are known to be legally required are
14 recognized as utility liabilities that are recovered from customers over the operating life of the
15 generator. This is done by treating them as an addition to the utility's rate base that has to be
16 recovered in the annual depreciation expense. An Asset Retirement Obligation (ARO) is created
17 when the legal requirement to mitigate the environmental damage is recognized. The AROs
18 associated with a generator's operation are adjusted regularly to reflect more recent information
19 and depreciation expenses are adjusted to ultimately recover the cost of the environmental
20 remediation that is required by the time of the retirement of each generating unit.

22 **Q Under this regulatory approach, at the time of the generator's retirement, how large**
23 **are the retirement costs faced by customers likely to be?**

24 A If the utility and its regulators have accurately forecast the plant's useful life and the
25 decommissioning, removal, salvage, and environmental remediation costs and adjusted
26

1 depreciation rates to reflect those costs, the retirement costs will be small, close to zero, since all
2 of those costs will have been collected through depreciation expenses as the electric plants
3 generated electricity and sold it to customers at rates that covered those retirement costs.

4 **Q Is that regulatory outcome an intended and preferred one?**

5 A Yes. It is attractive from an equity point of view in the sense that those customers who
6 made use of the electricity as it was generated would have paid the full cost associated with that
7 generator over its useful life. Future customers would not be asked to pay for a generator that no
8 longer serves them. In addition, this “pay as you go” arrangement helps avoid the need for a
9 large electric rate increase at the time of retirement because these retirement costs are not
10 allowed to be put off until retirement takes place.¹

12 2. PSE’s Success in Collecting the Retirement Costs of CS 1-2 in Time for Retirement

13 **Q Have the retirement costs associated with CS 1-2 been collected in the “typical”**
14 **regulatory manner you described above?**

15 A No. As PSE’s Chief Financial Officer, Daniel A. Doyle, points out in his direct
16 testimony, pg. 42 (Exhibit No. ____ (DAD-1T)):

17
18 ...decommissioning and remediation costs of Colstrip Units 1 & 2 have not been
19 recovered from customers in any material amount during the 40+ year period
20 those units operated because there was no legal obligation to undertake
remediation, the costs for decommissioning and remediation were not known and
measurable, and these costs were not included in depreciation rates.

21 **Q In PSE’s last rate case were depreciation rates adjusted upward to accelerate the**
22 **recovery of the investment in CS1-2 in anticipation of the retirement of those two**
23 **units?**

24
25 ¹ Because the rate base and rates typically are based on *original cost* less depreciation, there may be rate
26 shock when aged utility equipment has to be replaced by equipment that costs much more as a result of
general price inflation. Technological change and changes in the relative cost of fuels can mitigate or
exacerbate this.

1 A PSE proposed such an accelerated recovery of the costs associated with the Colstrip
2 facilities in that rate case, but the negotiated settlement in that case did the opposite—it slowed
3 the recovery of Colstrip costs.

4 PSE prepared a depreciation study in 2006 that was filed in PSE’s 2007 rate case. It
5 assumed a probable retirement year of 2019 for CS 1-2, 2024 for CS 3, and 2025 for CS 4. But a
6 settlement stipulation in that case established the current depreciation rates for the Colstrip
7 plants. For depreciation purposes, the probable retirement date assumed in that settlement for CS
8 1-2 was set at 2035 instead of 2019, the probable retirement date PSE used in its filing.
9 Similarly, the probable retirement date for CS 3 was shifted from 2024 to 2044 and for CS 4
10 from 2025 to 2045. Prefiled Direct Testimony of John J. Spanos, p. 8, at lines 11-16. (Exhibit
11 No. ____ (JJS-1T)). The net result was to reduce the rate of recovery of the capital costs of the
12 Colstrip facilities rather than accelerate it in anticipation of an earlier retirement of those
13 facilities. The depreciation rates for the Colstrip generators set in that rate case are the
14 depreciation rates currently in effect.
15
16

17 **Q What difficulties do these very low depreciation rates create as PSE now moves to**
18 **retire CS 1-2?**

19 A Since a 2022 retirement date, at the latest, has now been set rather than a 2035 retirement
20 date, it ordinarily would be necessary to accelerate the recovery of the remaining
21 underappreciated value of CS 1-2 as well as the decommissioning, removal, and remediation
22 costs, between now and 2022. Focusing just on depreciation, if the underappreciated costs of CS
23 1-2 had to be collected by 2022, under the traditional regulatory approach, depreciation rates
24 would have to be increased so that there would be a zero balance in the capital account for CS 1-
25 2 by 2022; this would seek to ensure that current customers benefiting from CS 1-2 were held
26

1 responsible for these CS 1-2 capital costs. The upshot is that by slowing the depreciation of
2 those plants, including the retirement costs, in order to keep rates low for customers back in 2008
3 and going forward, rates would now need to be raised to recover those remaining costs by 2022.

4 **Q What is PSE's proposal to address this situation?**

5 A As will be discussed below, PSE proposes to zero out the CS 1-2 depreciation account
6 and shift the remaining depreciation of CS 1-2 along with other retirement-related costs to the
7 CS 1-2 retirement account that will be paid for from certain federal grants and tax credits.
8 (Exhibit No. ____ (KJB-1T), Direct Testimony of Katherine J. Barnard, p. 32 at lines 6-8).

10 **Q Are the decommissioning, removal, and remediation costs associated with CS 1-2
11 substantial?**

12 A Yes, they are. As discussed above, the bulk of the costs associated with the retirement of
13 CS 1-2 are the costs of eliminating environmental problems associated with the stored waste and
14 waste water on the Colstrip plant site. The combustion of coal produces a variety of pollutants
15 that have to be removed from the exhaust of the electric generators. This improves air quality
16 but generates an ongoing flow of solid and liquid wastes that are recovered and moved to storage
17 ponds by pipeline as a water slurry or moved to storage by truck as a paste. Collectively these
18 waste streams are called coal combustion residuals (CCR). As a result, the Colstrip plant site has
19 many acres of ponds that store CCR in the process of being dewatered or containing solid waste
20 that has already been dewatered. Other ponds contain polluted water.

22 In 2014, the EPA signed a rule governing the required treatment and disposal of coal ash
23 associated with electric generators including fly ash, bottom ash, boiler slag, and flue gas
24 desulfurization, collectively called CCRs.

26 Talen Montana, the firm that operates the Colstrip plants and owner of the other half of

1 CS 1-2, commissioned a series of studies to estimate the cost of meeting those EPA CCR rules.
2 Geosyntec Consultants carried out those studies. The last revision and update of that study for
3 Talen dated September 23, 2016, was Attachment 24 to Ronald J. Roberts testimony (Exhibit
4 No. ____ (RJR-24)).²

5 As pointed out by Mr. Roberts, the sum of PSE's fifty-percent share of these CCR costs
6 associated with CS 1-2 was estimated to be \$102.9 million in what PSE labels "real dollars."
7 Roberts Direct Testimony (Exhibit No. ____ (RJR-1T), p. 54 at line 13; *see also* Exhibit No. ____
8 (RJR-23). This includes both construction activities and annual operation and maintenance of
9 treatment and storage facilities. These estimated costs were modeled as being incurred from
10 2016 to 2051. The total value mentioned above is the cost for each year stated in 2016 dollars
11 inflated at a 2.5 percent rate to reflect expected future price levels and then simply summed up
12 without discounting.³ The presentation of the estimated remediation cost in this manner may be
13 fine for presentation purposes, but, as will be discussed below, these costs do not represent the
14 value of the Asset Retirement Obligation that PSE will book.

15
16
17 **Q In using PSE's estimates of these decommissioning, removal and remediation costs**
18 **are you testifying to the accuracy of those costs estimates?**

19 A No. I have not examined the underlying basis of those costs. I am using PSE's cost
20 estimates simply to document that those retirement costs are likely to be quite large.

21 The current estimates of the site remediation costs are planning estimates. Remediation
22

23 ² "Master Plan Summary Report Update: Colstrip Steam Electric Station," prepared by Geosyntec
24 Consultants, Sept. 23, 2016.

25 ³ Roberts and Doyle say that these values are expressed in real dollars. By that they apparently mean that
26 these are the likely values experienced in future years when inflation is taken into account. This is the
reverse of what economists mean by "real dollars," i.e. dollars expressed in constant purchasing power
with the effect of inflation removed. Using that economic definition, the expression of the CCR costs in
2016 dollars would be the value expressed in real terms, not the inflated version of those costs.

1 costs seem to have a tendency to grow as work on the ground proceeds. For that reason, one of
2 my recommendations is that the Commission require PSE to regularly update these CCR
3 remediation costs as PSE gains experience each year with its actual remediation activities on the
4 ground so as to assess whether meeting the EPA CCR regulations actually costs more or less
5 than initially estimated.

6 **Q Does that Geosyntec “Master Plan” (Exhibit No ____ (RJR-24)) also provide**
7 **estimates and schedule of the costs for CS 3-4 meeting those CCR remediation**
8 **regulations?**

9
10 A Yes, it does. That “Master Plan” provides the same information on CS 3-4 that Mr.
11 Roberts’ Direct Testimony provides in his Table 2, p. 52 (Exhibit No. ____ (RJR-1T)) for CS 1-
12 2.⁴ Because the “Master Plan” developed for Talen assumed that CS 3-4 would be retired in the
13 year 2040 while CS 1-2 would be retired in the year 2022, the time period over which
14 expenditures would be made cleaning up CCR from CS 3-4 covers a longer time period than the
15 period for CS 1-2, but those expenditures, as with those for CS 1-2, begin in 2016 and overlap
16 the time period of peak expenditures on the CS 1-2 CCR cleanup, 2016-2024.

17
18 PSE’s 25 percent share of those CS 3-4 CCR cleanup costs expressed in 2016 dollars
19 would be \$85.7 million for the 2016-2069 period on which the “Master Plan” reports.⁵ Forty-
20 four percent of PSE’s share of those CS 3-4 CCR costs (or \$37.8 million) would be incurred in
21 the 2016 to 2024 time period when PSE would also be incurring the majority of its CS 1-2 CCR
22 costs. The PSE CS 1-2 CCR costs for that time period would total \$41.1 million, approximately
23 the same as the PSE CS 3-4 CCR costs of \$37.8 million. So during the 8-year period 2016-2024,

24
25 ⁴ Exhibit No. ____ (RJR-24), pgs. 16-18.

26 ⁵ Here I shift to reporting those values in 2016 dollars, which is how Geosyntec Consultants reported
them. PSE prefers to add projected inflation in these costs (assumed to be 2.5 percent) to these values.
This makes them larger than the numbers reported here.

1 a total of \$78.9 million (again, in 2016 dollars) in Colstrip remediation expenses would be
2 incurred.

3 **Q Are the CCR mitigation costs you cite here the Asset Retirement Obligations (ARO)**
4 **that PSE has booked in its depreciation accounts?**

5 A No. The costs above are the raw costs estimated in the Master Plan drawn up for Talen
6 Montana that were used by Mr. Roberts to quantify the CCR mitigation costs. The actual dollar
7 value of the associated AROs requires accounting adjustments to remove costs that are likely to
8 be incurred in the future but are not legally mandated at the current time. In addition, these are
9 simply the sum of those costs expressed in 2016 dollars with no adjustments for future inflation
10 in these costs and no discounting back to a present value. When PSE calculates the ARO values,
11 it inflates all of these values by 2.5 percent per year to reflect inflation and then takes the present
12 value of all of those values, reducing the values associated with future years.

13
14 PSE has calculated the AROs associated with its share of Colstrip 3-4, as of March 31,
15 2017, to be \$43.15 million. The AROs associated with PSE's share of CS 1-2 were estimated to
16 be \$58.9 million as of the same date. Exhibit No. ____ (TMP-3), PSE Response to WUTC Data
17 Request No. 359, Revision 01 of Attachment B.

18
19 **Q What other costs are associated with the retirement of CS 1-2?**

20 A The next largest cost after the CCR remediation costs are the costs of "decommissioning
21 and demolition" of the CS 1-2 plants and associated facilities. Mr. Roberts states that PSE's
22 share of those costs would be \$4.2 million in 2016 dollars if the demolition can be put off until
23 CS 3-4 are retired. In the meantime, CS 1-2 would be held in "cold, dark and dry condition."
24 Under this PSE recommendation, all environmentally problematic material would be removed
25 from the CS 1-2 facilities and the facilities would be fenced off and protected until CS 3-4 were
26

1 retired. At that time, all four plants could be removed. Exhibit No. ____ (RJR-1T), pg. 46 at line
2 14. Note that these decommissioning and removal costs are less than ten percent of the CCR
3 remediation costs of CS 1-2.

4 3. PSE's Proposal for Funding the Retirement Costs of CS 1-2

5 **Q Is PSE proposing to cover the retirement costs of CS 1-2 using the conventional**
6 **regulatory tools you have discussed?**

7
8 A No. The remaining life of the CS 1-2 facilities is too short to try to use the depreciation
9 tool at this late date to collect retirement costs. The time when that could have been done was
10 decades ago. For a variety of reasons, PSE was not able to plan for the retirement of these plants
11 in a way that would have allowed depreciation expenses to collect retirement costs from the
12 appropriate customers across the entire life of the plants' operation.

13 PSE, therefore, has proposed to use an alternative regulatory method to recover
14 retirement costs while shielding customers from a large rate increase. That method, however,
15 simply offsets future rate decreases customers would otherwise have enjoyed and diverts
16 potential customer refunds into a retirement account for CS 1-2. Under the circumstances, I am
17 not objecting to this effort at rate stabilization. Rather, I am simply observing that normal
18 regulatory steps to prepare for the retirement of a significant generating facility were not taken in
19 time to avoid the emergency measures now being proposed.
20

21 If PSE had not had large amounts of federal treasury grants and unused production tax
22 credits that it could convert to pay the costs of the CS 1-2 retirement, it would have had to
23 propose the establishment of a regulatory asset to cover the decommissioning and remediation
24 costs that would be then be added to the rate base and collected over time from future electric
25 customers. Direct Testimony of Daniel A. Doyle, pg. 44 (Exhibit No. ____ (DAD-1T)). This
26 would have shifted responsibility for the retirement costs of CS 1-2 away from customers who

1 had relied on those generators for their electricity and onto future electric consumers who were
2 no longer being served by the CS 1-2 units. In addition, it probably would have required a rate
3 increase to cover the paydown of that regulatory asset.

4 To the extent that the federal treasury grants associated with recent electric generation
5 projects will be used to partially pay for the retirement of CS 1-2, that arrangement may also
6 shift the part of the costs of that retirement to future customers because those U.S. Treasury
7 grants will no longer go to partially offset the costs of those facilities' future generation. Future
8 customers will pay higher costs in order to pay for the retirement of CS 1-2. Again, this is not a
9 criticism of using this mechanism to cover CS 1-2 retirement costs in this case. Rather, it is
10 offered as a warning that lack of planning for the retirement of major generating units can make
11 recovery of retirement costs from the appropriate customers at minimum rate impact difficult.

12
13 **Q How does PSE explain finding itself five years from the retirement of CS 1-2 without**
14 **having collected any significant amount of the costs associated with that retirement?**

15 A Mr. Doyle, as quoted above (Exhibit No. ____ (DAD-1T), pg. 42 at lines 1-14), provides
16 two explanations:

17
18 i. "There was no legal obligation to undertake remediation" of the CCRs until
19 relatively recently, and

20 ii. "The costs of decommissioning and remediation were not known and
21 measurable." As a result, "...these costs were not included in depreciation rates."

22 What is not said by Mr. Doyle is that PSE (and Talen Montana) made the decision to
23 close CS 1-2 by 2022, not the 2035 date on which PSE's depreciation schedule was based. If CS
24 1-2 had nearly twenty years of expected life left, traditional depreciation tools might still have
25 been able to be used. In addition, the decommissioning and removal costs were not really
26

1 unknown or unmeasurable. PSE and Talen had no difficulty hiring several consulting firms to
2 estimate those costs once they wanted information on decommissioning and remediation costs.

3 In this regard, it seems unlikely that PSE believed that it would not have to remediate its
4 many coal ash and polluted water ponds that had already been the source of leakage into the
5 groundwater. In response to data requests, the first legal basis provided by PSE for converting
6 the Colstrip CCR costs to Asset Retirement Obligations is that “PSE has a contractual obligation
7 in the Joint Ownership Agreement with Talen Montana, LLC, to share in the cost of the site
8 restoration work for ash ponds (remediation costs) when the facilities’ life is over.” Exhibit No.
9 ____ (TMP-4), PSE Response to WUTC Data Request No. 359, Attachment A. This indicates
10 that the owners of CS 1-2 foresaw remediation being necessary for the ash ponds when the plants
11 were built. Assumedly they did not believe that they could just leave the site with its extensive
12 sets of waste and waste water ponds and walk away.
13

14 **Q Please summarize your views on this subject.**

15 A I am not suggesting that PSE should have had perfect vision as to what the retirement
16 costs were going to be or when it would be appropriate to retire CS 1-2. What I am saying is that
17 PSE should have recognized the unavoidable future costs associated with the retirement of those
18 generating plants and included a reasonable estimate of those costs that could have been
19 periodically questioned and confirmed or changed every time a new depreciation study was
20 carried out or new information affecting retirement dates and costs was available. Zero was not
21 a reasonable estimate of those future costs. As I will discuss below, the failure to plan for the
22 retirement of CS 1-2 can prove instructive as PSE and this Commission address issues related to
23 the retirement of CS 3-4.
24
25

26 4. The Uncertainty about Retirement Dates for Coal-Fired Electric Generators

Q Has the “sudden” or “surprise” “early” retirement of CS 1-2 created problems for

1 **PSE and its customers?**

2 A Yes, but it is important to note that the use of those adjectives is not intended to suggest
3 that there is something wrong or inappropriate about the retirement date that has been set for CS
4 1-2. Rather, these comments are intended to point out the planning and preparation on PSE’s
5 part that would have been necessary to ensure that the retirement cost associated with CS 1-2
6 would be included in the rates being charged to customers using the output of the CS 1-2 plants
7 throughout their productive lives, and to highlight that PSE did not undertake such planning and
8 preparation. One of the lessons from the retirement of CS 1-2 is the need for careful planning
9 and preparation for the retirement of CS 3-4 so that this “very real and significant [retirement]
10 cost recovery problem” does not occur again for CS 3-4. Exhibit No. ____ (DAD-1T), pg. 33 at
11 line 1. Mr. Doyle also points out that the timing of the CS 1-2 retirement “leaves limited time
12 for planning, financing, and regulatory review of all aspects of decommissioning and
13 remediating activities.” Exhibit No. ____ (DAD-1T), pg. 42-43. The problem is not with the
14 retirement date or even with the rate smoothing regulatory treatment of those CS 1-2 retirement
15 costs proposed by PSE. The problem is the lack of planning and preparation that created those
16 financial and regulatory problems. This Commission should not allow a similar “crisis” to arise
17 if CS 3-4 are retired earlier than the 2035 date recommended by Mr. John Spanos in his direct
18 testimony (Exhibit No. ____ (JJS-1T), pg. 9 at line 12). As will be discussed below, PSE officials
19 are already talking about retiring CS 3-4 around 2030 instead.
20
21

22 **Q Is the retirement of CS 1-2 unusual given what has been happening around the**
23 **nation with coal-fired generators?**

24 A No. Since 2010, almost 400 coal-fired electric generators were either retired or converted
25
26

1 to an alternative fuel. Since 2015, almost 170 coal-fired generators have been retired.⁶ Based on
2 news reports, many of these retirements were considered “early” in the sense that they physically
3 could have continued operating, but changes in economic conditions, including regulatory
4 changes, led their owners to retire them nonetheless. That is also what has happened to CS 1-2.

5 **Q Is there an important lesson in PSE’s need to put together a special financial**
6 **arrangement that required state and federal legislation in order to cover the costs of**
7 **the CS 1-2 retirement?**
8

9 A Yes. Considerable uncertainty has developed around the future viability of coal-fired
10 electric generation. Ongoing low natural gas prices, changes in citizen and customer preferences
11 about the sources of their electricity, increasingly strict environmental regulation of coal
12 combustion emissions, and technological changes that have reduced the cost and enhanced the
13 reliability of alternatives to coal-fired generation, including solar and wind electric generation,
14 have combined to make coal-fired generation economically disadvantageous. That is likely to
15 continue unless some important part of this combination of economic conditions changes
16 dramatically.
17

18 This combination of current economic conditions has increasingly forced the hand of
19 owners of coal-fired electric generation, especially those operating in unregulated markets as
20 merchant generators. Talen Montana LLC, the operator of the Colstrip generating facilities and
21 the owner of half of CS 1-2 and 30 percent of CS 3, is such a merchant generator. It has been
22 reported to be losing money on its electricity sales from Colstrip 1-2⁷ and has announced its
23

24 ⁶ See Exhibit No. ____ (RJR-1T), pg. 20 and citation to US EIA report. Also SourceWatch, The
25 retirements are through 2016,
26 [http://www.sourcewatch.org/index.php/Coal_plant_retirements#Table_2:_Coal_plant_retirements_](http://www.sourcewatch.org/index.php/Coal_plant_retirements#Table_2:_Coal_plant_retirements_and_conversions_through_2016)
[and_conversions_through_2016](http://www.sourcewatch.org/index.php/Coal_plant_retirements_and_conversions_through_2016) (accessed June 10, 2017).

⁷ Exhibit No. ____ (RJR-1T), pg. 22-23.

1 intention to cease being the operator of the Colstrip facilities and sell its share of Colstrip. A
2 Talen Montana executive testified before the Montana Legislature that it is no longer
3 economically viable for Talen Montana to survive under the current circumstances as an
4 independent power producer due to the historically low natural gas prices and increasing
5 environmental regulations. Roberts Direct Testimony (Exhibit No. ____ (RJR-1T), pg. 24).
6 Merchant generators across the nation face similar challenges.
7

8 In these circumstances, it is uncertain how long Talen Montana will continue to suffer
9 economic losses before it opts for bankruptcy or abandons its Montana “assets.” Over the last
10 several years, Talen Montana LLC’s share of Colstrip has changed corporate hands more than
11 once. Roberts Direct Testimony (Exhibit No. ____ (RJR-1T), pg. 10-11). The corporate
12 restructuring that has been going on to isolate Talen Montana LLC and its Colstrip assets could
13 be interpreted as a preparation for a bankruptcy filing. PSE has taken the possibility of Talen
14 ceasing its Colstrip operations seriously enough to study the feasibility of operating CS 1-2 up to
15 the level of its ownership share and has concluded that would not be economically feasible.
16 Exhibit No. ____ (TMP-5), PSE Response to WUTC Data Request No. 185 and Supplemental
17 Response. In other words, it would not be entirely unexpected if CS 1-2 closed before 2022.
18

19 The economic conditions that undermined the viability of CS 1-2 and may require an
20 even earlier retirement than 2022 could also undermine the economic viability of CS 3-4 or at
21 least move its likely retirement forward from 2035 significantly. That is not a prediction—just a
22 statement about the uncertainty that economic conditions, technological change, and changes in
23 the regulatory environment have created, all of which are affecting not just Talen but all of the
24 Colstrip owners.
25

26 **Q Does it really matter whether PSE plans more carefully for CS 3-4 than it did for CS**

1 **1-2? Put another way, why cannot PSE use an alternative regulatory treatment for**
2 **the CS 3-4 retirement costs just as it did for CS 1-2 whenever that retirement**
3 **happens to take place?**

4 A Yes, it matters. It is important for PSE to do a better job planning for the retirement of
5 CS 3-4. And, no, the regulatory approach PSE is using to pay for the retirement of CS 1-2 will
6 not be available for units 3-4. Recall that it was a special set of circumstances that allowed PSE
7 to avoid having to raise customers' rates to fund the retirement of CS 1-2. First, PSE had
8 received payments from the federal treasury for investments in renewable resources that PSE had
9 not yet entirely transferred to customers. In addition, PSE had large quantities of wind power
10 federal production tax credits that it had not been able to realize and return the benefits to
11 customers. PSE also had to get both Congressional and state of Washington legislative approval
12 in order to use these regulatory liabilities to cover CS 1-2 retirement costs. Exhibit No. ____
13 (DAD-1T), pg. 31 at lines 7-21; *see also* Exhibit No. ____ (TMP-6), PSE Response to NWEC
14 Data Request No. 010). This was an unusual combination of circumstances that allowed PSE to
15 be able to propose handling the CS 1-2 retirement costs in an unusual manner.
16
17

18 **Q What would the alternative have been if these unique circumstances had not allowed**
19 **for the possibility of PSE's current proposal for recovery of CS 1-2 retirement costs**
20 **being implemented?**

21 A As Mr. Doyle pointed out (Exhibit No. ____ (DAD-1T), pg. 44 at lines 11-21), the
22 alternative would have involved "creating a regulatory asset for future decommissioning and
23 remediation costs that would be included in rate base and amortized into the future." This would
24 have raised rates to future customers who were receiving no benefits from CS 1-2. Mr. Doyle's
25 estimate was that it would cost customers \$71.2 million more to collect the CS 1-2 retirement
26

1 costs through such a future rate increase compared to PSE’s proposal in this case. Exhibit No.
2 ____ (DAD-1T), pg. 46 and Table 7.

3 If the plans for the retirement of CS 3-4 and the collection of the costs associated with
4 that retirement are not handled better despite the uncertainty as to when CS 3-4 will actually be
5 retired, there is no reason to believe that PSE will be able to craft another emergency regulatory
6 arrangement to cover the retirement costs that had been under-recovered in rates up to the
7 “unexpectedly early” retirement of those facilities.⁸ The results could be unavoidable significant
8 rate increases.
9

10 The economic pressure on coal-fired generators due to competition from natural gas and
11 renewable generators is likely to continue. So is the regulatory pressure, especially from states,
12 to choose electricity sources with a smaller environmental footprint. Just as those changes and
13 the lack of planning for the retirement of CS 1-2 created problems for the recovery of those
14 retirement costs, those ongoing economic trends may also lead to an earlier retirement date for
15 CS 3-4 than the year 2035 that is currently projected by PSE. The uncertainty about the
16 retirement date for CS 3-4 means that planning for that retirement has to be flexible and
17 adaptable as market and regulatory conditions shift. Also, that planning should begin now.
18

19 5. Planning for the Retirement of CS 3-4

20 **Q What has PSE said about its planning for the retirement of CS 3-4?**

21 A In terms of the larger question of when CS 3-4 will be retired, PSE states that: “No
22 retirement date has been set for Colstrip Units 3 and 4.” Exhibit No. ____ (TMP-7), PSE
23 Response to NWECC Data Request No. 011. PSE also has said that “PSE has not examined
24 _____

25 ⁸ Mr. Doyle’s testimony points out that the schedule retirement date of no later than July 1, 2022, created
26 a “very real and significant cost recovery problem (Exhibit No. ____ (DAD-1T), pg. 33 at line 1) and that
the decision to retire by that date “leaves limited time for planning, financing, and regulatory review of all
aspects of decommissioning and remediating activities.” *Id.*, pg. 42 at lines 25-26 and pg. 43 at lines 1-2.

1 whether it would be advantageous to customers to plan for Colstrip Units 3 and 4 retirements
2 closer to the date when Colstrip Units 1 and 2 are retired, i.e., sooner than 2035.” *Id.* The 2035
3 date is the “probable” retirement date for CS 3-4 used in the depreciation study Mr. Spanos
4 submitted in this case. Exhibit No. ____ (JJS-1T), pg. 9 at lines 9-10.

5
6 However, a Seattle Times news story in mid-June 2017 quoted PSE officials as saying
7 that PSE “anticipates the utility’s involvement with Colstrip 3 and 4 could end around 2030. But
8 they didn’t rule out an exit from coal before that date.”⁹ Another news story in the Seattle
9 Weekly two days later discussed PSE’s development of a new coal supply agreement for CS 3-4
10 and quoted PSE as saying that “[a] current renegotiation of the fuel [coal] supply agreement will
11 create greater flexibility for PSE on behalf of our Customers.” “The revised agreement ends in
12 2029 and includes options that recognize the rapid changes in energy technology and customer
13 needs.”¹⁰

14
15 It appears the projected life of CS 3-4 has shortened somewhat between PSE’s response
16 to NWECC et al. Data Request No. 11 and the time of these newspaper interviews.

17 **Q Does PSE’s response to NWECC et al. Data Request No. 011 mean that PSE has not**
18 **analyzed any of the costs that would be associated with the retirement of CS 3-4?**

19 A No. In 2016, PSE hired HDR Engineering to estimate the cost of removing CS 1-2. That
20 study also looked at the cost of delaying the removal of CS 1-2 until CS 3-4 were also retired and
21 removing all four Colstrip Units at the same time. That provided information on the ultimate
22 cost of the removal of CS 3-4. Exhibit No. ____ (RJR-1T), pg. 43-45.

23
24 In addition, as discussed above, Talen Montana, the operator of the Colstrip facilities and,

25 ⁹ *Seattle Times*, Alan Berner, “Puget Sound Energy seeks to extend contract with two Coal-fired Montana
plants, June 10, 2017.

26 ¹⁰ *Seattle Weekly*, Sara Bernard, June 12, 2017, “Seattle Commits to Paris Accord, Calls for End to Coal-
Fired Power in Washington.”

1 also, one of the co-owners, hired Geosyntec Consultants to estimate what it would cost for all
2 four of the Colstrip Units to meet the EPA CCR rule. These studies estimated separately what
3 the CCR mitigation for CS 1-2 and CS 3-4 would cost. These CCR mitigation costs for CS 3-4,
4 appropriately adjusted, will become Asset Retirement Obligations that will be added to PSE rate
5 base and lead to ongoing contributions from customers to cover the costs of that CCR mitigation.
6

7 As a result, the depreciation study presented by Mr. Spanos includes an estimated
8 negative salvage value for all four Colstrip units that are designed to cover both the interim
9 salvage along with estimated remediation and decommissioning costs. Barnard Direct
10 Testimony, Exhibit No. ____ (KJB-1T), pg. 31 at line 13-16. PSE indicates that an Asset
11 Retirement Obligation of about \$43 million has been added to the rate base to cover the
12 estimated future cost of compliance with the CCR rule for CS 3-4 facilities. Associated with that
13 would also be an incremental annual depreciation expense to collect from customers the cost of
14 that environmental mitigation before the retirement of the CS 3-4 facilities. Exhibit No. ____
15 (TMP-3), PSE response to WUTC Data Request No. 359, Revision 01 of Attachment B; *see also*
16 Exhibit No. ____ (KJB-1T), pg. 29-30. Depreciation charges will also cover the
17 decommissioning and removal costs net of salvage value.
18

19 Assuming that PSE's estimated costs of CS 3-4 retirement are accurate and are kept up-
20 to-date, PSE appears to be taking the appropriate steps to see that the retirement costs associated
21 with CS 3-4 are included in the rates that customers pay between now and the actual retirement
22 of CS 3-4. However, this is something that should be regularly monitored so as to avoid an
23 "emergency" adjustment to rates if CS 3-4 is retired earlier than the current projected 2035.
24

25 6. The Need for Ongoing Monitoring of PSE's Preparations for the Retirement of CS 3-4

26 **Q Please summarize the present and future challenges that Colstrip and other coal-
fired electric generators face.**

1 A At the present and for the foreseeable future, coal-fired electric generation will face
2 challenging market conditions. Still more coal-fired generators will be retired because they are
3 not competitive with other sources of electricity. As this testimony was being written, Kansas
4 City Power & Light announced that it would retire six coal-fired generating units totaling 900
5 mw. Most of the retirements would be in 2018 and all would take place by the end of 2019.¹¹

6 Among the challenges faced by coal-fired electric generation are:

7 • On the supply side, increased competition from other fuels and newer technologies
8 including natural gas, combined cycle natural gas fueled generators, utility-scale wind electric
9 generation, and distributed solar electric generation. These have dramatically reduced electric
10 wholesale price levels.

11 • On the demand side, customers are increasingly choosing to be supplied with clean
12 sources of electricity through voluntary purchasing programs.

13 • Changes in the electric grid increase the value of system components that can respond
14 more quickly to changes in load-supply balance, a characteristic not supplied by coal fired
15 generation.

16 • Slower growth in overall demand for electricity has increased the potential for surplus
17 electric energy and capacity on national and regional grids.

18 • Low prices of natural gas, which, in 2016, led to electricity from natural gas overtaking
19 coal fired generation as the predominant generation source in the nation.

20 • Typically, the longer a coal-fired facility operates, the larger and more costly is the
21 environmental mitigation associated with the plant's retirement.

22 This list could be extended by adding local and regional problems confronting CS 3-4.
23
24
25

26 ¹¹ Utility Dive, June 6, 2017, <http://www.utilitydive.com/news/kcpl-to-retire-900-mw-of-coal-capacity/444292/>, Robert Walton.

1 For instance:

2 • One of the owners of CS 3-4 (that also owns half of CS 1-2), Talen Montana, is a
3 merchant generator, not a regulated electric utility. It has been losing money on its wholesale
4 sales and has publicly indicated that it does not believe there currently is an economically viable
5 market for it in the region. Talen Montana also appears to have been restructuring itself in
6 preparation for bankruptcy or leaving the electric generating business in some other way.
7

8 • Colstrip is at the end of a transmission path that primarily stretches west to the west
9 coast urban centers. There is limited transmission capacity available to the east. The states on
10 the west coast are committed to improving the environmental footprint of the electricity sold to
11 their citizens. Those states also seem committed to continuously increasing the renewable share
12 of the electric portfolio that serves their citizens.

13 **Q Do these issues with the future competitiveness of coal-fired electric generation**
14 **mean that utilities and utility commissions should not plan for the retirement of**
15 **coal-fired electric generators?**
16

17 A Not at all. Most electric utilities engage in Integrated Resource Planning (IRP) partly
18 because of the complexity of the risks and opportunities faced by electric utilities.
19 Systematically confronting the complex reality electric utilities face can increase the likelihood
20 that flexible decisions that account for risk are made. The potential of retiring existing
21 generating units, and replacement power costs, should be a regular part of the planning process.
22 And, in fact, my understanding is that PSE in its current IRP process is looking at a variety of
23 closure scenarios for CS 3-4.
24

25 But regulators, utilities, and stakeholders also need to be aware of what may very well be
26 the inherent limitations of the existing regulatory approach to resource procurement, revenue

1 recovery, and associated rate setting. As has been discussed, these are challenging times for the
2 present electric industry. The generation mix is changing rapidly due to many factors. Concerns
3 over climate disruption and the need to rapidly decarbonize our economy are driving many of
4 these changes and make it even more imperative that regulators and utilities make wise resource
5 decisions. The traditional regulatory process segregates decision-making, on the one hand, into
6 rate cases that examine revenues and costs, and, on the other hand, into integrated resource
7 planning that guides resource choices. The time frames used in these two different regulatory
8 processes are also different. Rate cases focus on a historic test year adjusted for known and
9 measurable changes but do not look many years down the road, since another new rate case is
10 likely to be filed within three to five years. The IRP process, on the other hand, looks out two or
11 three decades in the future to determine the best portfolio of resources with which the utility will
12 serve its future customers. This creates the possibility, or even the likelihood, that decisions will
13 be made without seeing the complete picture. So, for example, shouldn't a decision about the
14 probable retirement date of CS 3-4 for the purpose of setting depreciation rates be informed by
15 integrated resource planning and the cost of the replacement electric supply? I make no
16 suggestion here; rather, I simply note very real challenges to decision making.

19 **Q What are you recommending that this Commission and PSE do to reduce the**
20 **likelihood that customers will be faced with significant rate shock and a shifting of**
21 **CS 3-4 costs to future ratepayers when CS 3-4 are retired?**

22 A This Commission should order PSE to annually report to the Commission on:

23 i. PSE's analysis of the appropriateness of its assumptions about the date of the
24 retirement of both CS 1-2 and CS 3-4 and PSE's latest estimates of the costs associated with
25 those retirements. In particular:
26

1 ii. PSE should report on how well existing depreciation rates are covering the
2 ultimate costs of decommissioning, removal, and environmental remediation associated with
3 retirement.

4 iii. PSE should report on its experience with the actual costs of environmental
5 remediation of the ash and polluted water ponds. This should provide a reality check for PSE's
6 estimation of those costs.

7 iv. Even if it has to be in a confidential filing, PSE should also report on potential
8 conflicts among owners of CS 3-4 over retirement dates and the retirement costs that those
9 owners will share at the time of retirement. We have the example before us of how Talen
10 Montana's interests in getting out of the electric generating business in Montana as quickly as
11 possible might have led (or may still lead) to an earlier retirement of CS 1-2 than 2022. The
12 Commission should be aware of such possibilities and how PSE is planning to deal with them.

13 v. PSE should also be required to immediately report to the Commission if there are
14 major changes in the viability of continued operation of CS 3-4 along with an explanation as to
15 the implications of those changes for its customers on how the utility plans to deal with those
16 problems.
17

18 vi. PSE should report on the cost of the electric supply that may be needed to replace
19 the retired generators, as investigated in its IRP.
20

21 III. THE NEED FOR PSE TO DEVELOP A COMMUNITY AND WORKER
22 TRANSITION PROGRAM FOR COLSTRIP

23 **Q What is the purpose of this section of your testimony?**

24 **A The decision to retire CS 1-2 produced a significant negative response in the Colstrip area**
25 **and in Montana state government. That negative response led to proposals to try to offset the**
26 **losses to workers, businesses, and governments by imposing taxes or fees on the entities,**

1 including PSE, that own the Colstrip facilities. The dynamic between the Colstrip owners,
2 workers, and members of the Colstrip community at large, and local and state government is
3 neither productive nor helpful to the Colstrip area or the owners of the Colstrip facilities,
4 including PSE. Steps need to be taken to address these issues and seek to improve the situation.

5 This section begins with an explanation of the economic vulnerability of the Colstrip area
6 to the retirement of the generating facilities and associated coal mine that made residents fearful
7 for their economic future. I believe some of that economic insecurity could have been offset if
8 there had been an interaction between PSE and the residents and local and state government that
9 explained to residents ahead of the CS 1-2 retirement announcement what PSE and its co-owner
10 Talen Montana were actually planning to do. Such an interaction would have also informed PSE
11 and Talen Montana about the specific concerns of residents, workers, and local governments.

12 This would have provided an opportunity to focus on how all of the parties involved could assist
13 the Colstrip area in a smoother transition over a relatively long period of time. The development
14 of such a multi-party Colstrip transition effort would also have indicated to Colstrip residents
15 that they would not be alone and without tools and resources to make as smooth a transition as
16 possible. That by itself would have helped ease some of the economic anxiety and provided the
17 potential to focus on constructive solutions rather than counter-productive responses to the
18 situation. A smoother transition is in the interests of the utility-owners and their customers and
19 Talen Montana as well as the city of Colstrip and surrounding area. It is not too late to address
20 this situation, and later in my testimony I will provide some specific recommendations to
21 establish a community transition plan for CS 1-2. Going forward, and with the eventual
22 retirement of CS 3-4 on the radar screen, such proactive planning for the future of Colstrip is
23 even more important.
24
25
26

1 **Q The PSE-Talen decision to retire CS 1-2 by 2022 led to an outpouring of reaction in**
2 **Montana, most notably a negative reaction from Colstrip and eastern Montana**
3 **generally. You are a long-time Montana resident and economic analyst. How**
4 **would you explain these heated objections to the proposal to retire CS 1-2?**

5 A The residents of Colstrip and other parts of Rosebud County realized how vulnerable they
6 were to decisions made by the Colstrip plant owners. Most of those owners are located a great
7 distance away from Colstrip, with no real connection to eastern Montana other than their interest
8 in the Colstrip power plant and associated coal mine and transmission line. By itself, the small
9 town of Colstrip, with a population of about 2,300, had little or no way to influence those distant
10 decisions.
11

12 **Q In what way is the Colstrip, Montana area especially vulnerable to decisions about**
13 **retiring the electric generating units located there?**

14 A The city of Colstrip and Rosebud County where it is located is the part of the State most
15 dependent on coal and most at risk to changes in Montana coal mining and coal-fired electric
16 generation. The city of Colstrip has always been a company town and one that owes its
17 existence to the surface coal deposits located nearby. It was established by the Northern Pacific
18 Railroad in 1924 to provide coal for their steam locomotives. Coal production peaked in the
19 1940s and then began to decline as the railroad switched to diesel locomotives. Northern Pacific
20 Railroad closed its Colstrip mine in 1957.¹²
21

22 The Montana Power Company purchased the Colstrip town site ten years later in 1968
23 and began producing coal to fuel Montana electric generators and to build a series of four electric
24

25 ¹² City of Colstrip website, [http://www.cityofcolstrip.com/index.php?option=com_content&view=](http://www.cityofcolstrip.com/index.php?option=com_content&view=article&id=72&Itemid=1193)
26 [article&id=72&Itemid=1193](http://www.cityofcolstrip.com/index.php?option=com_content&view=article&id=72&Itemid=1193) (accessed Feb/ 28, 2016). Also see “Coal in Montana,” Department of
Environmental Quality, 2004,
http://leg.mt.gov/content/publications/Environmental/2004deq_energy_report/coal_text.pdf.

1 generators in Colstrip, adjacent to the coal deposits. This began another cycle of swings in
2 population and economic activity at Colstrip. In 1980, Colstrip's population was about the same
3 size as it was in 2014, namely about 2,300 residents. But in between those two dates, the
4 population swelled to 8,000 when the construction workforce for Colstrip 3 and 4 reached its
5 peak in the mid-1980s. By 1991, with the construction of the four generating units completed
6 and all of the generating units operating, the population had fallen to 4,500. Labor saving
7 technological change and business streamlining by the owners of the Colstrip electric generation
8 complex and nearby surface mine led to ongoing declines in Colstrip's population throughout the
9 1990s. By the year 2000, the population had stabilized at about its current level of 2,300.¹³

11 **Q What other characteristics of Colstrip make it vulnerable to operating decisions**
12 **about the Colstrip power plants?**

13 A Colstrip is an isolated small town in a rural area. The closest urban area, Billings,
14 Montana, is a four-hour round-trip drive away (in good weather). Colstrip area residents cannot
15 and do not commute to Billings or any other urban area for employment opportunities. The
16 range of economic alternatives available in that rural area is much more limited than an economy
17 centered on a large urban area.

19 This makes households, businesses, and local governments especially vulnerable to
20 changes in electric generation and coal consumption in the Colstrip area. The value of local
21 homes and businesses could fall dramatically with the announcement of the retirement of
22 Colstrip generators and the associated reduction in coal mining. The tax base for the Colstrip

24
25 ¹³ Colstrip was incorporated as a city in 1997. It was a Census Designated Place in 1990, but the Census
26 place boundaries and the city boundaries do not coincide. As a result, it is not easy to accurately say what
the Colstrip population was in any given year since the geographic boundaries changed. The Colstrip
population numbers provided here come from the City of Colstrip Comprehensive Growth Policy 2008,"
pages 10 and 13, available at <http://comdev.mt.gov/content/CTAP/docs/GrowthPolicies/Colstrip.pdf>.

1 Public Schools District, the Town of Colstrip, and Rosebud County would also shrink with the
2 closure of some or all of those generating facilities, making it virtually impossible to fund the
3 same level of public services.

4 **Q Was the retirement of CS 1-2 primarily driven by public policy decisions?**

5 A No. As discussed earlier in this testimony, since 2010, almost 400 coal-fired electric
6 generators in the United States were either retired or converted to an alternative fuel. Most of
7 those now-retired coal-fired electric generators were older, less efficient, and more polluting
8 generators that simply could not compete with increasingly efficient generators running on low-
9 priced natural gas. The declining cost of wind and solar electric generation added to the
10 competitive challenge faced by coal-fired generators. Flattening demand for electricity has also
11 played a role. As Talen Montana has repeatedly stated, on strict financial terms, CS 1-2 could
12 not generate electricity that could be sold in electric markets for a profit by an unregulated
13 merchant generator. The fate of CS 1-2 was largely determined by its age, efficiency, and level
14 of emissions—just like the hundreds of other coal-fired electric generators retired in recent years
15 across the nation.
16

17
18 It was market forces, low natural gas prices, and falling renewable energy costs, as well
19 as technological change, the improved efficiency of electric generation fueled by natural gas, and
20 the development of technologies to access shale natural gas that were primarily at work in these
21 retirements. The generating units most vulnerable to this market competition were older coal-
22 fired generators that were already past their original projected economic lives.

23 **Q Is this the way people in Colstrip and eastern Montana saw the retirement of CS 1-
24 2?**

25 A Unfortunately, and generally, no. If that was the way Colstrip area residents saw the
26

1 retirement of CS 1-2, there likely would have been less angst and more of a focus on how best to
2 deal with the coming economic transition.

3 When disruptive and personally costly economic changes result from impersonal sources
4 such as natural forces (“acts of God”) or even “impersonal” market forces, it is easier for people
5 to be fatalistic about the impacts on them and focus on adapting as best they can. When those
6 costly disruptive forces are believed to be the result of conscious human decisions, it is only
7 “human” to object to the decisions and the decision-makers.
8

9 **Q Are you saying that public policy did not play any role in the decision to retire CS 1-**
10 **2 and hundreds of other coal-fired generators across the nation?**

11 A No. Public policy aimed at protecting human and environmental health and slowing or
12 stopping disruptive climate change has also, appropriately, played a role in making coal-fired
13 electric generation a less attractive source of electricity, including increasingly strict regulation
14 of the pollutants from coal combustion¹⁴ and policies to incentivize the use of cleaner energy
15 sources, including renewable sources of electricity. In combination with economic forces, these
16 public policies have helped contribute to electricity prices being driven downward, making it
17 more difficult for coal generation to compete. Accordingly, the market for Montana coal based
18 electricity has narrowed. As states adopt additional, more stringent policies on the
19 environmental footprint of their electricity supply, Montana’s primary market for its coal-fired
20 electricity is likely to shrink even further.
21

22 Amid the swirl of factors affecting the economics of coal generation, it is relatively easy
23

24 _____
25 ¹⁴ It should be recalled that it was “outside” public policy, federal regulation of sulfur, and federal
26 deregulation of railroads that created the market for low sulfur Powder River Basin coal and led to the
thirty-year surge in coal production in Montana and Wyoming. Federal pollution control laws avored
Montana and Wyoming coal over Appalachian and other eastern coal mines for an extended period of
time.

1 for coal advocates in Montana to focus on out-of-state public policies as the reason for coal's
2 problems. The fact that these public policies are supported by some Montana residents makes
3 the dialog even more contentious.

4 **Q What specific steps did advocates of Montana coal take to respond to the scheduled**
5 **retirement of CS 1-2?**

6 A A number of things occurred. Local governments expressed support for the continued
7 use of coal and Colstrip generation. A citizens group, Colstrip United, was formed. Labor
8 unions, which have a significant presence at Colstrip, rallied their members. Quite naturally,
9 these various individuals and entities then looked for a legislative solution or set of solutions to
10 the threat that CS 1-2 retirement, and ultimately also the retirement of CS 3-4, posed to the
11 economic viability of Colstrip and the surrounding area.

12 **Q How did the Montana Legislature respond?**

13 A About a dozen bills were proposed dealing with the expected impacts on the Colstrip
14 community of the retirement of any of the generating facilities. Some of the bills focused on
15 getting state assistance to Colstrip to mitigate some of the economic disruption. Other bills
16 sought to bring the retirement of electric generators in Montana under state regulation. A third
17 group of bills sought to collect revenues from the owners of the Colstrip electric generators to
18 cover a very wide range of projected negative economic impacts from the power plant and coal
19 mine retirements on Colstrip residents, businesses, and government entities.

20 The bills that sought to extract payments from the owners of electric generators for
21 retiring those Montana electric generators did not pass nor did those seeking to extend detailed
22 state regulation over the process of retiring electric generators in Montana succeed. Some of the
23 bills using state resources to support the city of Colstrip and the Colstrip schools as well as other
24
25
26

1 coal-dependent communities in Montana did pass. Talen Montana was offered access to limited
2 loans from the Montana Coal Tax Trust Fund to keep CS 1-2 operating.

3 **Q Does this pattern of legislative outcomes in Montana surprise you as an economist?**

4 A No. Attempting to hold businesses that have invested hundreds of millions of dollars in
5 long lasting industrial facilities that have operated productively for forty or more years
6 responsible for all the economic disruption there may be when they finally retire their facilities
7 does not strike me as a very good way to encourage investment in the Montana economy.

8
9 Businesses and their facilities do come and go in a market economy and that sometimes leads to
10 serious local economic disruption. But a market economy would not work at all if entrepreneurs
11 could not close as well as create business operations. Price changes, technological change,
12 competition, and business success and business failure, are all part of a well-functioning market
13 economy. They cannot be legislated away and still expect to have a dynamic economy.

14 **Q Does that mean that there is nothing that can be done about the economic**
15 **disruption left in the wake of a long-lived firm closing part or all of its operations?**

16 A Certainly not. While it is not advisable for a company to be held accountable for every
17 negative economic consequence that befalls a community as a result of a business decision,
18 companies have an obligation to mitigate the deleterious consequences of their actions.

19
20 Businesses depend on and benefit from a healthy economy and a stable society with an educated,
21 engaged citizenry just as the public benefits from profitable businesses provide employment at
22 living wages. Accordingly, it is in the interest of a business to act commensurate with the
23 benefits it receives from the favorable business environment it operates in and to be mindful of
24 its important role in the body politic.

25
26 **Q Does the nature of the enterprise matter? Specifically, is there more of a need to**

1 **address the impacts on a community as a result of a business decision to terminate**
2 **or reduce its operations when that business is based on natural resource extraction**
3 **and use?**

4 A Yes, I believe so. I say this for four reasons. First, businesses (and the history of Colstrip
5 bears this out) that are heavily based on the development and use of natural resources subject the
6 communities in which they operate to an ongoing level of uncertainty as economic activity
7 “flickers” with market conditions and technological change and ultimately impose a “boom and
8 bust” cycle. In the case of Colstrip, as competition among alternative fuels for electric
9 generation continues and the market price of electricity is periodically depressed, this will
10 become more of a problem, as is clearly evidenced by the circumstances in which Talen Montana
11 finds itself. This instability and uncertainty discourages other business firms and new residents
12 from locating in such “coal towns.” Second, and relatedly, communities whose economies rely
13 on natural resources tend to be rural, small, and undiversified and thus have little to fall back on
14 when economic conditions change. Third, a decision to exploit natural resources can harm other
15 resource values, as, for example, surface mining can alter surface water systems, which are
16 critical to an agrarian economy, foreclosing—sometimes forever—the use of other natural
17 resources associated with the land, depleting the community’s natural resource base and
18 impeding subsequent economic development. Fourth, the development and use of natural
19 resources is frequently coupled with significant legacy pollution issues. This is certainly the case
20 at Colstrip, as evidenced by remediation activities planned for more than half a century into the
21 future.
22
23

24 **Q Would you go into more detail comparing the situation at Colstrip to the loss of a**
25 **relatively large long-lived industrial facility in different economic settings?**
26

1 A In urban areas with relatively diverse economies and a record of economic vitality, such
2 plant closures often are “digested” by the overall regional economy without major dislocation.
3 In that setting, where there are diverse employment opportunities, programs to assist workers to
4 find new employment that can make use of their skills is still important. But economic
5 assistance programs operating over a long period of time are usually neither necessary nor
6 effective.

7
8 Colstrip and Rosebud County are especially vulnerable to the shutdown of an industrial
9 facility that has been planned, constructed, and operated for almost half a century. Those
10 transition difficulties are tied to several socioeconomic and demographic characteristics as
11 reported in a study by Headwaters Economics:¹⁵

12 i. Rosebud County is the fifth most dependent county in the nation on federal coal
13 for employment in coal mining and coal-fired electric generation (13.6 percent of the jobs in
14 Rosebud County).¹⁶

15 ii. Rosebud County has a relatively small population even when compared to other
16 non-metropolitan counties. It has less than half the population of the average non-metropolitan
17 county in the U.S. Colstrip itself is a small town.

18 iii. Colstrip and Rosebud County are isolated rural areas in the sense that residents
19 and businesses face a long commute (over four hours round trip) to a metropolitan urban area
20 and an airport with a reasonably good connection to the rest of the nation.

21 iv. Twenty-three percent of households in Rosebud County live in deep poverty,
22 meaning living in a household with a total cash income below fifty percent of the poverty
23

24
25 ¹⁵ Economic Conditions in Communities Dependent on Federal Coal, Headwaters Economics, September,
26 2016. Available at <http://headwaterseconomics.org/energy/coal/communities-dependent-on-federal-coal/>.

¹⁶ *Id.* Only part of the Rosebud Mine coal is federally owned. However, all of the coal produced at the
mine is included in the measure of Rosebud County jobs that are dependent on coal.

1 threshold.

2 v. Thirty-nine percent of the population of Rosebud County is minority, primarily
3 American Indian.

4 These characteristics tend to limit the movement of new businesses and economic
5 activities to the Colstrip region. As a result, the region has remained primarily dependent on
6 agriculture and natural resource industries. Replacing the jobs associated with electric
7 generation and coal mining and diversifying the local economy will be very challenging.
8

9 **Q Do the owners of the Colstrip generating plants have some responsibility in
10 supporting a transition program for the Colstrip community and its workers?**

11 A Certainly. Most of the Colstrip generating plants are owned by regulated utilities that
12 have always been proud about their role as good corporate citizens in the communities they
13 serve. Hopefully that commitment to good corporate citizenship also applies to distant
14 communities that for decades have supported significant electric generation for those utilities'
15 customers.
16

17 **Q Has PSE indicated that it has that commitment to the Colstrip area?**

18 A Yes. In the PSE response to NWECA Data Request No. 012 (Exhibit No. ____ (TMP-8)
19 that asked for PSE's thoughts on community and worker transition funding, PSE stated: "In
20 short, PSE has been a responsible corporate citizen of the City of Colstrip and the State of
21 Montana for over forty-five years and will continue to be a strong contributor well into the
22 future."
23

24 In that response, PSE emphasized the fact that in addition to continuing to operate CS 3-4
25 after CS 1-2 are retired, PSE and Talen Montana will also be spending hundreds of millions of
26 dollars on the remediation of the ash ponds and other waste storage facilities associated with CS

1 1-2. In addition, the owners will be spending approximately \$77 million between 2020 and 2023
2 to design and construct a new water treatment facility to be built in the City of Colstrip. PSE
3 could have added to that list of investment activities the expenditures on remediating the ash
4 ponds and other waste storage facilities associated with CS 3-4 that will be taking place
5 simultaneously with the remediation expenditures on CS 1-2. In addition, in the future, at the
6 time of the retirement of CS 3-4, there will be additional remediation expenditures. For the
7 whole period 2016-2069, there will also be annual operations and maintenance expenses
8 associated with the monitoring and maintenance of the mitigation facilities put in place that will
9 cost approximately \$9 million per year in years 2023 to 2039 and \$4 million per year in years
10 2019 to 2022 and 2040 to 2048. For all other years between 2016 and 2069, those O&M
11 expenditures will be between \$1 million and \$2 million per year. Exhibit No. ____ (RJR-24),
12 Tables 2 and 4.
13

14 It is important to note that these planned expenditures can be part of the community and
15 worker transition program if they are carried out partially to provide employment and business
16 opportunities for local residents and businesses.
17

18 **Q In PSE’s response to NVEC *et al.* Data Request No. 012 that you mentioned above,**
19 **PSE comments that for over 45 years it has been “supporting good paying jobs with**
20 **benefits in the community of the City of Colstrip.” Are the new jobs associated with**
21 **the decommissioning and removal of CS 1-2 and the remediation of the site likely to**
22 **pay as well?**

23 A That will depend on the character of the jobs, the skill level and experience required, and
24 the responsibilities that workers must take on in those jobs. One of PSE’s consultants (HDR)
25 that provided estimates of the costs associated with the demolition of CS 1-2, suggested that PSE
26

1 could reduce its labor costs by making a point of hiring non-union workers. As HDR put it:

2 Once the Colstrip Steam Electric Station facility is shut down a union presence
3 will cease to exist at the plant. Demolition work is primarily performed by the
4 laborer and heavy equipment operator trades. Given that there is not a strong
5 laborer and operators union in the Colstrip area it is assumed that the demolition
6 work will be perform (sic) non-union. HDR based the labor costs for this estimate
7 on RS Means non-union wages currently being used in Billings, Mt.

8 Exhibit No. ____ (RJR-21), pg. 7. This is a surprising statement since the adjacent Rosebud mine,
9 which supplies coal to the Colstrip units, employs approximately 300 members of Local 400 of
10 the International Union of Operating Engineers. I realize this is an estimate from a consultant
11 and is not binding on PSE. In any event, PSE should discuss the subject with the community and
12 Colstrip area workers and make clear its intentions. Transparency and good communication
13 between the Colstrip owners, including PSE, and the community is critical, something I discuss
14 further below.

15 **Q Why are you emphasizing these ongoing activities by PSE and the other Colstrip
16 generation plant owners after CS 1-2 are retired?**

17 A A systematic transition plan for the Colstrip community would lay out all of these
18 expected ongoing decommissioning, removal, and remediation activities and try to integrate
19 them with other efforts to smooth the transition for governments, residents, workers, and other
20 businesses to an economy with less and ultimately no coal-fired electric generation at Colstrip.
21 What is needed is a thoughtful collaborative effort of the owners and representatives of the
22 community to integrate all the expected changes in economic activity, not just the negative ones,
23 with a community and worker assistance program. The owners' contribution to such a transition
24 program should not be limited to only those remediation efforts they are legally required to carry
25 out.

26 **Q Can you provide examples of such utility-supported transition programs elsewhere**

1 **in the nation?**

2 A Yes. In June of 2016, Pacific Gas & Electric Company (PG&E), California’s largest
3 energy utility, announced an agreement to close its two Diablo Canyon nuclear plants within the
4 next decade. Later that year, it announced an agreement with the seven local cities, San Luis
5 Obispo County, and the San Luis Coastal Unified School District whose tax bases will be
6 affected by the retirement of those electric generating facilities. Under the agreement, seventy-
7 five million dollars would go to offset property tax losses to different governments. The school
8 district would get \$36.8 million over the next nine years until the plant closes in 2025. Another
9 \$10 million would go for economic development efforts in the county and cities.¹⁷

11 As another example, at the end of 2014 in Vermont, the Yankee nuclear plant stopped
12 producing electricity after 42 years of operation. Economic factors, especially low natural gas
13 prices, were offered as the primary reason for the shutdown. The Yankee plant employed more
14 than 600 workers at the time its planned retirement was announced in 2013. Property taxes on
15 the nuclear facilities also provided hundreds of millions of dollars of local and state tax revenue.
16 Under an agreement with the state of Vermont, the Yankee plant’s owner, Entergy, will provide
17 \$10 million in economic development funds for Windham County where the generator is located
18 over a five-year period. It will also contribute \$5.2 million for the Clean Energy Development
19 Fund to support renewable energy projects, half of which would be spent in Windham County.
20 Entergy would also make a \$5 million payment to the state Tax Department. Entergy also agreed
21 to contribute \$25 million to a Site Restoration Trust to ensure that separate funds are available if
22
23
24

25 _____
26 ¹⁷ *San Luis Obispo Tribune*, Kaytlyn Leslie, “PG&E to pay \$85 million to cities, SLO County, school
district for Diablo Canyon closure,” [https://www.noozhawk.com/article/
pge_pay_85_million_to_slo_county_school_district_for_diablo_canyon_closure](https://www.noozhawk.com/article/pg_e_pay_85_million_to_slo_county_school_district_for_diablo_canyon_closure).

1 needed to return the site to a greenfield that would be available for re-use without restrictions.¹⁸

2 Entergy has also announced the planned closure of the Palisades power plant in Michigan
3 in 2018 and has promised to offer economic development funding similar to the Vermont
4 Yankee settlement to the southwest Michigan area impacted by the Palisades facilities.¹⁹

5 **Q These utility commitments to assisting communities as they adjust to the retirement**
6 **of larger energy facilities appear to be quite limited in terms of the time period for**
7 **which the assistance funds are available. Why is that?**

8
9 A The intent is to support a transition to a new economic reality following the shutdown of
10 a major industrial facility. The intent is not to try to permanently subsidize the re-creation of an
11 earlier economic reality. That would be enormously costly and would ultimately fail in the face
12 of market realities. The intent is much more modest in terms of both the scope and duration of
13 the efforts to smooth the transition.

14 **Q Is transition funding only the responsibility of the owners of the generating**
15 **facilities?**

16
17 A No. The state of Montana, local government entities, local organizations, residents, and
18 businesses all have crucial roles to play.

19 Montana citizens and their elected legislators four decades ago created a Coal Tax Trust
20 Fund to assure that when the coal industry and coal-fired electric generation began to fade in
21 importance, the way all other mineral industries have, there would be a permanent asset, the
22 income from which would at least partially replace the tax revenues currently coming from coal

23 _____
24 ¹⁸ *Burlington Free Press*, Mike Donoghue, December 29, 2014, “Vermont Yankee winds down
25 operations,” <http://www.burlingtonfreepress.com/story/news/2014/12/29/vermont-yankee-plant-prepares-shut-down/20992137/>.

26 ¹⁹ *Brattleboro Reformer*, December 8, 2016, “Entergy, owner of Vermont Yankee, to close Michigan
nuclear power plant,” <http://www.reformer.com/stories/entergy-owner-of-vermont-yankee-to-close-michigan-nuclear-power-plant,491603>.

1 taxes. This has been successful in the sense that the return on those coal tax trust fund
2 investments in 2014 totaled about \$40 million per year. The annual proceeds from the direct
3 taxes on coal (coal severance, coal gross proceeds, and resource indemnity coal tax) totaled
4 about twice that, \$78 million.²⁰ In the decades going forward, the coal trust funds and the return
5 on them will continue to grow even if the annual coal tax revenues decline.

6
7 That is not to suggest that the Coal Tax Trust Funds earnings will offset a decline in coal
8 mining. Currently Montana is supporting state government services from both the half of coal
9 tax revenues that do not go into the trust fund and the revenues generated by the trust fund. The
10 Coal Tax Trust Fund helps to stabilize the revenues available to support state government even
11 as coal tax revenues fluctuate or decline.

12
13 Given that one of the purposes of the coal taxes and the trust fund built on those taxes
14 was to assist in the economic transition when the day came when the coal industry was declining,
15 one would hope that Montana state government would assist Colstrip and Rosebud County as
16 they adjust to a decline in both coal mining and electric generation. In fact, that is exactly what
17 the Montana Legislature sought to do during its last session as discussed above. That assistance
18 will have to continue and, when CS 3-4 are retired, will have to increase substantially.

19 **Q You said above that local governments and residents and businesses in the Colstrip**
20 **area also have a role to play in this transition. What did you mean by that?**

21 **A** In the most general terms, Colstrip will have to be open to economic development efforts
22 in industries different from those that have dominated the regional economy up to this point:
23 agriculture, coal mining, and electric generation. “Transition” does not mean a re-creation of the
24 past. Just as the economy of the closest metropolitan urban area to Colstrip—Billings,

25
26 ²⁰ Planning for Montana’s Energy Transition, Headwaters Economics, February 2016, Figure 19,
<https://headwaterseconomics.org/wp-content/uploads/report-montanas-energy-transition.pdf>.

1 Montana—has changed dramatically over the last half-century, the Colstrip area will have to be
2 open to shifts in economic activity on a similar scale.

3 But there is another very specific impact that will be difficult for local residents and
4 businesses to deal with. By one estimate, the Colstrip power plant and the Rosebud Mine pay 77
5 percent of local property taxes in Rosebud County. As a result, property tax levies on residents
6 and businesses are very low. The average levy including the county, municipality, local school,
7 county-wide school, and SID levies (but excluding the state levy) is a quarter of what the average
8 property tax levy is for all Montana counties.²¹ The cost of providing public services to residents
9 and businesses in Rosebud County has been very low because of the large tax base provided by
10 the Colstrip power station and the coal mine that fuels it. When, ultimately, all the Colstrip
11 generators are retired, Rosebud County government entities will have to raise property taxes
12 significantly and/or cut government services.
13

14 That, of course, is not imminent, but it is part of the future for which Rosebud County
15 communities, residents, and businesses need to be considering and planning.
16

17 **Q What is it that you are recommending this Commission do about community and**
18 **worker transition planning for the retirement of the Colstrip generating units?**

19 A The Commission should make clear to PSE that it must be engaged with stakeholders in
20 the Colstrip communities and Montana state government in the planning for as smooth a
21 transition as possible to a smaller PSE presence in the Colstrip area. Part of the anxiety in the
22 Colstrip area following the announcement of the retirement of CS 1-2 by 2022, which was not
23 allayed when bills designed to address impacts to Colstrip from unit retirement failed in the
24 legislature, was due to the fact that Colstrip and Montana were taken by surprise, and, on the
25

26 _____
²¹ *Id.* p. 28.

1 basis of some misleading information, believed that a major economic collapse in the area was
2 imminent when that was not the case.

3 A public process that keeps stakeholders in Montana and the Colstrip area aware of
4 PSE's and Talen Montana's economic activities and intentions in the area would be helpful to all
5 concerned. It would provide accurate information to local residents and allow PSE to hear and
6 respond to residents' concerns.

7
8 In addition, PSE should be open to negotiating with stakeholders any steps that PSE
9 could take to ease the transition the Colstrip communities will be facing. PSE or its contractors
10 will be doing a lot of hiring and purchasing of materials. It should be possible to coordinate
11 those activities with efforts to provide new jobs to Colstrip area residents. PSE may be able to
12 employ some of the Colstrip 1-2 workers in its operations in the Puget Sound area. PSE may
13 have expertise in labor markets or economic development that would be helpful as the Colstrip
14 area contemplates diversifying its economy. Expanded wind-electric generation in Eastern
15 Montana may provide some of the replacement power for the retired CS 1-2 plants and the
16 Colstrip transmission pathway may be used to move that power to the west coast; there may be
17 resulting employment opportunities in wind electric generation available for Colstrip area
18 residents with some retraining.

19
20 The point is that such a public process in the Colstrip area could reduce tensions and
21 unproductive conflict while making the transition to a smaller PSE presence smoother for both
22 PSE and Colstrip residents. Whatever the cost of such a process to PSE, it would be exceedingly
23 small compared to the overall decommissioning, removal, and remediation costs PSE is going to
24 face in any case, and a productive interaction with Colstrip and other Montana stakeholders may
25 save PSE money by avoiding unproductive conflict.
26

1 **Q Can you be more specific as to what activities such a Community and Worker**
2 **Transition Program would focus on?**

3 A Exactly what the content of a Community and Worker Transition Program should be
4 cannot be laid out before a stakeholders group is formed and the concerns of stakeholders are
5 heard. The first step has to be the formation of such a stakeholder group. At a minimum, such a
6 group should contain representatives of the City of Colstrip, Rosebud County, Colstrip Schools
7 District, the Montana Governor's Office, Tribal government, labor unions with a Colstrip
8 presence, and local citizen groups.

9
10 Some of the issues with which such a Community and Worker Transition Program would
11 almost certainly seek to examine would be:

- 12 • Worker transition
 - 13 ○ Worker reassignment at Colstrip and within PSE
 - 14 ○ Worker counseling and support
 - 15 ○ Worker retraining
 - 16 ○ Severance pay
- 17 • Community transition
 - 18 ○ Economic Development/Diversification Planning and funding
 - 19 ○ Preparation for decline in local tax base
 - 20 ○ Plans for site redevelopment (longer run issue but important)
 - 21 ○ Disposition of Colstrip power plant water rights
- 22 • Reporting and Transparency
 - 23 ○ Bi-annual public reports to the WUTC providing a full accounting of
 - 24 activities of the transition stakeholder group and any other transition
 - 25
 - 26

1 activities, costs, expenditures or grants, etc.

2 This, of course, is an incomplete list, but it does lay out the subjects that have been included in
3 other utilities' Community and Worker Transition Programs.

4 **Q In the discussion above, are you referring to PSE taking responsibility for a process**
5 **to begin the consideration of a community and worker transition program**
6 **associated with the retirement of CS 1-2 or are you also referring to CS 3-4.**

7
8 A I am specifically referring to CS 1-2, but to some extent this discussion is relevant to the
9 future of CS 3-4. PSE owns a half-interest in units 1-2, with Talen Montana owning the other
10 half. PSE is beginning to confront questions about what unit closure portends for the
11 community. Given PSE's 50% ownership of CS 1-2 coupled with their not insignificant
12 ownership share in CS 3-4, it is appropriate for, and PSE is in a position to, take the lead on
13 transition planning. With a no-later-than 2022 closure date set for CS 1-2, a process to consider
14 the design of a community and worker transition program should begin now.

15
16 Colstrip 3-4 is different. Although PSE has more of an ownership interest in those two
17 units than any other owner, at one-quarter, there are five other owners. PSE will have to
18 negotiate and coordinate with the other five owners over their joint responsibilities in the
19 retirement of CS 3-4. At the same time, however, and as discussed in the beginning of this
20 testimony, market forces are and will continue to impact the viability of CS 3-4. The retirement
21 of those units, potentially sooner than is presently anticipated, would accelerate the need for
22 Colstrip owners, the city of Colstrip, Rosebud County, and the state of Montana to address the
23 future of the affected community. A process focused on CS 1-2 transition could serve as a
24 template and prove invaluable in planning for the retirement of units 3-4.

25
26 IV. CONCLUSION

Q Does that conclude your prefiled direct testimony?

1 A Yes, it does.

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