ANNUAL COLSTRIP REPORT

ON DECOMMISSIONING AND REMEDIATION

PUGET SOUND ENERGY
DOCKETS UE-170033 AND UG-170034
(CONSOLIDATED)

DECEMBER 1, 2021

BACKGROUND

Pursuant to paragraph 119 of the Multiparty Settlement Agreement approved in Dockets UE-170033 and UG-170034 (consolidated) and paragraph 429 of Order 08 in Dockets UE-190529 and UG-190530 (consolidated), Puget Sound Energy ("PSE") submits this Annual Colstrip Report on Decommissioning and Remediation. The intent of this report is to provide the fourth annual update to the Commission on Colstrip's status, provide the most recent estimates for retirement dates, and the amount of decommissioning and remediation ("D&R") expenditures for the Colstrip units along with an update to the estimated future D&R costs. The annual report also provides a detail of the sufficiency of the retirement account established pursuant to RCW 80.84.020 to cover the estimated D&R costs of Units 1&2. Additionally, this report will provide updates regarding the sufficiency of the depreciation rates for Colstrip Units 3&4 to cover D&R costs for those units and the amount spent on D&R costs. In those years where an IRP is filed, the report will also include information regarding replacement power costs.

DEFINITIONS

In an effort to provide clarity and mutual understanding, PSE will refer back to definitions used in previous proceedings to set a level of understanding as to how the terms D&R are used.

Decommissioning – In the 2017 PSE general rate case, PSE shared its interpretation of "decommissioning" generally as the estimate of costs to suspend operations, and remove some or all of the above grade structures associated with Colstrip Units 1&2, followed by reasonable restoration in these areas.

Remediation – In the written comments filed by PSE under Docket UE-151500, PSE defines remediation as, "additional requirements (state or federal) associated with soil or groundwater. These requirements may be a function of (i) environmental laws or regulations not yet promulgated, (ii) amendments to existing laws or regulations that require greater stringency for certain constituents associated with the operation of Colstrip Units 1&2, (iii) accidental leaks or spills that have not yet been identified, (iv) litigation, and/or (v) state or federal negotiated or mandated requirements."

PSE continues to use the above definitions in providing information for this report and considers these same definitions to apply to Colstrip Units 3&4. Essentially, decommissioning is related to the above grade structures of Colstrip. Remediation relates to addressing the legal requirements of the environmental impact related to Colstrip operation.

Decommissioning –

There are currently no laws or regulations related to the shut down or removal of the physical structures of Colstrip. However, in practical terms the retirement of a coal generating unit needs to address the physical safety of the structures and protect human health and the environment.

In this report PSE will discuss its updated estimates for decommissioning below in question iii.

Remediation –

An Overview of How the Remediation Process Generally Works

Remediation projects, whether they are managed within the Federal Superfund program or a State led program, follow a set process that was originally developed as part of the Federal Superfund program. The core of the program and process are the Remedial Investigation ("Investigation"), Feasibility Study ("Study") and Engineering & Remedial Design ("Design") phases. During the Investigation phase, the nature and extent of contamination is determined through the performance of soil and groundwater investigations. The information obtained through those investigations is used to identify cleanup criteria based on the chemicals of concern, the areas and medium affected by those chemicals, the concentrations of the chemicals and any existing or potential receptors that could be impacted by the chemicals. The Study phase builds upon the information developed as part of the Investigation phase and identifies technologies that are capable of addressing the contamination as well as the potential costs with the ultimate goal of identifying a Preferred Alternative that is agreed upon by the regulatory agency. At this point, the level of design is typically 5 to 10% which results in the cost estimates being high level and subject to change. Upon the completion of the Investigation and Study phases, the agency will typically direct the performing party to proceed with the next step which is the Engineering & Remedial Design. During this stage, the primary focus is the engineering and design of the Preferred Alternative as well as identification and completion of potential additional investigation needed in support of the design stage. Final design, permitting and contracting eventually provide greater clarity as to what the final cost will be.

The Process of Remediation as it Relates to Colstrip

Remediation work at Colstrip is driven by three regulations, the Federal Environmental Protection Agency's ("EPA") Coal Combustion Residuals Rule ("CCR"), the Montana Administrative Order on Consent ("AOC"), and the Montana Coal-Fired Generating Unit Remediation Act.

CCR (Federal)

The CCR rule was published by EPA on April 17, 2015 and became effective October 19, 2015. In 2016 the U.S. Senate passed legislation amending the Rule. The Rule's intent is to regulate coal combustion residuals under the Resource Conservation and Recovery Act, Subtitle D. The CCR rule addresses the risks from coal ash disposal and sets out recordkeeping and reporting requirements.

AOC (State)

The AOC addresses impacts to groundwater from Colstrip. It was entered into in 2012 by Talen Montana ("Talen")[1] as operator of Colstrip and the Montana Department of Environmental Quality ("DEQ"). It provides an extensive process for determining groundwater impact and assessing previous work to address impacts, as well as, laying out standards for addressing contamination and evaluating options for ultimate clean-up. The Order provides a process for investigation and for the development of reports and plans necessary for the remediation of contamination associated with the operation of the Colstrip plant. The Order requires that investigations are overseen by the DEQ and it is the DEQ that will ultimately review and approve all reports and plans. The AOC splits Colstrip environmental impact into the following three areas for working purposes:

1. the Plant Site (includes the area near the physical plant structures, some of which are common structures for Units 1-4),
2. Units 1&2, and
3. Units 3&4.

The vast majority of the costs for CCR are encompassed in the AOC. Therefore, the AOC reports are used as the basis for amounts disclosed in this annual report.

A synopsis of the process from the DEQ website (http://deq.mt.gov/DEQAdmin/mfs/ColstripSteamElectricStation) is provided below.

- *Step 1: Talen must prepare "Site Characterization Reports" for each of the three areas that describe the existing conditions, including the extent of the contamination. The reports must also describe what has been done so far to address the contamination, and how effective those measures have been in remediating the contamination.*

[1] The original operator of the Colstrip plant was Montana Power Company. In 1999, PPL purchased the Montana Power Company ownership portion of Colstrip and took over the operator role. In 2015 PPL restructured their assets and created Talen Energy which then assumed the operator role at Colstrip. Talen Energy has since had an ownership change but still remains operator at Colstrip in the form of Talen Montana ("Talen").

- *<u>Step 2</u>: Talen will prepare Cleanup Criteria and Risk Assessment Reports. These reports will identify the standards that Talen will have to achieve in its remediation of the contamination.*
- *<u>Step 3</u>: Talen must prepare Remedy Evaluation Reports, which will evaluate different options for remediation of the contamination.*

DEQ will use the Remedy Evaluation Reports to select a remediation plan for Talen, who will be required to submit final designs based on that plan. After DEQ approves the final plans, Talen will be required to implement the selected remediation.

Currently, all three steps have been completed for the Plant Site Area, the Units 1&2 and Units 3&4 areas; although, final designs have not all been developed nor submitted with the DEQ at this point.

The Remedy Evaluation Report for the Plant Site area has received approval from DEQ. The Remedy Evaluation Report for Units 1&2 was considered in a formal dispute resolution process with DEQ and a settlement has been reach which identified Alternative 10 as the approved Remedy Evaluation. However, Talen may continue to work on a different plan as an alternative to the previously approved Alternative 10 and petition DEQ for review of the Remedy Evaluation for Units 1&2 within two years. The Units 3&4 Remedy Evaluation Report was conditionally approved by DEQ in February 2020 with final approval yet to be provided.

The plan submission is as follows –

Report	Based On	DEQ Review Status
Plant Site Remedy Evaluation	Alternative 4	Approval October 2018
Units 1&2 Remedy Evaluation Integrated Report	Alternative 10	Approval with options October 2021
Units 3&4 Remedy Evaluation	Alternative 4	Conditional approval February 2020

As previously discussed, the above reports are used as the basis for the amounts discussed in the detailed reporting sections below.

<u>Montana Coal-Fired Generating Unit Remediation Act</u>

The Montana Coal-Fired Generating Unit Remediation Act is codified in Montana Code Title 75, Chapter 8. The code requires an owner that is retiring a coal fired plant to file a remediation plan. The plan must demonstrate that it will attain a degree of cleanup of the coal-fired generating plant affected property consistent with, but not more stringent than applicable legal obligations, giving consideration to reasonably anticipated future uses of affected property. There are also labor related requirements that the plant

owners must follow when undertaking remediation activities. In practice the law ensures that a retiring coal plant owner communicates their intentions of how to meet legal obligations such as the AOC and CCR to the State so DEQ can review and ensure compliance. No additional remediation costs have been realized with this law since it mainly ensures environmental remediation is done within current laws and regulations.

Colstrip Reporting Requirements

PSE provides the following responses to the specific questions outlined in paragraph 119 of the Multiparty Settlement Agreement approved in Dockets UE-170033 and UG-170034 (consolidated) ("2017 GRC Settlement") as well as the requirement in paragraph 429 of Order 08 in Dockets UE-190529 and UG-190530 (consolidated):

(i) [T]he most recent estimate of the actual retirement date for Colstrip Units 1&2 and Colstrip Units 3 and/or 4.

PSE and Talen are 50 percent partners in Units 1&2 and ceased operating the units in January 2020. The units were retired on PSE's books in December 2019.

Under the Washington Clean Energy Transformation Act ("CETA"), Washington utilities will be required to eliminate coal-fired resources from their allocation of electricity by December 31, 2025[2]. Units 3&4 are jointly owned by six independent entities and the Units 3&4 Ownership & Operating ("O&O") Agreement is largely silent on the project's retirement process. Under ongoing operations each owner must provide their share of coal to run the units as long as one owner requests generation from the Units. Further, the term of the agreement runs as long as the project is capable of providing electricity. Finally, the only direct reference to the cessation of the project is when it is no longer capable of producing electricity; however, no criteria or process is set out to determine when that point occurs. Consequently, past interpretation of the agreement has been that all owners must unanimously agree to the final retirement dates of Units 3&4. In 2020 the Colstrip co-owners moved the question of unanimity versus majority vote for Colstrip Unit closure, to legal arbitration. The arbitration process is underway but not concluded at the filing of this report. Accordingly, given these complex circumstances, Colstrip Units 3&4 do not have an identified retirement date at this time.

(ii) [I]n the event of an estimated retirement date earlier than July 1, 2022, for Colstrip Units 1&2, and upon the determination by PSE of an estimated retirement date for Colstrip Units 3 and/or 4, a discussion and evaluation of consequences to customers arising from those estimated retirement dates.

As noted above Colstrip Units 1&2 ceased operating in January 2020 and have therefore been retired.

[2] RCW 19.405.030(1)(a)

As a result of the 2017 GRC Settlement, PSE is able to utilize production tax credits ("PTCs") and hydro-related Treasury Grants to offset the unrecovered plant balances as well as D&R costs for Units 1&2. Both the plant balance and the treasury grant balances are already included in current rates. Pursuant to the 2017 GRC Settlement, the unrecovered plant balance at retirement became a regulatory asset that is allowed rate base treatment – mirroring the treatment of the existing plant balance – which results in similar treatment whether the unrecovered plant balance is held in plant accounts or in regulatory asset accounts. Additionally, monetized PTCs accrue interest at PSE's authorized rate of return in order to simulate rate base treatment until they can be incorporated into rates. Therefore, since all forms of plant balance, regulatory asset and PTCs are provided rate base treatment or its equivalent, PSE does not consider there to be an impact to customers related to the plant balances for the earlier retirement date. PSE incorporated monetized PTCs as of June 30, 2020 into rate base as part of the Power Cost Only Rate Case which went into effect on July 1, 2021.

Regarding Colstrip Units 3&4, as stated above, PSE cannot unilaterally determine a retirement date for these units. Therefore, it is premature for PSE to discuss and evaluate the consequences of the retirement of these units.

(iii) [D]ecommissioning and remediation expenditures associated with Colstrip Units since the time of the last report and updated estimates of future costs.

Item (iii) in paragraph 119 of the 2017 GRC Settlement requires reporting of costs *since the last report*. However, paragraph 429 in Order No. 08 in Docket UE-190529 requires PSE to include *all* D&R expenditures in the Annual Colstrip Reports. Therefore, beginning with the annual report filed in 2020, amounts provided in this section represent all D&R costs from inception through the cutoff date of the report, which in this case is September 30, 2021.

As of September 30, 2021, there have been $18.1 million of decommissioning costs incurred for Colstrip Units 1&2 which were offset by the treasury grant funding allowed pursuant to Chapter 80.84 RCW. The work done was to ensure the structures can be left safely until demolition which will occur at a later date. The activities included Costs associated with finalizing coal contract remediation as well as demolition of selected accessory structures that were no longer needed due to the cessation of generation. Demolition costs were related to the cooling towers, clarifier tanks and some coal conveyors. Also the main transformers and other parts and tools unique to the facilities were removed from the site. Additionally, processes such as fluid drainage, electrical disconnection, universal and hazardous waste identification and removal were completed.

The main portions of Colstrip Units 1&2 will remain intact until the retirement and disposition of Units 3&4. PSE and Talen may choose to do selected demolition on some out-buildings and equipment in the future but little, if any, demolition will occur until Units 3&4 cease operation. There is no estimate of this cost at this time.

Life to date remediation expenditures recorded for Units 1&2 are $19.4 million which were offset by previously collected legal cost of removal or by the treasury grant funding allowed pursuant to Chapter 80.84 RCW.

Pursuant to paragraphs 768 and 769 in the Commission's Final Order 8 of Docket UE-19529 et al, all remediation expenditures for Colstrip 3&4 have been moved to a regulatory asset account. This account contains all life to date remediation costs and totals $21.5 million. It is anticipated that these costs will be recovered through depreciation rates for Units 3&4 as further discussed below.

To date there have been no decommissioning expenditures for Units 3&4.

The following addresses PSE's current estimates of future D&R costs for the Colstrip Units.

Decommissioning –

There will be continuing decommissioning costs to keep Units 1&2 in a safe, dark, cold and dry condition including monitoring of the structures for security and safety purposes. This includes, but is not limited to, maintenance and lighting of the stacks, periodic walks through the generator building to monitor for issues like pest control and safety hazards, and maintenance of storm water and runoff systems.

Given the fact there is no identified retirement date for Colstrip Units 3&4 there has been no estimate for decommissioning of the physical structures of that portion of the facility. An assumed amount of non-legal cost of removal totaling $40/KW is included in depreciation rates for Colstrip Units 3&4.

Remediation –

Plant Site

The Plant Site Remedy Evaluation Report Alternative 4 was approved by the DEQ in 2018. Talen filed an update with the DEQ in November 2021 on the status of the plan removing costs associated with actions undertaken and completed and updates on future financial projections. The updated total estimated cost of work to be completed in 2022 and forward for the Remedy Evaluation report for the Plant site is $79.3 million in 2019 dollars. PSE's estimated share of the remaining obligation is $29.3 million and of that $19.0 million is allocated to Units 1&2 and $10.3 million is related to Units 3&4. When adjusted for inflation, PSE's share of the estimated costs total $42.3 million, with $27.5 million and $15.4 million allocated to Units 1&2 and Units 3&4, respectively. Attachment A to this report provides the breakdown by year of these cost estimates.

Units 1&2

In November 2020, DEQ conditionally approved the Integrated Unit 1 and 2 Remedy Evaluation Report, Alternative 10 for Units 1&2 remediation and asked for a significantly higher financial assurance then recommended by Talen. Alternative 11 had been

Talen's recommended Alternative and previous practice by DEQ was to choose the Talen recommended Alternative and accept the suggested financial assurance amount. Consequently, following the Alternative 10 choice by MDEQ, Talen invoked formal dispute resolution to challenge the Alternative choice as well as the amount of financial assurance DEQ was requesting. After extensive discussion, research and collaboration DEQ and Talen agreed to a Settlement Agreement in October 2021. The Settlement Agreement ("Agreement") is an addendum to the AOC. The Agreement provides procedures for further evaluation of a single additional remedial alternative ("Alternative 11A") while otherwise proceeding with work related to Alternative 10 which remains DEQ's chosen Alternative.

The updated total estimated cost of work based on Alternative 10 to be completed in 2022 and forward is $95.9 million in 2021 dollars. When adjusted for inflation, PSE's share of the estimated costs total $115.2 million.

Units 3&4

The Units 3&4 Remedy Evaluation Report was conditionally approved by DEQ in February 2020. Alternative 4 was chosen by DEQ to meet the necessary clean up criteria. Similar to the Plant Site report, an update was filed with the DEQ in November 2021 which shows the status of the plan removing costs associated with actions undertaken and completed and updates on future financial projections. The updated total estimated cost of work to be completed in 2022 and forward is $29.0 million in 2019 dollars. When adjusted for inflation, PSE's share of the estimated costs total $41.8 million.

The following tables summarize PSE's estimated future remediation costs associated with Units 1&2 and Units 3&4 based on the conditionally approved DEQ alternatives to date or alternatives which PSE may further advocate for with the DEQ. The inflation adjustment of 2.5% used in this report comes from PSE's 2021 IRP report.

Summary of Units 1&2 Decommissioning & Remediation Estimate PSE's Share

	Estimated Costs	
	Current Dollars *	Inflation Adj. @2.5%
Decommissioning[1]	$ -	$ -
Plant Site Remedy Eval[2]	18,950,511	27,527,413
1&2 Integrated Remedy Eval[3]	95,925,000	115,212,037
Total	$114,875,511	$142,739,450

* Plant Site costs are in 2019 Dollars, Unit 1&2 Remedy Eval costs are in 2021 Dollars.

[1] Actual life to-date spend on Units 1&2 Decommissioning is reported above. There are no estimates of future decommissioning costs at this time

[2] Based on Plant Site Remedy Evaluation, Alternative 4, updated 11/1/2021

[3] Based on the Units 1&2 Integrated Remedy Evaluation, Alternative 10, updated 3/2/2021

Summary of Units 3&4 Decommissioning & Remediation Estimate PSE's Share

	Estimated Costs*	
	Current Dollars	Inflation Adj. @2.5%
Decommissioning[1]	$14,800,000	$17,163,463
Plant Site Remedy Eval[2]	10,331,870	15,430,031
3&4 Remedy Eval[3]	29,015,525	41,827,530
Total	$54,147,395	$74,421,025

* Decommissioning Costs are in 2019 Dollars. Remediation costs are in 2019 Dollars

[1] Based on an assumption of $40/MW as built into decommissioning costs in the Depreciation Study approved in PSE's general rate case in Docket UE-190529 and inflated to 2025.

[2] Based on Plant Site Remedy Evaluation, Alternative 4, updated 11/1/2021

[3] Based on Units 3&4 Remedy Evaluation, Alternative 4, updated 11/1/2021

(iv) [A]n evaluation of the sufficiency of the retirement account established pursuant to Chapter 80.84 RCW to fund and recover decommissioning and remediation activities for Colstrip Units 1&2.

The retirement account established was funded by $95.9 million of Treasury Grants available to address Colstrip Units 1&2 D&R activities. At this time, estimated future D&R costs for Units 1&2 on a nominal basis are $114.8 million, based on the DEQ Settlement Agreement which identifies Alternative 10 as the currently chosen Alternative. Of these estimates that can be adjusted for inflation, estimated future D&R costs for Units 1&2 on an inflation adjusted basis are $142.8 million. These estimates are for future spend and, as noted above, PSE has already spent $37.5 million on decommissioning and remediation on Units 1&2. When combined with estimated future expenditures, if realized, would lead to a deficiency of approximately $56.4 million.

(v) [A]n evaluation of the sufficiency of existing depreciation rates for Colstrip Units 3&4 to cover decommissioning and remediation costs for those units.

Under traditional ratemaking, depreciation rates are designed to recover both the cost of the asset as well as the cost of removal. The currently approved depreciation rates, if left in effect through December 2025, are estimated to recover approximately $42.6 million in D&R costs. These rates were approved in PSE's last general rate case, Docket UE-190529 and became effective October 15, 2020. Based on amounts spent to date, the inflated cost of Alternative 4 and conditionally approved by DEQ in February 2020, approximately $59.4 million in projected D&R will not be covered by existing depreciation if current depreciation rates continue through 2025.

PSE intends to file a general rate case in 2022 and, based on Order 08 in PSE's last GRC[3], will propose a tracking and true-up mechanism for Colstrip D&R costs. If this

[3] UE-190529 Order 08 ¶425

tracker or new depreciation rates are approved, the above estimates are likely to change.

The difference in amounts collected through rates and estimated costs is due to updated remediation estimates being received after the filing of PSE's last general rate case and normal regulatory lag[4] in getting depreciation rates implemented. Additionally, an inherent difference exists as a result of how the depreciation rates were calculated in the approved study. A common method for incorporating cost of removal estimates in depreciation studies is to calculate the depreciation rates in a way that assumes the prior recovery of cost of removal has generally matched the prior recovery of the life component. This was the method employed in the development of the existing rates for Colstrip 3&4. Prior recovery of cost of removal for Colstrip 3&4, however, was not recovered at the same pace as the life component of the facility. The study assumed that roughly 63% of the total $71.5 million of estimated cost of removal had been previously recovered, when in fact, only about 21% had. This inherent inconsistency is a primary driver for the difference between the estimated $71.5 million of total cost of removal used to develop the rates and the estimated $42.5 million that is estimated to be recovered if rates remain unchanged through 2025.

(vi) [F]or years in which PSE issues an Integrated Resource Plan, updated replacement power costs.

Please refer to page 3-5 of the Resource Plan Decisions section of PSE's 2021 IRP filed under UE-200304 which discusses PSE's treatment of the Colstrip facilities and alternative resources.

[4] Aside from the regular lag inherent in depreciation studies (PSE's study was performed as of December 2018 but was not to be implemented until May 2020), PSE's electric rates from Docket UE-190529 were implemented five and a half months after the originally adopted procedural schedule due to additional time requested by the Company as well as time required for legal actions sought by the Company resulting in depreciation rates implemented almost two years after the time period on which they were studied.