Exh. DCG-4
Docket UE-200115
Witness: David C. Gomez

BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Application of **PUGET SOUND ENERGY** **For an Order Authorizing the Sale of All of Puget Sound Energy's Interests in Colstrip Unit 4 and Certain of Puget Sound Energy's Interests in the Colstrip Transmission System**	**DOCKET UE-200115**

EXHIBIT TO
TESTIMONY OF

David C. Gomez

STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

Roberts Confidential Exh. No. RJR-3C (redacted), Docket UE-190529

October 2, 2020

EXH. RJR-3C
DOCKETS UE-19___/UG-19___
2019 PSE GENERAL RATE CASE
WITNESS: RONALD J. ROBERTS

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**Docket UE-19____** **Docket UG-19____**

SECOND EXHIBIT (CONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF

RONALD J. ROBERTS

ON BEHALF OF PUGET SOUND ENERGY

REDACTED VERSION

JUNE 20, 2019

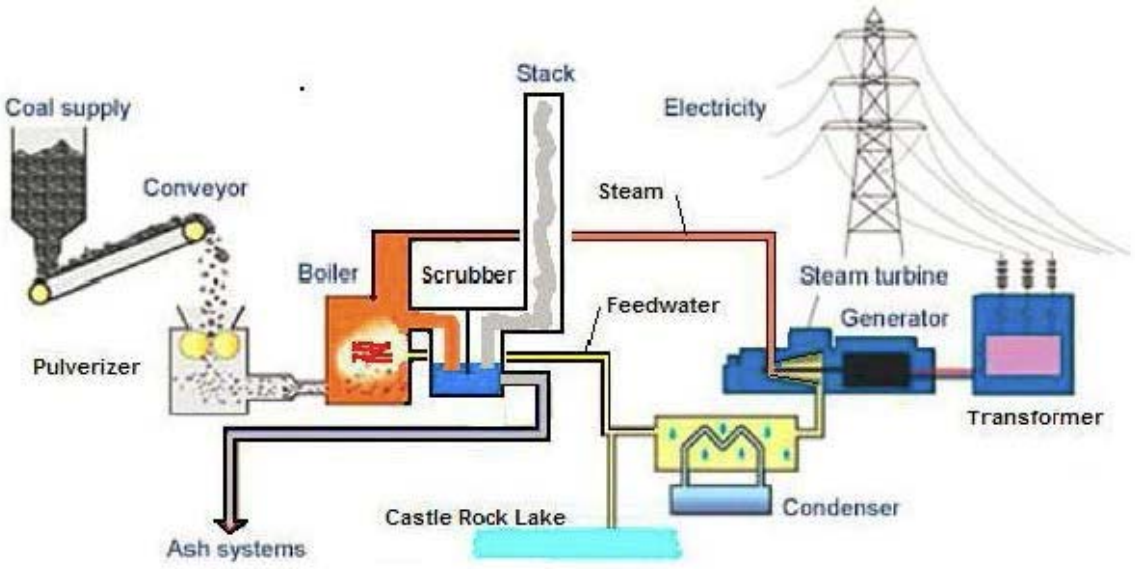
PUGET SOUND ENERGY

SECOND EXHIBIT (CONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF RONALD J. ROBERTS

I. Overview of the Colstrip Steam Electric Station

Each set of Colstrip Units 1 & 2 and Colstrip Units 3 & 4 consists of a fuel supply system, a coal-fired boiler, a steam turbine-generator, a cooling tower, step-up transformers, piping, and electric distribution and auxiliary equipment. Colstrip Units 1 & 2 and Units 3 & 4 are each paired, sharing certain common systems. In addition, Colstrip Units 1 & 2 and Colstrip Units 3 & 4 share certain common facilities (administrative buildings, supply warehouse, water supply system, transmission lines etc.). Figure 1 provides a simplified illustration of how Colstrip generates electricity.

Figure 1. How Colstrip Units Generate Electricity



The Colstrip Steam Electric Station was constructed adjacent to the Rosebud Coal Mine, a surface mine originally established to supply coal to locomotives of the Northern Pacific Railroad. Rosebud Mine produces low-sulfur, sub-bituminous coal with an approximate heating value of 8400 BTU per pound. The coal is crushed into 3-inch chunks and transported to the generating plant on overland conveyors or in trucks where it is stored in piles at the plant site before being moved to silos in the boiler buildings. The coal travels through a pulverizer that grinds it to the consistency of talcum powder. The pulverized coal is then mixed with air and blown into the boiler. Inside the boiler, the coal and air mixture burns, releasing hot gases that convert water in boiler tubes to steam. The steam powers turbines connected to electric generators, which transform the mechanical energy from the turbine into electric energy.

Once combustion is completed, the hot gases are drawn into a set of scrubbers and cleaned to minimize pollutants emitted before being exhausted through the stack. Bottom ash and fly ash are residuals created from coal combustion. Bottom ash, the heavier of the two residuals, sinks to the bottom of the boiler where it is collected for storage. The lighter fly ash is pulled into the scrubbers with the flue gases, where it is captured for storage. The scrubbers also capture sulfur and mercury released from the coal during combustion.

Water for operations at the Colstrip Steam Electric Station is pumped approximately 32 miles from the Yellowstone River to a man-made lake constructed as part of the plant facilities. The pumping station at the Yellowstone River and two pipelines are owned and operated as a jointly-owned facility of Colstrip Units 1 & 2 and Colstrip Units 3 & 4. The lake (Castle Rock Lake) is large enough to provide a thirty-day supply of water.

As water enters the plant, it is divided into two streams. Most of the water is directed to the cooling towers where it replaces water lost from evaporation, the rest is used for various processes including equipment cooling, scrubber system make-up, and use in the boiler. Water to be used in the boilers is demineralized before entering a closed-loop system that passes through the boiler and turbine system. It is then condensed and passes into a hot well where the cycle begins again. The water from Castle Rock Lake is also used to provide water to the city of Colstrip, Montana.

A. Colstrip Units 1 & 2

Colstrip Units 1 & 2 consist of two coal-fired steam electric plant units located in eastern Montana about 120 miles southeast of Billings, Montana. Colstrip Units 1 & 2 began operation in 1975 and 1976, respectively, and each unit produces up to 307 megawatts ("MW") net.

PSE and Talen Montana LLC ("Talen Montana") each owns a 50 percent, undivided interest in the generating plants and related facilities of Colstrip Units 1 & 2. Talen Montana is an independent power producer and is not subject to regulation by any state public service commission.

The following three agreements govern the ownership and operations of Colstrip Units 1 & 2:

(i) the Construction and Ownership Agreement, dated as of July 30, 1971, by and between The Montana Power Company and the Puget Sound Power & Light Company (the "Colstrip Units 1 & 2 Construction and Ownership Agreement") provides for the terms and conditions of the construction and ownership of Colstrip Units 1 & 2;

(ii) the Agreement for the Operation and Maintenance of Colstrip Steam Electric Generating Station, dated as of July 30, 1971, by and between The Montana Power Company and the Puget Sound Power & Light Company (the "Colstrip Units 1 & 2 Operation and Maintenance Agreement") provides for the terms and conditions of the operation and maintenance of Colstrip Units 1 & 2; and

(iii) the Common Facilities Agreement, dated as of May 6, 1981, by and between The Montana Power Company, Puget Sound Power & Light Company, Puget Colstrip Construction Company, The Washington Water Power Company, Portland General Electric Company, Pacific Power & Light Company, and Basin Electric Power Cooperative (the "Colstrip Common Facilities Agreement") provides for the terms and conditions for allocating the use and costs, and operation and maintenance, of certain facilities that are common to Colstrip Units 1 & 2 and Colstrip Units 3 & 4.[1]

B. <u>Colstrip Units 3 & 4</u>

Colstrip Units 3 & 4 is comprised of two coal fired steam plant units adjacent to Colstrip Units 1 & 2 in Colstrip Montana. Colstrip Units 3 & 4 began construction in 1979. Colstrip Unit 3 began commercial operation in 1984, and Colstrip Unit 4 followed with operations beginning in 1986. Each unit is capable of generating 740 MW of capacity.

Colstrip Units 3 & 4 are jointly owned by six entities, five regulated utilities and one independent power producer. The list below provides the breakout by company and ownership share:

- Puget Sound Energy 25%
- Talen Energy 15%
- NorthWestern 15%
- Portland General Electric 20%
- Avista 15%
- PacifiCorp 10%

[1] These common facilities include, for example, 115 kV and 230 kV start-up transmission lines.

The above shows ownership across the two units. Talen Energy owns a 30 percent share of Colstrip Unit 3 and NorthWestern owns a 30 percent share of Colstrip Unit 4; however, they are parties to a reciprocal sharing agreement that realizes a 15 percent share for each unit's generation.

Colstrip Units 3 & 4 are governed by two agreements:

(i) the Ownership and Operation Agreement, dated as of May 6, 1981, by The Montana Power Company, Puget Sound Power and Light Company, The Washington Water Power Company, Portland General Electric Company, Pacific Power and Light Company, and Basin Electric Power Company that provides for the terms and conditions of the construction and ownership and operation and maintenance of Colstrip Units 3 & 4 (the "Colstrip Units 3 & 4 Ownership and Operation Agreement"); and

(ii) the Colstrip Common Facilities Agreement.

C. Coal Supply

Currently, Western Energy Company ("WECO") provides the coal supply for both Colstrip Units 1 & 2 and Units 3 & 4. Colstrip Units 1 & 2 are provided fuel pursuant to the terms and conditions of the Coal Purchase and Sale Agreement, dated as of March 21, 2007, by and among PPL Montana, LLC (now Talen Montana), Puget Sound Energy, and Western Energy Company (the "Colstrip Units 1 & 2 Coal Purchase and Sale Agreement"). Colstrip Units 3&4 receive coal under the terms of the Amended and Restated Coal Supply Agreement, dated August 24, 1998, among The Montana Power Company, Puget Sound Energy, Washington Water Power Company, Portland General Electric Company, and Western Energy Company (the "Colstrip Units 3 & 4 Coal Purchase and Sale Agreement").

The Colstrip Units 1 & 2 Coal Purchase and Sale Agreement will terminate on December 31, 2019. At the end of 2016, Talen and PSE choose invoked a termination clause in the Colstrip Units 1 & 2 Coal Purchase and Sale Agreement that allows the agreement to expire without penalty. The Colstrip Units 3 & 4 Coal Purchase and Sale Agreement expires in accordance with its terms on December 31, 2019.

D. Colstrip Project Transmission System

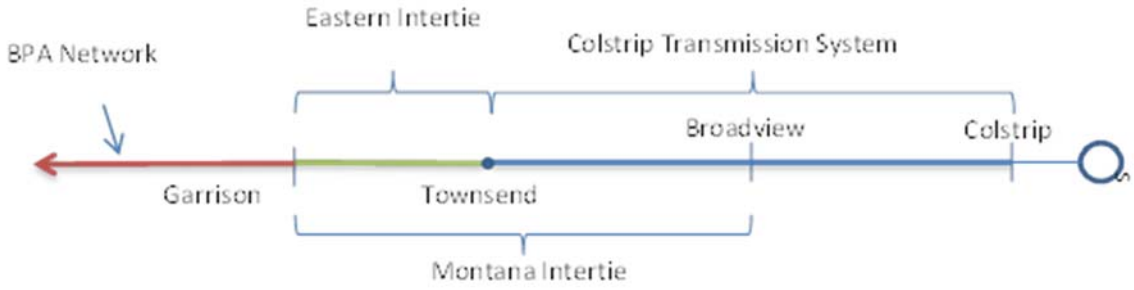
The Colstrip Project Transmission System was built in the mid-1980s and is jointly owned by Avista, NorthWestern, PacifiCorp, Portland General Electric, and PSE pursuant to the terms and conditions of the Colstrip Transmission Agreement. The Colstrip Project Transmission System consists of a 500 kilovolt (kV) transmission system in two segments:

(i) a segment between Colstrip, Montana, and Broadview, Montana, and

(ii) a segment between Broadview, Montana and Townsend, Montana (there is no substation at Townsend, Montana).

The Bonneville Power Administration ("BPA") owns and operates a 500 kV double circuit transmission system between Townsend, Montana and Garrison, Montana (commonly referred to as the Eastern Intertie), which connects the Colstrip Project Transmission System to the Federal Columbia River Transmission System. Figure 2 provides a simplified illustration of the Colstrip Project Transmission System, the Eastern Intertie, and the Federal Columbia River Transmission System.

Figure 2. Colstrip Project Transmission System, Eastern Intertie, and Federal Columbia River Transmission System



The Amended and Restated Colstrip Project Transmission Agreement, dated as of September 27, 2013, by and among NorthWestern Corporation, Puget Sound Energy, Avista Corporation, Portland General Electric Company, and PacifiCorp (the "Colstrip Project Transmission Agreement") provides for the engineering, design, and construction of the Colstrip Project Transmission System.

Each party to the Colstrip Project Transmission Agreement is to contribute to the transmission facilities' costs, including operations and maintenance costs, and is to receive an undivided ownership interests in the transmission facilities as a tenant in common. Each party to the Colstrip Project Transmission Agreement is entitled to use its share of capacity in the respective segments of the Colstrip Project Transmission System identified in Table 1 below:

Table 1. Capacity Shares of the Respective Segments of the Colstrip Project Transmission System

Ownership	Colstrip-Broadview	Broadview-Townsend
NorthWestern	36%	24%
Puget Sound Energy	33%	39%
Portland General Electric	14%	16%
Avista Corporation	10%	12%
PacifiCorp	7%	8%

PSE relies on the following two additional transmission agreements for the transmission of Colstrip Units 1&2 generation to PSE's loads:

(i) the Transmission Agreement, dated as of July 30, 1971, by and between The Montana Power Company and Puget Sound Power & Light Company (the "Colstrip Units 1&2 Transmission Agreement") and

(ii) the Amended and Restated Transmission Agreement, dated as of April 17, 1981, by and between the United States of America, Department of Energy, acting by and through the Bonneville Power Administration, The Montana Power Company, Pacific Power & Light Company, Portland General Electric Company, Puget Sound Power & Light Company, The Washington Water Power Company, and Basin Electric Power Cooperative (the "Montana Intertie Agreement").

The Colstrip Units 1&2 Transmission Agreement provides the terms and conditions for the transmission of PSE's share of the output of Colstrip Units 1&2 across NorthWestern's transmission system to points of interconnection described in the agreement.

The Montana Intertie Agreement provides the terms and conditions for the construction, operation, and use of a regional transmission intertie (the "Montana Intertie") to interconnect the Colstrip generating facilities to BPA's Federal Columbia River Transmission System. The Montana Intertie runs between the Broadview Substation and the Garrison Substation in the vicinity of Deer Lodge, Montana.

II. Factors Affecting Operations at the Colstrip Steam Electric Station

PSE considers a myriad of factors when assessing the operation of all of its facilities. PSE takes seriously the mandate of providing customers with reliable and safe power at the lowest reasonable costs. Some of the factors considered by PSE are as follows:

a. Safe and reliable operation of facilities

b. Costs of running the plant (i.e. fuel price, operations and maintenance costs, taxation or fees)

c. Public policy (amended or new laws)

d. Environmental requirements

e. Present and future state of the electricity market in the United States

f. Ongoing contractual issues

A. Safe and Reliable Operation of Facilities

Approximately 350 non-represented and union individuals combine their efforts daily to safely operate and maintain the Colstrip facility; Talen Montana employs and manages the employees. To operate the facility, additional assistance is acquired from specialized contractors in areas such as boiler maintenance, construction, heavy earthwork, security, and other areas.

Safety is a paramount priority. PSE emphasizes safe working practices across all operations, including jointly-owned facilities. Colstrip Units 1 through 4 have earned the designation of Voluntary Protection Program Star winner by the United State Occupation Health and Safety Program ("OSHA"). Attaining Voluntary Protection Program Star status

indicates that OSHA's recognizes the outstanding efforts of employers and employees who have demonstrated exemplary occupational safety and health programs and results.

Each of the Colstrip Units operates reliably. In 2018, Colstrip Units 1 & 2 had a capacity factor of 61.54 percent and an availability factor of 77.38 percent. In the same year, Colstrip Units 3 & 4 had a capacity factor of 72.10 percent and an availability factor of 82.14 percent. These results surpass the national average for capacity for coal plants of 54 percent, as reported by U.S. Energy Information Administration.

B. Costs of Running the Colstrip Steam Electric Station

The Colstrip Steam Electric Station facility is a well-maintained plant with highly competent employees and given those factors the physical plant could operate well into the future. However, the facility is simply aging, with Colstrip Units 1 & 2 having been in operation for more than 40 years and Colstrip Units 3 & 4 having run well past the 30 year mark.

In general, the age of the facility, including Colstrip Units 3 & 4, brings additional maintenance costs and loss of peak efficiency for power generation, thereby increasing operational costs. For instance, the Superheat section of Colstrip Unit 4 is showing signs of metallurgical wear and degradation, which indicates the need to replace the section within a foreseeable timeline. However, the cost of the project is estimated to be approximately $20 million dollars. Each of the Colstrip owners, including PSE, must consider if an investment of this size is prudent across the useful life of the facility, especially considering other external factors that may mandate PSE remove coal generation for its portfolio by a date certain.

As Colstrip Units 1 & 2 retire by the end of calendar year 2019, operations and maintenance cost for power generation will cease. Expenditures will continue for wind-down activities, decommissioning of the plant site, and demolition and remediation work. PSE and Talen Montana are currently in the due diligence processes for retirement of Colstrip Units 1 & 2. PSE anticipates that the majority of its share of the spending associated with the retirement, decommissioning, and remediation of Colstrip Units 1 & 2 will be covered under the provisions of the settlement agreement reached in PSE's last general rate case, which allowed to use federal grants and incentives to cover these costs.

C. Changes in Public Policy

Policy makers, community leaders and customers in Washington and other states continue to advocate for utilities to move to cleaner fuel sources for electric generation. The use of fossil fuels in general continues to be under intense scrutiny from society. The public discussion on climate change and the effects on the planet are ever-present in government deliberations, and traditional media reports, and social media debates.

In 2019, Washington approved Senate Bill 5116 that would most directly affect PSE's ownership in the Colstrip Steam Electric Station. Senate Bill 5116:

- requires all electric utilities to eliminate from their allocation of electricity coal-fired resources by December 31, 2025;
- requires each electric utility to make all retail sales of electricity greenhouse gas neutral by January 1, 2030;
- establishes a penalty equivalent to $150 for each megawatt-hour of generation from a coal plant that increases with inflation over time;
- sets a standard for each electric utility to meet 100 percent of its retail electric load using non-emitting and renewable resources by January 1, 2045;

- clarifies the Washington Utilities and Transportation Commission's ratemaking authority to include consideration of property acquired or constructed during the rate-effective period; and

- requires electrical and gas companies to use the social cost of carbon for planning, evaluating, and acquiring all resources.

The first requirement (i.e., the requirement that requires all electric utilities in Washington to eliminate coal-fired resources from their allocation of electricity sold in Washington by December 31, 2025) would mandate that PSE not use power from Colstrip Units 3 & 4 to serve retail load after 2025. Additional legislative measures considered but not passed include concepts such as carbon taxation and a cap and trade program. Both measures would have increased the overall cost of electricity generated from the Colstrip Steam Electric Station. If legislation added a price to carbon emissions, PSE would take that additional cost into account when considering which generation resources were most economic to use to serve retail load.

The legislative session in 2019 was not the first that the Legislature has attempted to address the use of fossil fuels through changes to the law or regulatory mechanisms. The debate began in 1996 when greenhouse gas reduction targets were adopted. Next, the public enacted the renewable portfolio standard approximately thirteen years ago which required utilities to progressively increase their renewable generation mix until they serve 15 percent of their customers with eligible renewable resources. Then, in 2007, the legislature passed the greenhouse gas emissions performance standard. For more than two decades, myriad proposed bills have addressed the emission reduction topic with varied approaches.

Given this long history of public policy action on climate change and reduction of greenhouse gas emissions, PSE believes that it is prudent to increase reliance on non-carbon emitting generation sources and to mitigate risk around our fossil fuel fleet by taking proactive measures. For instance, PSE has (i) been a front runner in the ownership of wind resources; (b) supported customer choice through both residential and commercial options for green power purchasing; and (iii) advocated for a shortened depreciation schedule for Colstrip Units 3 & 4 to allow flexibility in addressing public policy decisions like those discussed above.

D. Changes in Environmental Requirements

Since 2017, there have been no major new federal environmental regulations or laws that would affect the Colstrip Steam Electric Station, and those previously in place have had only a few changes. The legal challenge of the Coal Combustion Residuals rule has made some modifications to the regulation however there is little impact to the Colstrip Steam Electric Station. The EPA Regional Haze Rule, which is being administered by Montana State through the Montana Department of Environmental Quality has continued to progress. At the state level, the implementation of the Montana Administrative Order on Consent related to impacts of the wastewater facilities at Colstrip Steam Electric Station has moved forward.

1. <u>Coal Combustion Residuals</u>

The Coal Combustion Residuals Rule was challenged in the U.S. Court of Appeals for the D.C. Circuit with a focus on Phase 1, Part 1 of the Rule, which relates to risk-based groundwater protection standards. The court vacated and remanded provisions of the rule,

including inactive impoundments at closed plants. The outcome of the remanded rule remains uncertain, and Talen Montana will monitor the situation to evaluate how any additional action may influence the Colstrip Steam Electric Station.

2. Regional Haze Program

The Regional Haze Rule's goal is to improve visibility around the United States. Montana is currently working on a State Implementation Plan to implement the second planning period of the Regional Haze Rule. The Montana Department of Environmental Quality has notified the Colstrip Steam Electric Station that the department would like Talen Montana to review the information that the Montana Department of Environmental Quality has on file for emissions at Colstrip Units 3 & 4. Following the initial review request in March 2019, the Montana Department of Environmental Quality anticipated a deeper review of other emissions controls. The process is ongoing.

When considering the Regional Haze Rule prior to 2017, it was assumed retirement of Colstrip Units 1 & 2 would produce enough reductions that Colstrip Units 3 & 4 would not need additional emissions controls. With the Montana Department of Environmental Quality request to reassess the emissions information, it is uncertain whether this assumption remains valid. A Burns and McDonnell analysis in 2012 assumed a capital direct cost of $423 million for a selective catalytic reduction system for Colstrip Units 3 & 4.

3. Montana Administrative Order on Consent

The Montana Administrative Order on Consent addresses impacts to groundwater from the Colstrip Steam Electric Station. PPL Montana (the predecessor to Talen

Montana), acting as operator, entered into Montana Administrative Order on Consent in 2012 with the Montana Department of Environmental Quality. The Montana Administrative Order on Consent provides a process for determining groundwater impact, assessing previous work to address impacts, and establishes standards for addressing contamination and evaluating options for ultimate clean-up. It provides a process for investigation and for the development of reports and plans necessary for the remediation of the Colstrip Steam Electric Station.

Although it mimics some of the process chain of traditional environmental remediation work, the Montana Administrative Order on Consent is a unique regulation scheme coming out of a court proceeding specifically related to Colstrip Steam Electric Station and the State of Montana. As part of that process, the Montana Department of Environmental Quality, PSE, and the remaining owners anticipate revisions and changes throughout the compliance timeline, especially in this initial phase of plan development, cost estimating, and evaluation.

The Montana Administrative Order on Consent provides that investigations are overseen by the Montana Department of Environmental Quality, and it is the Montana Department of Environmental Quality that will ultimately review and approve all reports and plans. The Montana Administrative Order on Consent splits the Colstrip Steam Electric Station facilities into the following three areas: (i) the plant site (includes the area near the physical plant structures, some of which are common structures for Colstrip Units 1 through 4), (ii) Colstrip Units 1 & 2, and (iii) Colstrip Units 3 & 4. A synopsis of the process from the Montana Department of Environmental Quality website is provided below. (http://deq.mt.gov/DEQAdmin/mfs/ColstripSteamElectricStation):

Step 1: First, Talen Montana 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.

Step 2: Next, Talen Montana will prepare Cleanup Criteria and Risk Assessment Reports. These reports will identify the standards that Talen Montana will have to achieve in its remediation of the contamination.

Step 3: Finally, Talen Montana must prepare Remedy Evaluation Reports, which will evaluate different options for remediation of the contamination.

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

Additionally, the Montana Department of Environmental Quality requires a Facility Closure Report Plan for each of the three identified environmentally impacted areas. The Facility Closure Report Plan provides an estimate of closure and post closure costs. Facility Closure Report Plans for all three areas were submitted to the Montana Department of Environmental Quality in 2017, and the Montana Department of Environmental Quality conditionally approved the Facility Closure Report Plans in December of 2018. In practice, the estimates within each Facility Closure Report Plans are assumed and updated in the Remedy Evaluation Reports, which provide more detail to address clean-up.

The Montana Department of Environmental Quality provided conditional approval of the Plant-site Remedy Evaluation Report, and Talen Montana has provided the Montana Department of Environmental Quality with a work plan to implement remedial actions for the plant site in March of 2019.

In March 2019, the Montana Department of Environmental Quality provided comments back on the revised Draft Remedy Evaluation Report for Colstrip Units 1 & 2. At this time, Talen Montana is evaluating the comments provided by Montana Department of Environmental Quality, are working with staff for the Montana Department of Environmental Quality to understand any concerns and will resubmit a revised Draft Remedy Evaluation Report for Colstrip Units 1 & 2.

In March 2019, the Montana Department of Environmental Quality also provided comments on the Draft Remedy Evaluation Report for Colstrip Units 3 & 4. At this time, Talen Montana is evaluating the comments provided by Montana Department of Environmental Quality, are working with staff for the Montana Department of Environmental Quality to understand any concerns and will resubmit a revised Draft Remedy Evaluation Report for Colstrip Units 3 & 4.

For the four reports approved by the Montana Department of Environmental Quality (i.e., the three closure plans and the Plant-Site Remedy Evaluation Report), PSE has provided financial assurance (bonding) that will meet its percentage of the obligation for closure and remediation. The majority of these costs are related to impacts that have already occurred at the site and will need remediation regardless of when the units retire from electricity generation.

E. Current Power Market Conditions

Coal fired generation sources in the U.S. continue to retire at a considerable pace. According to U.S. Energy Information Administration data, from the Inventory Report of Operating Generators (December 2018), 129 coal units retired between 2016 and 2018. The total capacity represented is 29,827 MW.

The costs of aging coal facilities have been a common discussion point in the electricity industry over the past few years. Many utilities are reexamining the cost of their coal fired generation sources in light of a changing energy market. For example, in 2018 as part of its Integrated Resources Plan, PacifiCorp took a unit-by-unit look at the cost of its coal fleet. Although there is considerable work to be done to apply the information to the PacifiCorp generation choices, it does reveal that post-2022 some of their coal facilities may be more costly than alternative replacement power sources.

Idaho Power Company recently signed an agreement with NV Energy that allows Idaho Power Company to exit Unit 1 of the North Valmy Generating Station by the end of 2019. The agreement follows after the Idaho Public Utilities Commission approved a settlement allowing Idaho Power Company to recover the costs associated with its early departure from the North Valmy Generating Station.

F. Ongoing Contractual Issues

As previously noted, there are several contracts that govern the ownership and operation of the Colstrip Steam Electric Station. The current status and ongoing negotiations with respect to the various are discussed in more detail below.

1. Coal Supply Arrangements

[redacted]

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[redacted]

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[redacted]

[2] [redacted]

[3] [redacted]

[redacted]

2. Uncertain Status of Talen Montana With Respect to Colstrip Units 1 & 2

As operator of Colstrip Units 3 through 4, Talen Montana receives no fee for its management responsibilities. In addition to its role as operator, Talen Montana holds an ownership share of 50 percent in Colstrip Units 1 & 2 and an ownership share of 30 percent in Colstrip Unit 3.

Talen Montana's role as operator is relevant to the decision of PSE decision to assume retirement of Colstrip Units 1 & 2 at the end of 2019 for purposes of this rate

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proceeding. As owner of Colstrip Units 1 & 2, Talen Montana has long stated that the costs of electricity from those units are too high to provide an independent power producer, such as Talen Montana, a profit on the open market. Therefore, Talen Montana has indicated that it is no longer interested in generating electricity from Colstrip Units 1 & 2 or remain as operator for those units.

PSE continues to believe that running Colstrip Units 1 & 2 as a single owner would be uneconomic for customers. If Talen Montana were to cease operating Colstrip Units 1 & 2, PSE would bear the costs of running only at half capacity (maybe simply one of the two units), but the costs do not fully reduce by half so the cost per megawatt-hour would increase. Additionally, it is likely that PSE would have to engage a new operating entity for Colstrip Units 1 & 2 and may not be able to share the efficiencies that Talen Montana currently enjoys by employing one work force and sharing resources across all four units. Accordingly, PSE has decided to assume, for purposes of this rate proceeding, that Colstrip Units 1 & 2 will retire when the Colstrip Units 1 & 2 Coal Purchase and Sale Agreement expires on December 31, 2019.

3. Uncertainty With Respect to the Post-2025 Future of Colstrip Units 3 & 4

The Colstrip Units 3 & 4 Ownership and Operation Agreement contains provisions that bind the co-owners together in long-term operations of the units. For example, under ongoing operations, each owner must provide its share of coal to run the units as long as one owner requests generation from any of Colstrip Units 3 & 4. Additionally, the term of the Colstrip Units 3 & 4 Ownership and Operation Agreement runs as long as the units are capable of generating electricity while operating within prudent utility practice.

The Colstrip Units 3 & 4 Ownership and Operation Agreement is largely silent on the retirement process for the units, with the only direct reference to the cessation of the project being when it is no longer capable of producing electricity within prudent utility practice or as required by jurisdictional governing bodies. The agreement provides 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 on a final retirement date for Colstrip Units 3 & 4.

With the passage of Senate Bill 5116, PSE now knows that it is prohibited by law from serving retail loads with electricity from Colstrip Units 3 & 4 after calendar year 2025. PSE is examining what options are available to it with respect to its ownership shares in Colstrip Units 3 & 4 beginning January 1, 2026. In the meantime, PSE remains one of six owners making decisions at the facility, and PSE can be outvoted if a majority of the owners decide to take a path different from PSE.