



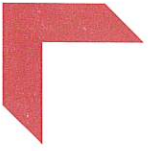
Before the Public Service Commission  
of the State of Montana

**DOCKET NO. 2019.12.101**

**Application for Approval  
of Capacity Resource Acquisition**

**TESTIMONY AND EXHIBITS**

**February 2020**



February 5, 2020

Mr. Will Rosquist, Administrator  
Montana Public Service Commission  
1701 Prospect Avenue  
Helena, MT 59620-2601

Re: Docket No. 2019.12.101. In the Matter of NorthWestern Energy's Application for Approval of Capacity Resource Acquisition

Dear Mr. Rosquist:

NorthWestern Energy ("NorthWestern") transmits to the Montana Public Service Commission ("Commission") an Application for Approval of Capacity Resource Acquisition ("Application"). The Application consists of the printed material and a CD. An original and ten copies of this Application are submitted with this filing, and three copies are provided to the Montana Consumer Counsel.

The Prefiled Direct Testimony and exhibits of the following NorthWestern witnesses are included in this Application: John D. Hines (public version), Bleau J. LaFave, Kevin J. Markovich, Michael J. Barnes (public version), Michael R. Cashell, Andrew D. Durkin, and Crystal D. Lail.

The unredacted page from the Prefiled Direct Testimony of John D. Hines and the confidential exhibits of Michael J. Barnes will be provided to the Commission and the parties who sign the appropriate non-disclosure statements according to the terms of the Commission's orders in response to NorthWestern's Motion for Term Protective Order filed on January 17, 2020 and Talen Montana, LLC's Motion for Protective Order filed on January 24, 2020.

Commission approval of this Application will keep customers' rates constant. The Prefiled Direct Testimony of Andrew D. Durkin explains that there will be no initial customer bill impact due to the purchase power cost offset to the revenue requirement.

Respectfully submitted,

Joe Schwartenberger  
Director, Regulatory Affairs

Enclosures

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Attorneys for NorthWestern Energy

**DEPARTMENT OF PUBLIC SERVICE REGULATION  
BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MONTANA**

IN THE MATTER OF NorthWestern )  
Energy’s Application for Approval of Capacity )  
Resource Acquisition )  
REGULATORY DIVISION )  
DOCKET NO. 2019.12.101 )

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**NORTHWESTERN ENERGY’S APPLICATION  
FOR APPROVAL OF CAPACITY RESOURCE ACQUISITION**

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NorthWestern Energy (“NorthWestern”) submits to the Montana Public Service Commission (“Commission”) this application, with testimony and supporting documentation, for approval to acquire 185 megawatts (“MW”) of Colstrip Unit 4 (“CU4”) from Puget Sound Energy, Inc. (“Puget”) for \$1.00. As part of the acquisition, 95 MW will directly serve NorthWestern’s electric supply customers and NorthWestern will sell the remaining 90 MW back to Puget through a Power Purchase Agreement (“PPA”) for approximately five years. NorthWestern does not request a rate increase to address the Test Year Revenue Requirement for the 185 MW but instead proposes to offset the revenue requirement with revenue from the PPA and savings in purchased power costs. In addition, NorthWestern proposes to place additional purchased power savings and PPA revenue in a fund (“Reserve Fund”) to address expenditures and costs associated with environmental compliance, remediation, decommissioning, and post-closure. NorthWestern’s proposal to acquire the 185 MW (“Capacity Acquisition”) addresses

customers' needs for reliable service at just and reasonable rates.

NorthWestern requests timely consideration of this application, allowing for NorthWestern and Puget to consummate the transaction in September or October 2020.

## **I. The Purchase and Sale Agreement**

Puget and NorthWestern executed a purchase and sale agreement ("PSA") on December 9, 2019 in order to convey Puget's 25% interest in CU4 and all associated real property, equipment, and facilities for \$1.00. The PSA is attached to the Prefiled Direct Testimony of John D. Hines ("Hines Direct Testimony") as Exhibit JDH-1. As described in Section 2.1(d), the PSA does not transfer Puget's interests related to Colstrip Units 1, 2, or 3. In addition, Puget retains its pre-closing percentage share of obligations pertaining to the 2012 *Administrative Order on Consent Regarding Impacts Related to Wastewater Facilities Compromising the Closed-Loop System at Colstrip Steam Electric Station, Colstrip Montana between PPL Montana, LLC as Operator of the Colstrip Steam Electric Station and Montana Department of Environmental Quality*, as amended by the March 1, 2017 *Agreement to Amend Administrative Order on Consent* (collectively, "AOC") and coal combustion residuals ("CCR") environmental laws and regulations.<sup>1</sup>

Puget specifically recognizes in Section 8.2 of the PSA that CU4 will continue to burn coal and generate CCR and agrees to maintain its pre-closing percentage share responsibility for the cost of compliance with CCR regulations, without regard to whether burning of coal and the generation, storage, deposit, and release of CCR occurs before or after closing. Similarly, Sections 8.3 and 8.4 of the PSA describe Puget's retained responsibility for its pre-closing

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<sup>1</sup> The AOC and other documentation regarding the Department of Environmental Quality's regulation of the Colstrip facility are publically available at: <http://deq.mt.gov/DEQAdmin/mfs/ColstripSteamElectricStation>

percentage share of the decommissioning of the 185 MW and for pension liabilities.

Section 3 of the PSA describes the conditions precedent to closing the transaction. Relative to that section is the Transmission Acquisition Agreement between Puget and NorthWestern regarding Puget's interest in the 500-kilovolt Colstrip Project Transmission System. The Transmission Acquisition Agreement is described in the Prefiled Direct Testimony of Michael R. Cashell and attached as an exhibit to that testimony.

Exhibit C to the PSA is a PPA between NorthWestern and Puget. As described in the Prefiled Direct Testimony of Kevin J. Markovich, NorthWestern will sell 90 MW of the 185 MW back to Puget for approximately five years.

## **II. Request for Approval**

Pursuant to § 69-8-421, MCA, NorthWestern requests that the Commission issue an order finding that the approval of NorthWestern's application is in the public interest and that the Capacity Acquisition is consistent with the requirements in § 69-3-201, MCA, the objectives in § 69-8-419, MCA, and Commission rules. More specifically, NorthWestern requests an order from the Commission authorizing NorthWestern to: (i) purchase 185 MW of CU4 from Puget for \$1.00 and place that asset in rate base; (ii) sell 90 MW of the 185 MW back to Puget for approximately five years pursuant to the PPA; (iii) include the Test Period Revenue Requirement for 95 MW in rates; (iv) offset the rates for the Test Period Revenue Requirement with a reduction to the Power Costs and Credits Adjustment Mechanism ("PCCAM") rates; (v) establish a Reserve Fund and charge against that fund for expenditures and costs associated with environmental compliance, remediation, decommissioning, and post-closure, and (vi) make a compliance filing in approximately five years to reflect the revenue requirement for the 90 MW and any corresponding reduction in PCCAM rates.

### **III. Applicant Contact Information**

NorthWestern's employee responsible for answering questions concerning this Application is:

Mr. Joe Schwartzberger  
NorthWestern Energy  
11 East Park St.  
Butte, MT 59701  
(406) 497-3362  
joe.schwartzberger@northwestern.com

NorthWestern's attorneys in this matter are:

Ann B. Hill  
Clark Hensley  
NorthWestern Energy  
208 N. Montana Avenue, Suite 205  
Helena, MT 59601  
Telephone (406) 444-8110  
ann.hill@northwestern.com  
clark.hensley@northwestern.com

NorthWestern requests that all electronic correspondence related to this filing also be sent to Tracy Killoy at tracy.killoy@northwestern.com.

### **IV. NorthWestern's Resource Planning**

In its 2015 Electricity Supply Resource Procurement Plan ("2015 Plan"), NorthWestern identified the state and regional capacity concern and the lack of resource adequacy of NorthWestern's portfolio. On February 2, 2017, the Commission provided comments on the 2015 Plan. NorthWestern addressed these comments and submitted its 2019 Electricity Supply Resource Procurement Plan ("2019 Plan") to the Commission on August 20, 2019. The 2019 Plan showed a significant shortage of and need for capacity in NorthWestern's portfolio. As explained in the Prefiled Direct Testimony of Bleau J. LaFave ("LaFave Direct Testimony"), after the Commission provided its comments in 2017, the Hardin Generation Station and Colstrip Units 1 and 2 went off line – for a total loss of 730 MW in generation. The Northwest

Power and Conservation Council has identified additional coal retirements that will significantly reduce the available capacity in the region. As stated in the 2019 Plan, NorthWestern’s strategy to acquire capacity includes competitive solicitations and opportunity resources. The Capacity Acquisition is an opportunity resource that will reduce NorthWestern’s capacity deficit. The Capacity Acquisition benefits customers by mitigating NorthWestern’s dependence on a market that is shrinking in Montana and the Pacific Northwest.

**V. Colstrip Unit 4**

CU4 is a 740-MW coal-fired generating plant located in Rosebud County, Montana. Since 1986, CU4 has operated in conjunction with Colstrip Unit 3. 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.). The Common Facilities Agreement is attached to this application as Attachment 1. The Commission approved placing NorthWestern’s current 30% ownership share, approximately 220 MW, in rate base in November 2008. The current ownership interests in CU4, without NorthWestern’s Capacity Acquisition are:

<b>Owner</b>	<b>Ownership Interest</b>
NorthWestern Energy	30%
Puget Sound Energy	25%
Portland General Electric	20%
Avista	15%
PacifiCorp	10%

Talen Montana, LLC (“Talen”) owns a 30% share of Colstrip Unit 3. Talen and NorthWestern are parties to a reciprocal sharing agreement that realizes a 15% share of each unit’s generation for each of Talen and NorthWestern. The Ownership and Operation Agreement and the

Reciprocal Sharing Agreement are exhibits to the Prefiled Direct Testimony of Michael J. Barnes (“Barnes Direct Testimony”).

CU4 is a known and proven resource capable of providing flexible and peaking capacity without development risk. CU4 will be available to provide the ability to ramp up and down to balance load and intermittent generation. An additional interest in CU4 provides capacity that the 2019 Plan identified is needed in NorthWestern’s portfolio to reliably serve load.

**VI. Rate Impact and Reserve Fund**

NorthWestern proposes to keep customer rates constant by offsetting operations and maintenance expenses, including fuel, for the 95 MW with savings in purchased power costs, as depicted in the table below.

<b>95 MW Revenue Requirement</b>		<b>PCCAM</b>	<b>Customer Rates</b>
\$7.4 million	-	(\$7.4 million)	No Change

NorthWestern proposes to establish a Reserve Fund to address environmental compliance, remediation, decommissioning, and post-closure costs, as depicted in the table below.

<b>PPA Net Annual Revenue</b>		<b>Additional PCCAM Savings</b>	<b>Annual Reserve Fund</b>
\$2.1 million	+	\$1.7 million	\$3.8 million

**VII. Testimony and Supporting Documentation**

The testimony and supporting documentation provided with this application explain how the Capacity Acquisition will reduce NorthWestern’s capacity deficit, decrease risk associated with market volatility, and improve reliability for customers while ensuring that customers’ rates



remain just and reasonable. The Hines Direct Testimony introduces NorthWestern's witnesses and describes all pre-filing communications. That testimony also provides the facts that show that the Capacity Acquisition is in the public interest and consistent with the pre-approval statute, § 69-8-421, MCA. The Barnes and LaFave Direct Testimonies describe CU4's ability to operate as a capacity resource and provide reliable service. Mr. LaFave also provides an analysis of the Capacity Acquisition compared to alternatives and presents facts to show that the Capacity Acquisition is consistent with the 2019 Plan and the Commission's rules. The Prefiled Direct Testimony of Andrew D. Durkin presents the 95 MW revenue requirement and provides facts showing that customer bills are held constant initially with the Capacity Acquisition.

### **VIII. Motions for Protective Order**

On January 17, 2020, NorthWestern filed a motion for protective order to address the 2020 coal supply agreement. NorthWestern has redacted confidential information in the Hines Direct Testimony regarding that agreement. NorthWestern will provide a non-public version of the page with the redaction upon the issuance of an order from the Commission. NorthWestern will also provide a copy of the coal supply agreement, which is Exhibit MJB-13 to the Barnes Direct Testimony, upon issuance of an order from the Commission.

On January 24, 2020, Talen filed a motion for protective order to address CU4 operations data, Talen's budget and capital expenditure projections, and cost estimates for environmental compliance. NorthWestern will provide Exhibits MJB-1, 5, 10, 11, and 12 to the Barnes Direct Testimony upon issuance of an order from the Commission.

### **IX. Conclusion**

This application, testimony, and supporting documentation complies with the Commission's minimum filing requirements, found at ARM 38.5.8228, for applications for

approval of electricity supply resources. NorthWestern requests that the Commission find that the application is adequate and in compliance with the minimum filing requirements. After consideration of the testimony and supporting documentation, the Commission should grant NorthWestern's specific proposals and requests for approval as stated in this application and supporting testimony.

Respectfully submitted this 5th day of February 2020.

NORTHWESTERN ENERGY

By: Ann B. Hill  
Ann B. Hill  
Attorney for NorthWestern Energy

THE MONTANA POWER COMPANY

and

PUGET SOUND POWER & LIGHT COMPANY

and

THE WASHINGTON WATER POWER COMPANY

and

PORTLAND GENERAL ELECTRIC COMPANY

and

PACIFIC POWER & LIGHT COMPANY

COMMON FACILITIES AGREEMENT

COLSTRIP UNITS #1, #2, #3 and #4

COMMON FACILITIES AGREEMENT  
COLSTRIP UNITS #1, #2, #3 AND #4

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## COMMON FACILITIES AGREEMENT

This Agreement is made as of the 6th day of May, 1981, by and between the following parties: THE MONTANA POWER COMPANY, a Montana corporation ("Montana"), PUGET SOUND POWER & LIGHT COMPANY, a Washington corporation and PUGET COLSTRIP CONSTRUCTION COMPANY, a Washington Corporation (collectively, "Puget"), THE WASHINGTON WATER POWER COMPANY, a Washington corporation ("Water Power"), PORTLAND GENERAL ELECTRIC COMPANY, an Oregon corporation ("Portland"), PACIFIC POWER & LIGHT COMPANY, a Maine corporation ("Pacific"), and BASIN ELECTRIC POWER COOPERATIVE, a North Dakota cooperative corporation ("Basin Electric").

### 1. DEFINITIONS.

(a) The "#1 & #2 Owners Agreement" means the Construction and Ownership Agreement for Colstrip Units #1 and #2 entered into July 30, 1971.

(b) The "#3 & #4 Owners Agreement" means the Ownership and Operation Agreement for Colstrip Units #3 and #4 entered into May 6, 1981.

(c) "Committees" means the Owner's Committee provided for in the #1 & #2 Owners Agreement and the Committee provided for in the #3 & #4 Owners Agreement.

(d) "Common Facilities" means all personal property listed on Exhibit A hereto and all real property described in Exhibit B hereto, either as modified, added to, or deleted from, from time to time in the manner provided in Section 4.

(e) "Common Facilities Operator" means the Operator appointed under Section 6(a) hereof.

(f) "Owners" means Montana, Puget, Water Power, Portland, Pacific, and Basin Electric, and their successors and assigns.

(g) "Prudent Utility Practice" at any particular time means either any of the practices, methods and acts engaged in or approved by a significant portion of the electrical utility industry prior thereto or any of the practices, methods or acts, which, in the exercise of reasonable judgment in the light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at the lowest reasonable cost consistent with reliability, safety and expedition. Prudent Utility Practice shall apply not only to functional parts of the Common Facilities, but also to appropriate structures, landscaping, painting, signs, lighting, other facilities and public relations programs, including recreational facilities, and any other programs or facilities, reasonably designed to promote public enjoyment, understanding and acceptance of the Projects. Prudent Utility Practice is not intended to be limited to the

optimum practice, method or act, to the exclusion of all others, but rather to be a spectrum of possible practices, methods or acts. Prudent Utility Practice shall also include those practices, methods and acts that are required by applicable laws and final orders or regulations of regulatory agencies having jurisdiction.

2. TERM.

This agreement shall be effective and binding when executed by Montana, Puget, Water Power, Portland and Pacific and shall be effective and binding as to Basin Electric only when executed by Basin Electric. This agreement shall continue until the first to end of (a) the term of the #1 & #2 Owners Agreement or (b) the term of the #3 & #4 Owners Agreement; provided, however, that Section 10 hereof shall survive until the end of the term of both the #1 & #2 Owners Agreement and the #3 & #4 Owners Agreement.

3. ALLOCATION OF COMMON FACILITIES.

Exhibit A to this agreement allocates the Common Facilities between Colstrip Units #1 and #2 and Colstrip Units #3 and #4. That portion of the Common Facilities allocated to Colstrip Units #1 and #2, is part of the Project, as that term is defined in the #1 & #2 Owners Agreement. That portion of the Common Facilities allocated to Colstrip Units #3 and #4 is part of the Project, as that term is defined in the #3 & #4 Owners Agreement.

4. ADDITION OR DELETION OF COMMON FACILITIES.

Common Facilities may be modified, added to, or deleted from this agreement only with the approval of both Committees; provided, however, that no such action by the Committees shall be effective to divest any Owner of any interest in the Common Facilities or reduce such interest without the written consent of the Owner or Owners so affected.

5. COST ALLOCATIONS.

The costs of construction, operation and maintenance of the Common Facilities shall be allocated between the Colstrip Units #1 and #2 and Colstrip Units #3 and #4 in the portion provided in Exhibit A to this agreement, as modified from time to time. A Committee may at any time propose to the Committees a revised method of allocating costs which it believes is more equitable than the initial allocation herein provided. Each Committee shall use every effort in good faith to agree on such revised method of allocating costs and shall proceed under Section 9 if such effort does not result in agreement.

6. OPERATION OF COMMON FACILITIES.

(a) The Owners hereby appoint Montana, and Montana hereby accepts appointment, as the Common Facilities Operator. The Common Facilities Operator, as agent for and on behalf of the Owners, shall construct, operate and maintain the Common Facilities, hire all necessary personnel, and pay all construction, operation and maintenance expenses (including, but not limited to, labor payroll, materials and supplies), all in accordance with the #1 & #2 Owners Agreement and the #3 & #4 Owners Agreement, guidelines established from time to time by the Committees, and any applicable laws, regulations, orders, permits and licenses, now or hereafter in effect, of any governmental authority.

(b) The Common Facilities Operator shall not assign, transfer or delegate, voluntarily or by operation of law, its responsibilities to any person without the written consent of the Committees. If the Common Facilities Operator is replaced as operator under the #3 & #4 Owners Agreement, it shall be removed as Common Facilities Operator hereunder and in such event the replacement operator under the #3 and #4 Owners Agreement shall be deemed to be the Common Facilities Operator under this Agreement, provided that no such replacement of Common Facilities Operator shall become effective earlier than the effective date of its substitution or replacement as operator under the #3 and #4 Owners Agreement unless:

- (i) the existing Common Facilities Operator consents thereto; or
- (ii) an arbitrator shall find that the Common Facilities Operator is in material breach of its obligations as Common Facilities Operator.

The Common Facilities Operator removed shall be entitled to recover from the Owners an equitable amount to cover the cost impacts of such removal.

7. BUDGET

(a) On or before September 1 of each year, the Common Facilities Operator shall submit to the Committees a budget of its estimate of costs of construction, operation and maintenance of the Common Facilities by calendar months for the operating year beginning January 1, next following. Such budget shall be subject to approval by the Committees which approval shall not unreasonably be withheld. The Committees shall approve such budget or a revised budget on or before November 1 in any such year. The budget will list the work force and expense therefor, materials, supplies, and other expenses associated with the normal maintenance program. Extraordinary items of maintenance

will be detailed to set forth the cost of labor required beyond that available from the regular force and other expense which will be incurred. The Common Facilities Operator will submit budget revisions as may become necessary from time to time during any operating year which the Committees shall promptly consider and which shall similarly be subject to approval by the Committees. The budget will guide expenditures for construction, operation and maintenance purposes through the ensuing year, except as may be required in an emergency.

(b) In the event of emergency or instances of unforeseen maintenance restricting use of the Common Facilities below that required by the Owners when repairs could be effected more rapidly by expenditure of overtime and other expediting costs, the Owners will be individually notified. Unless authorized by the Committees, the Owners desiring accelerated repairs will share pro rata, according to their respective ownerships, as determined from Exhibit A to this Agreement and the #1 & #2 Owners Agreement and the #3 & #4 Owners Agreement, the expediting costs expended to return the Common Facilities to the required operating level at an earlier date.

(c) The Owners recognize that it will be necessary for continued operation of the Common Facilities, or to maintain them in operable condition, that the Common Facilities Operator be in a position to meet commitments for labor, repairs and replacements, materials and supplies, services and other expenses of a continuing nature in order that it may fulfill its obligations to the Owners as Common Facilities Operator under this Agreement. Accordingly, notwithstanding any of the provisions of this Section 7, the Common Facilities Operator, on behalf of the Owners, may make all expenditures in the normal course of business or in an emergency, all as the same are necessary for the proper and safe operation and maintenance of the Common Facilities. As soon as practicable after the making of any such expenditures, the Common Facilities Operator shall make a full report thereof to the Committees. The Common Facilities Operator shall take any action required by a final and binding order of any public authority having jurisdiction or in any emergency for the safety of the Common Facilities.

#### 8. PROVISIONS FOR ADDITIONAL FACILITIES.

(a) Each Owner shall have the right at its expense to install and operate on the Common Facilities land, facilities for its own system; provided, however, that the facilities of any Owner shall be so installed and operated as not to burden or unreasonably interfere with the ultimate full utilization of the land for Colstrip Units #1, #2, #3 and #4, or with the facilities of the other Owners or with the construction of additional generating units. In the event that an Owner proposes to install or operate facilities which would require the relocation of previously installed facilities of another Owner, or of the Common Facilities, but would otherwise meet the requirements of



the preceding sentence, the Owner desiring to install or operate such facilities shall have the right to call for such relocation if it bears all direct and indirect costs of such relocation.

(b) Each Owner releases all other Owners and their agents and employees from claims to profits, charges, rents, or benefits that may arise from use by any Owner of Common Facilities land pursuant to Section 8(a).

9. ARBITRATION.

(a) Any controversies arising out of or relating to this Agreement, except those arising out of or relating to Sections 3 and 4 hereof, which cannot be resolved through negotiations between the Committees within thirty (30) days after inception of the matter in dispute shall, upon demand of either Committee, be submitted to an Arbitrator having demonstrated expertise in the matter submitted. If the Committees cannot mutually agree upon such Arbitrator, then upon petition of any Committee, such Arbitrator shall be appointed by the Superior Court of the State of Washington, in and for the County of Spokane. The arbitration shall be conducted in Spokane, Washington, pursuant to the Washington Arbitration Act, RCW Chapter 7.04 as the same may be amended from time to time. The Arbitrator shall render his decision in writing not later than thirty (30) days after the matter has been submitted to him, and such decision shall be conclusive and binding upon the Owners. The costs incurred by any arbitration proceedings shall be charged to costs of construction or cost of operation, whichever may be appropriate, all in accordance with the #1 & #2 Owners Agreement and the #3 & #4 Owners Agreement, provided that each Committee shall pay its own attorney's fees and costs of witnesses.

(b) An Owner who disagrees with the Committees' resolution of any controversy arising out of Section 5 hereof within thirty (30) days after such Committee resolution of the matter in dispute may submit such matter to an Arbitrator pursuant to Section 9(a). All references to the "Committee" in Section 9(a) shall be changed to "Owner" for purposes of application to this subsection.

10. WAIVER OF RIGHT TO PARTITION

So long as the Common Facilities or any part thereof as originally constructed, reconstructed or added to are used or useful for the generation of electric power and energy, or to the end of the period permitted by applicable law, whichever first occurs, the Owners waive their right to partition of the Common Facilities whether by partition in kind or sale and division of the proceeds thereof, and agree that they will not resort to any action at law or in equity to partition and further waive the benefit of all laws that may now or hereafter authorize such partition of the properties comprising the Common Facilities. It is agreed this covenant shall be deemed to run with the land.

All instruments of conveyance which effect, evidence or vest each Owner's respective ownership interest in the Common Facilities shall contain this waiver of right to partition.

11. CONVEYANCE OF COMMON FACILITIES.

Each Owner shall promptly take all action (including, but not limited to, obtaining all requisite authorizations) necessary for participation by such Owner in the ownership, construction, operation and maintenance of the Common Facilities. Each Owner shall promptly take such action (including, but not limited to, the execution, acknowledgment, delivery and recordation of instruments of conveyance) as may reasonably be requested by any other Owner to effect, evidence or vest each Owner's respective interests in the Common Facilities; provided, however, that Montana and Puget shall not be obligated to convey an interest in the Common Facilities prior to January 1, 1984.

12. MUTUAL SUPPORT.

(a) Montana and Puget now own and may hereafter acquire certain land near Colstrip, Montana, within the boundaries shown on Exhibit C to this Agreement, for use in connection with Colstrip Units #1 and #2 (the "1 & 2 Lands"). Montana and Puget shall grant to the Owners such easements, licenses and other rights in the 1 & 2 Lands as may be reasonably necessary for the effective and efficient construction, operation and maintenance of Colstrip Units #3 and #4 and related improvements (including, but not limited to, substations, transmission lines, ponds and utilities, but excluding residential housing); provided that such rights and the exercise thereof shall not materially interfere with the construction, operation and maintenance of Colstrip Units #1 and #2 and related improvements (including, but not limited to, substations, transmission lines, ponds, utilities and existing residential housing). Any such grant may be for such compensation (not in excess of Montana's and Puget's costs which are equitably allocable to the rights granted) and subject to such reservations, restrictions, conditions and other provisions as may reasonably be required by Montana and Puget.

(b) The Owners now own and may hereafter acquire certain land near Colstrip, Montana, within the boundaries shown on Exhibit C to this Agreement, for use in connection with Colstrip Units #3 and #4 (the "3 & 4 Lands"). The Owners shall grant to Puget and Montana such easements, licenses and other rights in the 3 & 4 Lands as may be reasonably necessary for the effective and efficient construction, operation and maintenance of Colstrip Units #1 and #2 and related improvements (including, but not limited to, substations, transmission lines, ponds and utilities, but excluding residential housing); provided that such rights and the exercise thereof shall not materially interfere with the construction, operation and maintenance of Colstrip Units #3 and #4 and related improvements (including, but not limited to,

substations, transmission lines, ponds, utilities and existing residential housing). Any such grant may be for such compensation (not in excess of the Owners' costs which are equitably allocable to the rights granted) and subject to such reservations, restrictions, conditions and other provisions as may reasonably be required by the Owners.

13. MISCELLANEOUS.

(a) The headings of the clauses of this Agreement are inserted for convenience of reference only and shall not affect the meaning or construction thereof.

(b) The singular of any term in this Agreement shall encompass the plural and the plural the singular, unless the context otherwise indicates.

(c) This Agreement shall be construed in accordance with the laws of the State of Montana, except that Section 9 shall be construed in accordance with the laws of the State of Washington.

(d) This Agreement shall not be amended except by written instrument executed, acknowledged and delivered by all of the Owners.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in several counterparts.

THE MONTANA POWER COMPANY

By /s/ Melvyn M. Ryan  
Its Executive Vice President  
for Administration

Attest:

/s/ T. O. McElwain  
Asst. Secretary

PUGET SOUND POWER & LIGHT COMPANY

By /s/ D. H. Knight  
Its Senior Vice President

Attest:

/s/ W. E. Watson  
Secretary

FUJET COLSTRIP CONSTRUCTION COMPANY

By /s/ D. H. Knight  
Its Senior Vice President

Attest:

/s/ W. E. Watson  
Secretary

THE WASHINGTON WATER POWER COMPANY

By /s/ H. W. Harding

Attest:

/s/ L. O. Falk  
Secretary

PORTLAND GENERAL ELECTRIC COMPANY

By /s/ Glen E. Bredemier

Attest:

/s/ Warren Hastings  
Asst. Secretary

PACIFIC POWER & LIGHT COMPANY

By /s/ R. B. Lisbakken

Attest:

/s/ Sally A. Nofziger  
Asst. Secretary

BASIN ELECTRIC POWER COOPERATIVE

By \_\_\_\_\_

Attest:

\_\_\_\_\_  
Secretary

STATE OF MONTANA            )  
                                  )    ss.  
COUNTY OF SILVER BOW    )

On this 6th day of May, 1981, before me, the undersigned, a Notary Public in and for the State of Montana, personally appeared Melvyn M. Ryan, known to me to be the Executive Vice President of THE MONTANA POWER COMPANY and acknowledged to me that he executed the within instrument on behalf of that corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year in this certificate first above written.

/s/ James F. Walsh  
Notary Public in and for the State of  
Montana, residing at Butte  
My Commission expires 6/26/82

STATE OF WASHINGTON        )  
                                  )    ss.  
COUNTY OF KING            )

On this 6th day of May, 1981, before me, the undersigned, a Notary Public in and for the State of Washington, personally appeared D. H. Knight, known to me to be the Sr. Vice President of PUGET SOUND POWER & LIGHT COMPANY and acknowledged to me that he executed the within instrument on behalf of that corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year in this certificate first above written.

/s/ Jeanette Ragsdale  
Notary Public in and for the State of  
Washington, residing at Seattle  
My Commission expires August 1, 1981

STATE OF WASHINGTON     )  
                                  )  
COUNTY OF KING         )     ss.

On this 6th day of May, 1981, before me, the undersigned, a Notary Public in and for the State of Washington, personally appeared D. H. Knight, known to me to be the Sr. Vice President of PUGET COLSTRIP CONSTRUCTION COMPANY and acknowledged to me that he executed the within instrument on behalf of that corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year in this certificate first above written.

/s/ Jeanette Ragsdale  
Notary Public in and for the State of  
Washington, residing at Seattle  
My Commission expires August 1, 1981

STATE OF WASHINGTON     )  
                                  )  
COUNTY OF               )     ss.

On this 6th day of May, 1981, before me, the undersigned, a Notary Public in and for the State of Washington, personally appeared H. W. Harding, known to me to be the Vice President of THE WASHINGTON WATER POWER COMPANY and acknowledged to me that he executed the within instrument on behalf of that corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year in this certificate first above written.

/s/ Lois L. Loveridge  
Notary Public in and for the State of  
Washington, residing at Spokane  
My Commission expires October 17, 1982

STATE OF OREGON            )  
                                  )  
COUNTY OF                    )    ss.

On this 6th day of May, 1981, before me, the undersigned, a Notary Public in and for the State of Oregon, personally appeared Glen E. Bredemeier, known to me to be the Vice President of PORTLAND GENERAL ELECTRIC COMPANY and acknowledged to me that he executed the within instrument on behalf of that corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year in this certificate first above written.

/s/ Shirley A. Kushner  
Notary Public in and for the State of  
Oregon, residing at Portland, OR  
My Commission expires 9/27/84

STATE OF OREGON            )  
                                  )  
COUNTY OF                    )    ss.

On this 6th day of May, 1981, before me, the undersigned, a Notary Public in and for the State of Oregon, personally appeared R. B. Lisbakken, known to me to be the Vice President of PACIFIC POWER AND LIGHT COMPANY and acknowledged to me that he executed the within instrument on behalf of that corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year in this certificate first above written.

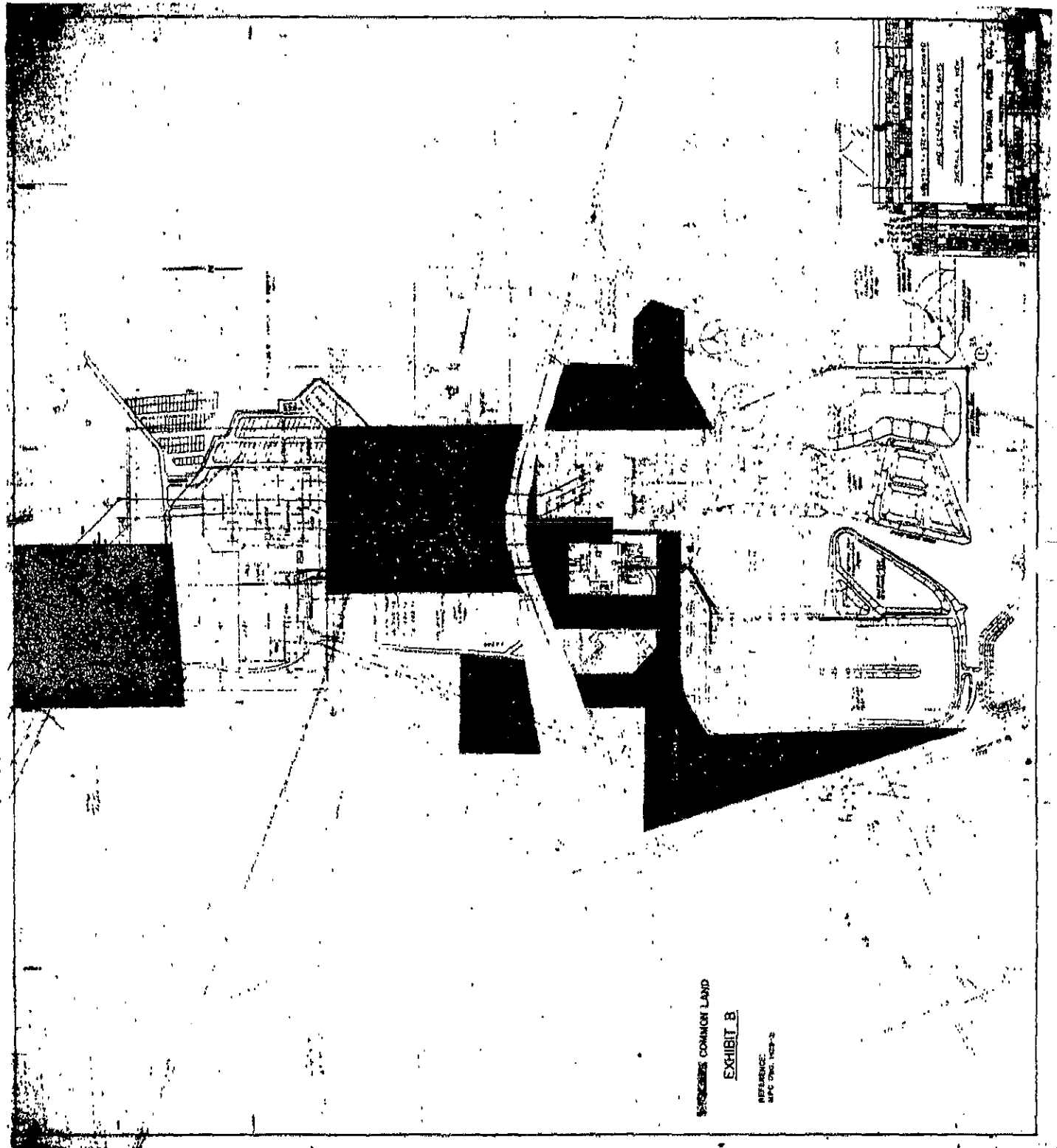
/s/ Hilda V. Hambach  
Notary Public in and for the State of  
Oregon, residing at Portland, Oregon  
My Commission expires September 28, 1982





COMMON FACILITIES

<u>Facility Description</u>	<u>Portion of Cost Allocated to Units #1 &amp; #2</u>	<u>Portion of Cost Allocated to Units #3 &amp; #4</u>
A. <u>Miscellaneous Facilities</u>		
Sewer System	.3186	.6814
Fire Protection Connections	.95	.05
Garage/Warehouse	.3186	.6814
Meteorological Structure	.3186	.6814
Air Quality Monitoring Programs (Excluding Indian Reservation Monitoring)	.3186	.6814
Coal Handling Crew Facilities	.3186	.6814
Marine Equipment	.3186	.6814
Diesel Fuel Storage	.3186	.6814
Gasoline Storage	.3186	.6814
115 kV Start-up Transmission Line	.3186	.6814
B. <u>Drainage and Runoff Retention</u>		
Secondary Sediments Retention	.3186	.6814
C. <u>Intake Water System</u>		
Intake Canal & Structure	.3186	.6814
Pumps (Excluding Labor)	.6372	.3628
Other Mechanical (Excluding Pumps but Including Labor) & Electrical Equipment	.4779	.5221
D. <u>Coal Handling Facilities</u>		
Concrete Tunnel	.500	.500
Receiving Hoppers	.500	.500
Conveyor No. 6	.714	.286
E. <u>Surge Pond</u>		
Entire Pond & Structure	.3186	.6814
Mechanical & Electrical Equipment	.6372	.3628
Cutoff Wall No. 1	.3186	.6814
Cutoff Wall No. 2	.3186	.6814
F. <u>All Land Described in Exhibit B Hereto</u>	.3186	.6814



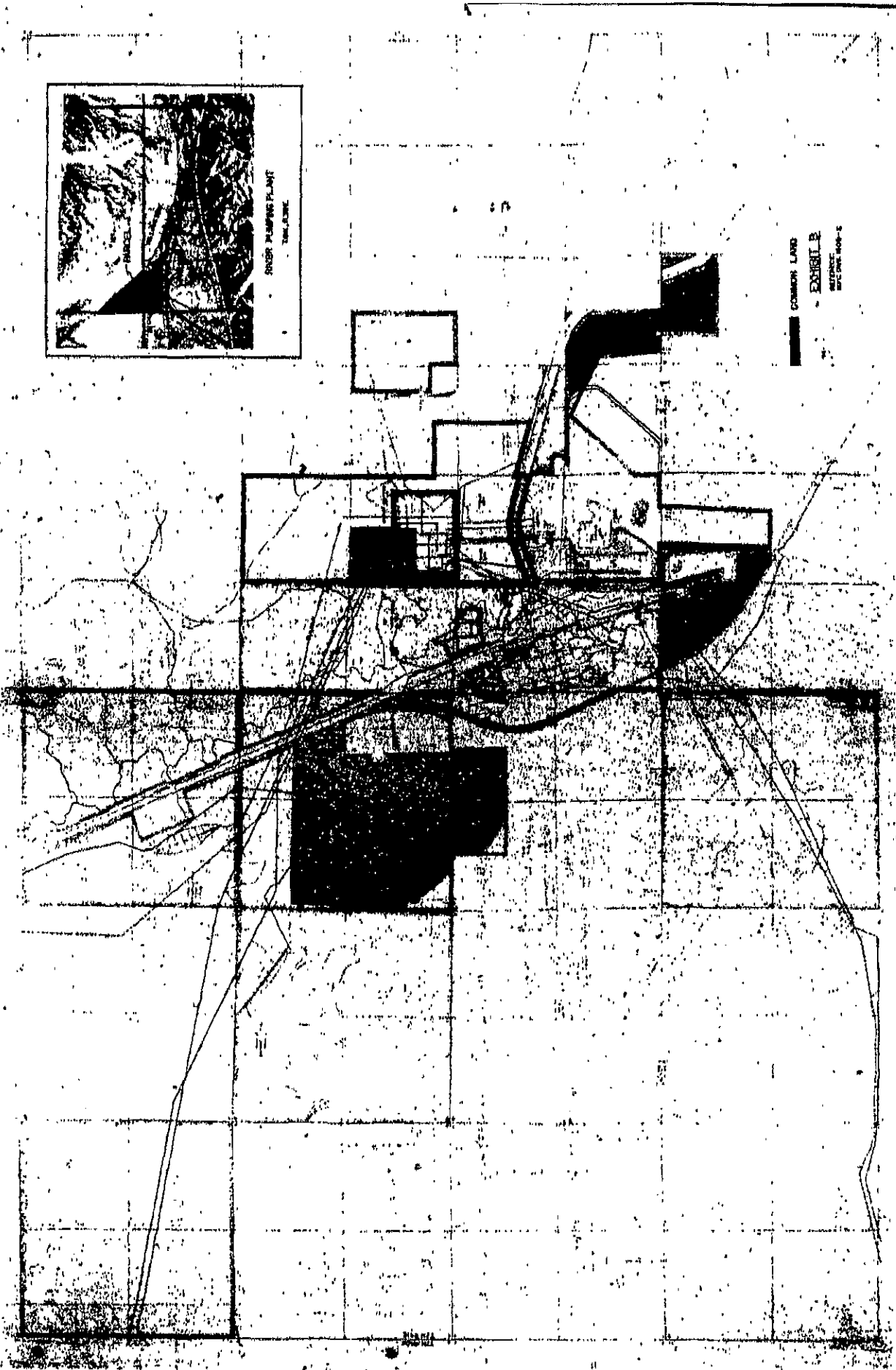
SPOKESMAN COMMON LAND

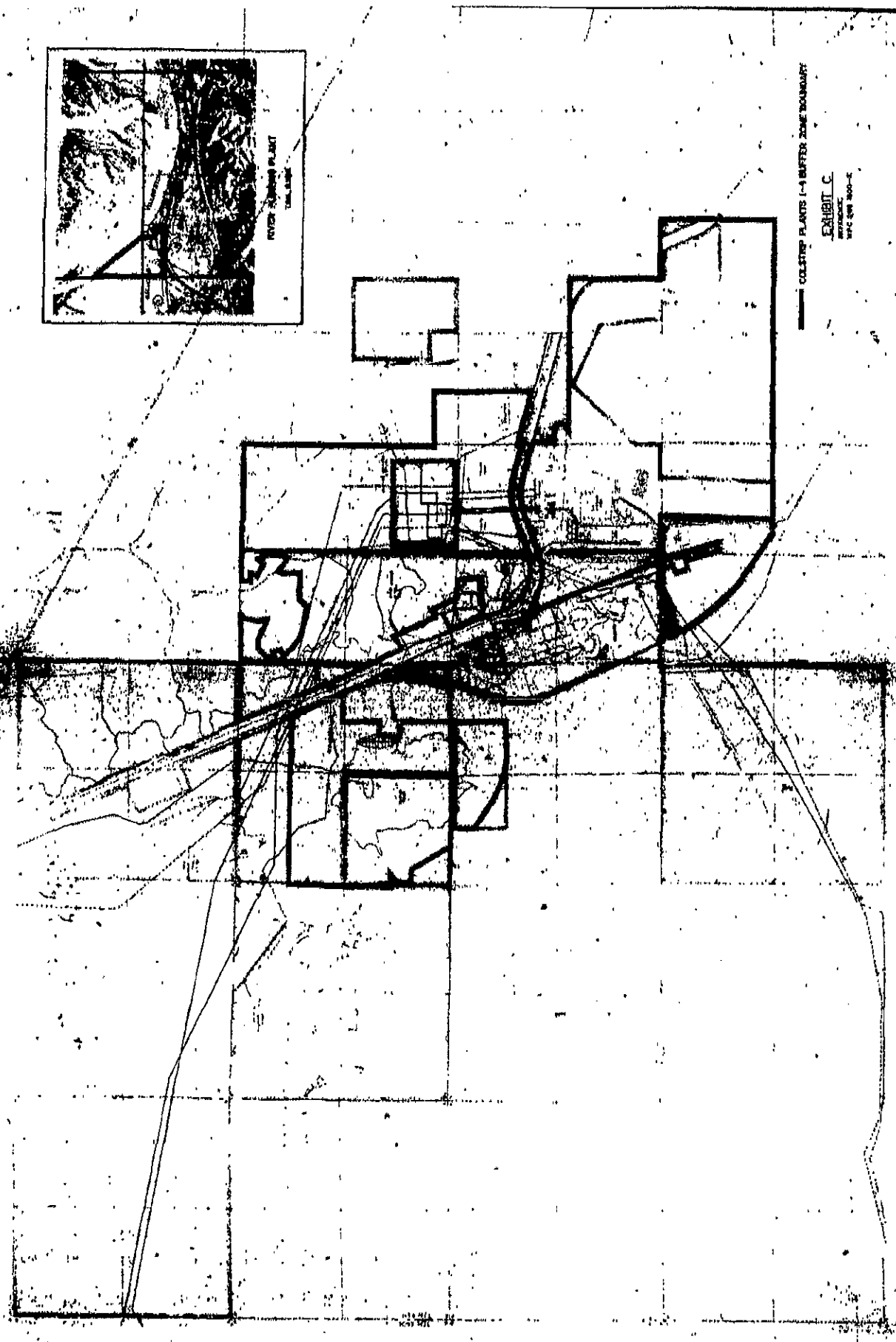
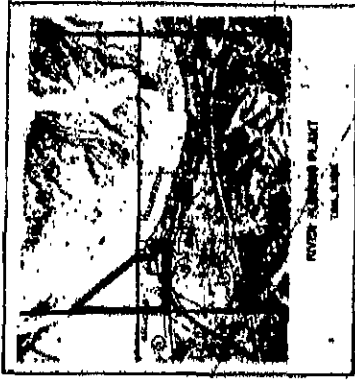
EXHIBIT B

REFERENCE:  
MFC Dwg. 1489-2



COMMON LAND  
EXHIBIT B  
MAY 1964  
2000-1000-5





COLLECTOR PLANTS 1-MILE BUFFER ZONE BOUNDARY  
EXHIBIT C  
MAY 1982  
WPC 888 800-4

AMENDMENT NO. 1 TO THE  
COMMON FACILITIES AGREEMENT

This Amendment No. 1, dated as of January 21, 1992, is made to that certain Common Facilities Agreement entered into as of May 6, 1981, by THE MONTANA POWER COMPANY, PUGET SOUND POWER AND LIGHT COMPANY, PUGET COLSTRIP CONSTRUCTION COMPANY, THE WASHINGTON WATER POWER COMPANY, PORTLAND GENERAL ELECTRIC COMPANY, and PACIFIC POWER AND LIGHT COMPANY.

1. All terms defined in the Common Facilities Agreement shall have the same meanings when used in this Amendment No. 1.
2. The Common Facilities Agreement is hereby amended, effective as of May 6, 1981, as follows:
  - a) The first paragraph of Page 1 of the Common Facilities Agreement is deleted and the following paragraph is inserted in lieu thereof:

"This Agreement is made as of the 6th day of May, 1981, by and between the following parties: THE MONTANA POWER COMPANY, a Montana corporation ("Montana"); PUGET SOUND POWER AND LIGHT COMPANY, a Washington corporation ("Puget"); THE WASHINGTON WATER POWER COMPANY, a Washington corporation ("Water Power"); PORTLAND GENERAL ELECTRIC COMPANY, an Oregon corporation ("Portland"); and PACIFIC POWER AND LIGHT COMPANY, now PACIFICORP, an Oregon corporation ("Pacific")."

- b) Subsection 1(f) is deleted and the following Subsection is inserted in lieu thereof:

"(f)" "Owners" means Montana, Puget, Water Power, Portland, and Pacific, and shall include their successors and assigns of an ownership interest in the Project or any part thereof."

- c) Section 2 is deleted and the following Section is inserted in lieu thereof:

**"2. TERM**

This agreement shall be effective and binding when executed by Montana, Puget, Water Power, Portland and Pacific. This agreement shall continue until the end of (a) the term of the #1 and #2 Owners Agreement or (b) the term of the #3 and #4 Owners Agreement; whichever occurs first, provided, however, that Section 10 hereof shall survive until the end of the term of

both the #1 and #2 Owners Agreement and the #3 and #4 Owners Agreement."

- d) Section 5 is deleted and the following section is inserted in lieu thereof:

"5. COST ALLOCATION

The costs of construction, operation and maintenance of the Common Facilities shall be allocated between the Colstrip Units #1 and #2 and Colstrip Units #3 and #4 in the portion provided in Exhibit A to this amendment, as modified from time to time.

The costs of construction of these agreed Common Facilities were negotiated and settled between Colstrip Units #1 and #2 and Colstrip Units #3 and #4 and resulted in a payment of \$5,340,213 which includes carrying charges to May 1, 1989, to the Colstrip #1 and #2 Owners by Portland, Water Power, and Pacific. This settlement also recognizes Puget's and Montana's share of Units #3 and #4.

A Committee may at any time propose to the Committees a revised method of allocating operation and maintenance costs which it believes is more equitable than the initial allocation herein provided. Each Committee shall use every effort in good faith to negotiate such revised method of allocating operation and maintenance costs and shall proceed under Section 9 if such effort does not result in agreement."

- e) To Section 13, add the following:

"(e) Exhibit A, attached to this Amendment No. 1, is substituted for Exhibit A referenced in Section 3, Section 5 and Section 7(b).

3. The Common Facilities Agreement, as amended by this Amendment No. 1, remains in full force and effect.

IN WITNESS WHEREOF, the Parties hereto have executed this Amendment No. 1 in several counterparts.

THE MONTANA POWER COMPANY

By *A. H. Van Horn*

Its \_\_\_\_\_

ATTEST:

*Russell M. Mena*  
Asst. Secretary

PUGET SOUND POWER AND LIGHT  
COMPANY

BY

Its

*[Handwritten signature]*  
*[Handwritten signature]*

ATTEST:

*[Handwritten signature]*  
Asst. Secretary

THE WASHINGTON WATER  
POWER COMPANY

By

Its

\_\_\_\_\_  
\_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Asst. Secretary

PORTLAND GENERAL ELECTRIC  
COMPANY

By

Its

\_\_\_\_\_  
\_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Asst. Secretary

PACIFICORP, doing business as  
PACIFIC POWER AND LIGHT  
COMPANY

By

Its

\_\_\_\_\_  
\_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Corporate Secretary

PUGET SOUND POWER AND LIGHT  
COMPANY

By \_\_\_\_\_

Its \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Asst. Secretary

THE WASHINGTON WATER  
POWER COMPANY

By W. J. [Signature]

Its VICE PRESIDENT POWER SUPPLY

ATTEST:

\_\_\_\_\_  
Asst. Secretary

PORTLAND GENERAL ELECTRIC  
COMPANY

By \_\_\_\_\_

Its \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Asst. Secretary

PACIFICORP, doing business as  
PACIFIC POWER AND LIGHT  
COMPANY

By \_\_\_\_\_

Its \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Corporate Secretary



PUGET SOUND POWER AND LIGHT  
COMPANY

By \_\_\_\_\_

Its \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Asst. Secretary

THE WASHINGTON WATER  
POWER COMPANY

By \_\_\_\_\_

Its \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Asst. Secretary

PORTLAND GENERAL ELECTRIC  
COMPANY

By Peggy Y Fowler

Its Vice President of Power Products

ATTEST:

[Signature]  
Asst. Secretary

PACIFICORP, doing business as  
PACIFIC POWER AND LIGHT  
COMPANY

By \_\_\_\_\_

Its \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Corporate Secretary

PUGET SOUND POWER AND LIGHT  
COMPANY

By \_\_\_\_\_

Its \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Asst. Secretary

THE WASHINGTON WATER  
POWER COMPANY

By \_\_\_\_\_

Its \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Asst. Secretary

PORTLAND GENERAL ELECTRIC  
COMPANY

By \_\_\_\_\_

Its \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Asst. Secretary

PACIFICORP, doing business as  
PACIFIC POWER AND LIGHT  
COMPANY

By William C. Brown

Its VICE PRESIDENT

ATTEST:

Sally A. Nofziger  
Corporate Secretary

EXHIBIT "A" TO COMMON FACILITIES AGREEMENT

FACILITY DESCRIPTION	Cost Allocations Per Article 5							
	Facility Originally Funded		Facility Ownership Allocation (Per Article 3)		Original Costs To Be Reallocated As Per Columns To Left) By Payment To Project:		Future Costs Of Replacement, Ownership, & O&M To Shared On Following Fractional Basis By Project:	
	1&2	3&4	1&2	3&4	1&2	3&4	1&2	3&4
1. Sewer System	x	---	.3186	.6814	x	---	.3868	.6132
2. Fire Protection System Installed by Units #1 & #2 (Allowance for #3 & #4 Connection)	x	---	.9500	.0500	x	---	.3186	.6814
							Common Areas and Fire Pumps Shared No Sharing For Other Areas	
3. Fire Pump & Fire Protection System Installed by Units #3 & #4	---	x	---	1.0000	---	---	.3186	.6814
							Common Areas And Fire Pumps Shared No Sharing For Other Areas	
4. Garage & Warehouse (Units #1 & #2)	x	---	.5000	.5000	x	---	.4208	.5792
5. Meteorological Structures	x	---	.5000	.5000	x	---	.5000	.5000
6. Air Quality Monitoring Structures (Excluding Indian Reservation)	x	---	.5000	.5000	x	---	.5000	.5000
7. Coal Handling Crew Facilities (Units #1 & #2)	x	---	.5000	.5000	x	---	.3243	.6757
8. Portable Dredge	x	---	.5000	.5000	x	---	.5000	.5000
9. Diesel Fuel Storage	x	x	.5000	.5000	---	---	.4208	.5792
10. Gasoline Storage	x	---	.5000	.5000	x	---	.4208	.5792
11. Waste Oil Storage	---	x	.5000	.5000	---	x	.4208	.5792
12. 115 kV Start-up Transmission Line (Switchyard to Common Connection)	x	---	.5000	.5000	x	---	.4208	.5792
13. Truck Scale	x	---	.5000	.5000	x	---	.5000	.5000

EXHIBIT "A" TO COMMON FACILITIES AGREEMENT

FACILITY DESCRIPTION	Cost Allocations Per Article 5							
	Facility Originally Funded		Facility Ownership Allocation (Per Article 3)		Original Costs To Be Reallocated As Per Columns To Left) By Payment To Project:		Future Costs Of Replacement, Ownership, & O&M To Shared On Following Fractional Basis By Project:	
	By Product:		To Project:		1&2	3&4	1&2	3&4
14. Fly Ash Pond Pump House (Excluding Process Equipment)	x	---	.6000	.4000	x	---	1.0000	.0000
15. Drainage and Runoff Retention	x	---	.3200	.6800	x	---	.3200	.6800
16. River Pumping Station & Facility (Including):								
a. Intake Canal & Structure	x	---	.3186	.6814	x	---	.3186	.6814
b. Pumps (Excluding Labor) Furnished by Units #1 & #2	x	---	.6593	.3407	x	---	.3186	.6814
c. Other Mechanical (Excluding Pumps but Including Labor & Electrical Equipment Furnished by Units #1 & #2	x	---	.5000	.5000	x	---	.3186	.6814
d. Cyclone & Auxil. Pump at River	---	x	.3816	.6814	---	x	.3816	.6814
e. River Pumps, Other Mechanical & Elec. Equip. Furnished by Units #3 & #4	---	x	.0000	1.0000	---	---	.3816	.6814
17. Coal Handling Fac. Including:								
a. Concrete Tunnel	x	---	.5000	.5000	x	---	( )	( )
b. Receiving Hoppers	x	---	.5000	.5000	x	---	(1.0000)	( )
c. Conveyor #6	x	---	.5000	.5000	x	---	( of )	(Billed)
d. Sampler	x	---	.7140	.2860	x	---	(normal)	( as )
e. Dust Collectors #2 & #3	x	---	.9000	.1000	x	---	(costs)	( used )

EXHIBIT "A" TO COMMON FACILITIES AGREEMENT

FACILITY DESCRIPTION	Cost Allocations Per Article 5							
	Facility Originally Funded		Facility Ownership Allocation (Per Article 3)		Original Costs To Be Reallocated As Per Columns To Left) By Payment To Project:		Future Costs Of Replacement, Ownership, & O&M To Shared On Following Fractional Basis By Project:	
	By Product:	To Project:	To Project:	To Project:	To Project:	To Project:	To Project:	To Project:
	1&2	3&4	1&2	3&4	1&2	3&4	1&2	3&4
18. Surge Pond Structure and Equipment Including:								
a. Pond	x	---	.3186	.6814	x	---	.3186	.6814
b. Structures	x	---	.3186	.6814	x	---	.3186	.6814
c. Mechanical and Electrical Equip. Furnished by Units #1 & #2	x	---	.6593	.3407	x	---	.3186	.6814
d. Mechanical and Electrical Equip. Furnished by Units #3 & #4	---	x	.0000	1.0000	---	---	.3186	.6814
e. Cutoff Wall #1	x	---	.3186	.6814	x	---	.3186	.6814
f. Cutoff Wall #2	x	---	.3186	.6814	x	---	.3186	.6814
g. Surge Pond Control Cable Replacement	---	x	.3186	.6814	---	x	.3186	.6814
19. Environmental Lab in Scrubber Area	---	x	.5000	.5000	---	x	.4208	.5792
20. Converted Construction Buildings	---	x	.2000	.8000	---	x	.2000	.8000
21. #1 & #2 Admin. Bldg.	x	---	.5000	.5000	x	---	.5000	.5000
22. #3 & #4 Admin. Bldg.	---	x	.3000	.7000	---	x	.3000	.7000
<u>Includes:</u>								
a. Repair Shop								
b. Telephone Room								
c. Electric Shop								
d. Chem Lab								

EXHIBIT "A" TO COMMON FACILITIES AGREEMENT

FACILITY DESCRIPTION	Cost Allocations Per Article 5							
	Facility Originally Funded		Facility Ownership Allocation (Per Article 3)		Original Costs To Be Reallocated As Per Columns To Left) By Payment To Project:		Future Costs Of Replacement, Ownership, & O&M To Shared On Following Fractional Basis By Project:	
	1&2	3&4	1&2	3&4	1&2	3&4	1&2	3&4
Excludes: a. Aux Boiler b. Heating Boiler c. Water Treatment Area								
23. Machine Shop, I&C Shop, & Chem Lab (Units #1 & #2)	x	---	.5000	.5000	x	---	.4208	.5792
24. New Warehouse and Offices	x	x	.4000	.6000	x	x	.4000	.6000
25. Environmental Bldg.	x	x	.4000	.6000	x	x	.4000	.6000
26. Paving Parking Areas & Roads	x	x	.3186	.6814	---	---	.4208	.5792
27. Plant Security & Fencing	x	x	.3186	.6814	---	---	.4208	.5792
28. Yard Lighting	x	x	.3186	.6814	---	---	.4208	.5792
29. Telephone Equipment	x	x	.3186	.6814	---	---	.4208	.5792
30. Plant Landscaping	x	x	.3186	.6814	---	---	.4208	.5792
31. Cathodic Protection for River Pipeline	x	x	.3186	.6814	---	---	.3186	.6814
32. ATR	---	x	.3186	.6814	---	---	.3186	.6814
33. River Water Pipeline to Surge Pond Furnished by Units #1 & #2	x	---	.8632	.1368	x	---	.3186	.6814
34. River Water Pipeline to Surge Pond Furnished by Units #3 and #4	---	x	.0000	1.0000	---	---	.3186	.6814
35. North Plant Sediment Pond	---	x	.3186	.6814	---	x	.3186	.6814

EXHIBIT "A" TO COMMON FACILITIES AGREEMENT

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	Facility Originally Funded		Facility Ownership Allocation (Per Article 3)		Original Costs To Be Reallocated As Per Columns To Left) By Payment To Project:		Future Costs Of Replacement, Ownership, & O&M To Shared On Following Fractional Basis By Project:	
	By Product:	To Project:	To Project:	To Project:	To Project:	To Project:	To Project:	To Project:
	1&2	3&4	1&2	3&4	1&2	3&4	1&2	3&4
36. Computer Capitalized Facilities	x	x	.3186	.6814	---	---	.4208	.5792
37. Gas Bottle Storage Rack	x	x	.3186	.6814	---	---	.4208	.5792
38. All Vehicles Identified on the Colstrip Project Division Vehicle Roster with an Assigned Number from 3700 to 3999	x	x	.5000	.5000	---	---	.3868	.6132
39. Major Mobile Equipment as Identified on the Colstrip Project Division Equipment Roster with an Assigned Number from 4000 to 4099	x	x	.5000	.5000	---	---	.4208	.5792
40. Miscellaneous portable & mobile equipment on the Colstrip Project Division Equipment Roster with an Assigned Number from 4200 to 4399	x	x	.5000	.5000	---	---	.4208	.5792
41. Machine Shop Equip.	x	x	.5000	.5000	x	x	.4208	.5792
42. Scaffolding	x	x	.5000	.5000	---	---	.4208	.5792
43. Warehouse Equipment as Identified on the Colstrip Project Division Equipment Roster with an Assigned Number from 4400 to 4499	x	x	.5000	.5000	---	---	.4208	.5792

EXHIBIT "A" TO COMMON FACILITIES AGREEMENT

FACILITY DESCRIPTION	Cost Allocations Per Article 5							
	Facility Originally Funded		Facility Ownership Allocation (Per Article 3)		Original Costs To Be Reallocated As Per Columns To Left) By Payment To Project:		Future Costs Of Replacement, Ownership, & O&M To Shared On Following Fractional Basis By Project:	
	By Product:	To Project:	To Project:	To Project:	To Project:	To Project:	To Project:	To Project:
	1&2	3&4	1&2	3&4	1&2	3&4	1&2	3&4
44. Laboratory and Special Test Equip.	x	x	.5000	.5000	---	---	.4208	.5792
45. Furniture	x	x	.3868	.6132	---	---	.3868	.6132
46. Land as Described in Exhibit B attached hereto	x	---	.3186	.6814	x	---	.3186	.6814



**CERTIFICATE OF SERVICE**

I hereby certify that the original and 10 copies of NorthWestern Energy's Application for Approval of Capacity Resource Acquisition in Docket No. 2019.12.101 have been hand-delivered to the Montana Public Service Commission and three copies have been hand-delivered to the Montana Consumer Counsel this date. It has also been e-filed with the Montana Public Service Commission.

Date: February 5, 2020



Tracy Lowney Killoy  
Administrative Assistant  
Regulatory Affairs

9 **PREFILED DIRECT TESTIMONY**

10 **OF JOHN D. HINES**

11 **ON BEHALF OF NORTHWESTERN ENERGY**

12  
13 **TABLE OF CONTENTS**

14	<b><u>Description</u></b>	<b><u>Starting Page No.</u></b>
15	Witness Information	2
16	Purpose and Summary of Testimony	2
17	NorthWestern's Request	4
18	The CU4 Purchase and Sale Agreement	6
19	Customer Reliability and Safety	15
20	Public Interest	18
21	Introduction of Other Witnesses	23
22	Pre-Filing Communications	24
23		
24	<b><u>Exhibit</u></b>	
25	CU4 Purchase and Sale Agreement	Exhibit JDH-1
26		

1 **Witness Information**

2 **Q. Please provide your name, employer, and title.**

3 **A.** My name is John D. Hines. I am NorthWestern Energy's  
4 ("NorthWestern") Vice President – Supply & Montana Government Affairs.  
5

6 **Q. Please provide a description of your relevant employment  
7 experience and other professional qualifications.**

8 **A.** I have over 25 years of experience in the energy sector including working  
9 as a consultant to public interest groups on energy issues and as an  
10 economist and Montana member of the Northwest Planning and  
11 Conservation Council. I have served as NorthWestern's Vice President-  
12 Supply since 2011. In this role, my primary responsibilities include  
13 overseeing the functional areas of electric and natural gas planning,  
14 ensuring adequate electricity and natural gas to meet customers'  
15 requirements, and overseeing natural gas supply ownership, electricity,  
16 generation, and energy marketing. I am also responsible for the lands and  
17 permitting, and environmental compliance functions for NorthWestern.  
18 Finally, I am responsible for NorthWestern's governmental affairs in  
19 Montana. I hold both a Bachelor's and a Master's degree in Economics  
20 from the University of Montana.  
21

22 **Purpose and Summary of Testimony**

23 **Q. What is the purpose of your testimony in this docket?**

1 **A.** This testimony provides a policy overview of NorthWestern’s proposal to  
2 acquire Puget Sound Energy, Inc.’s (“Puget”) 25% ownership interest in  
3 Colstrip Unit 4 (“CU4”) (“Capacity Acquisition”) and directs the reader to  
4 various NorthWestern witnesses for more detailed information. The  
5 testimony introduces important points such as NorthWestern’s proposal to  
6 keep customers’ rates constant, Puget’s continued responsibility for  
7 environmental compliance, remediation and decommissioning costs, and  
8 the sale of power back to Puget for approximately five years through a  
9 Power Purchase Agreement (“PPA”). Specifically I will discuss:

- 10 • what NorthWestern is requesting the Montana Public Service  
11 Commission (“Commission”) to approve;
- 12 • an overview of the CU4 Purchase and Sale Agreement (“CU4 PSA”),  
13 including its significant provisions;
- 14 • the critical capacity deficit that NorthWestern’s electric portfolio  
15 currently faces and how the Capacity Acquisition is an important low-  
16 cost, first step in addressing this deficit;
- 17 • why the Capacity Acquisition is in the public interest;
- 18 • an introduction of NorthWestern’s witnesses in this application, and
- 19 • NorthWestern’s pre-filing communications.

20  
21 **Q. Please summarize your testimony.**

22 **A.** While there are many key parts of the Capacity Acquisition, I want to  
23 summarize and emphasize several parts. First, the Capacity Acquisition

1 helps address a significant peaking and flexible capacity shortage and  
2 lessens the reliance upon an increasingly short capacity market. Second,  
3 this is an extremely low-cost means of obtaining this type of capacity.  
4 Third, customers' rates are held constant with this transaction. Fourth,  
5 Puget retains its 25% responsibility for environmental compliance,  
6 remediation, and decommissioning costs. Finally, the 90-megawatt  
7 ("MW") PPA with Puget is designed to protect customers through a price  
8 floor while providing the potential for substantial net revenues for an  
9 environmental compliance, remediation, and decommissioning fund.

10

11

### **NorthWestern's Request**

12

**Q. What action is NorthWestern requesting of the Commission?**

13

**A.** As stated in the application, NorthWestern asks the Commission to find  
14 that the CU4 PSA, provided as Exhibit JDH-1, is in the public interest.

15

NorthWestern seeks Commission approval to:

16

- add 185 MW of CU4 to rate base for \$1.00. NorthWestern, in this  
17 application, is not asking for recovery of any future capital investments  
18 associated with the Capacity Acquisition;

17

18

- sell 90 MW of the 185 MW back to Puget for approximately five years  
19 pursuant to the PPA;

19

20

- include the Test Period Revenue Requirement amount for 95 MW in  
21 NorthWestern's supply rates with a corresponding Capacity Acquisition  
22 Offset in NorthWestern's Power Costs and Credits Adjustment  
23

21

22

23

1 Mechanism (“PCCAM”) rates while recovering the remaining 90 MW  
2 revenue requirement through the PPA;  
3 • create an environmental compliance, remediation, and  
4 decommissioning fund (“Reserve Fund”) by setting aside the net  
5 benefits from the PPA and PCCAM savings to help fund the costs  
6 associated with NorthWestern’s existing CU4 ownership, and  
7 • make a compliance filing after the PPA expires to adjust rates to reflect  
8 the revenue requirement for the 90 MW and the corresponding  
9 purchased power savings in the PCCAM.

10

11 NorthWestern also requests timely regulatory treatment so that  
12 NorthWestern and Puget may close the transaction in September or  
13 October of 2020.

14

15 **Q. What would be the likely effect if the Commission were to approve**  
16 **only part of the application?**

17 **A.** The CU4 PSA is conditioned upon the Commission granting  
18 NorthWestern’s application in all material respects. Should the  
19 Commission decline to grant NorthWestern’s application in all material  
20 respects, then NorthWestern has the right, under the CU4 PSA, to  
21 terminate the transaction.

22

23

1 **The CU4 Purchase and Sale Agreement**

2 **Q. What is NorthWestern’s current ownership interest in CU4?**

3 **A.** CU4 is a 740-MW coal-fired generating plant located in Rosebud County,  
4 Montana. The Commission approved placing NorthWestern’s current 30%  
5 ownership share, approximately 220 MW, in rate base in November 2008.  
6

7 **Q. Is the CU4 PSA a result of a competitive solicitation process?**

8 **A.** No, this generation resource is referred to as an opportunity resource.  
9 There are many unique characteristics of the Capacity Acquisition that  
10 make it nearly impossible for it to have been part of a competitive  
11 solicitation. For example, the sale of power back to Puget, the opportunity  
12 to acquire additional transmission, and the Reserve Fund are all critical  
13 components of this transaction that were developed through negotiations  
14 and during the development of the transaction. In total they illustrate why  
15 a competitive solicitation was not a viable mechanism for this transaction.  
16

17 **Q. Why did NorthWestern enter into this proposed transaction with  
18 Puget, especially if it only proposes to rate-base \$1?**

19 **A.** NorthWestern is making this request on behalf of its customers so that  
20 they may have reliable service. The Capacity Acquisition is for their  
21 benefit. It provides for much needed capacity and addresses  
22 environmental compliance, remediation, and decommissioning costs while  
23 keeping customer rates constant. NorthWestern takes its responsibility to

1 provide affordable and reliable electricity service extremely seriously, and  
 2 the analyses show the Capacity Acquisition is a very cost-effective means  
 3 to help achieve these outcomes. There are clearly alternatives that would  
 4 provide much greater profits for shareholders. For example, the Prefiled  
 5 Direct Testimony of Bleau J. LaFave (“LaFave Direct Testimony”)  
 6 discusses a wind/battery alternative for an equivalent amount of capacity  
 7 that would cost customers about \$1.7 billion. The Prefiled Direct  
 8 Testimony of Andrew D. Durkin (“Durkin Direct Testimony”) calculates a  
 9 negative return in the test period. The Capacity Acquisition is being  
 10 proposed to enhance customer reliability and fund environmental  
 11 compliance, remediation and decommissioning obligations, period.

12  
 13 These customer benefits are summarized in the tables below.

<u>Revenue Requirement</u>		<u>PCCAM</u>	<u>Customer Rates</u>
<u>\$7.4 million</u>	<u>±</u>	<u>Offset \$7.4 million</u>	No Change

<u>PPA Net Revenue</u>		<u>Additional PCCAM Savings</u>	<u>Reserve Fund</u>
\$2.1 million	+	\$1.7 million	\$3.8 million

14 There will be future capital investments associated with the Capacity  
 15 Acquisition. NorthWestern will request the appropriate regulatory  
 16 treatment of these expenditures, but only after those capital expenditures  
 17 have been made.



1 These future capital investments are identified in the Prefiled Direct  
2 Testimony of Michael J. Barnes (“Barnes Direct Testimony”) in the 10-year  
3 capital budget forecast. These costs are also included in NorthWestern’s  
4 net present value calculations included in the LaFave Direct Testimony.  
5

6 **Q. Does the Capacity Acquisition limit customers’ ability to take**  
7 **advantage of low-priced energy in the market?**

8 **A.** No. The Capacity Acquisition addresses only 25% of the portfolio’s  
9 estimated 2025 capacity need. Further, CU4 will be operated based upon  
10 its operating costs, compared to all alternatives including market  
11 (economic dispatch). When market prices are high or energy from the  
12 market or other generation is not available, the production from the  
13 Capacity Acquisition can be increased to meet those demands and help  
14 provide price stability. When prices are low, the production can be  
15 reduced to its minimums and low cost market energy can be purchased to  
16 serve load.  
17

18 **Q. Why is NorthWestern proposing to acquire additional quantities of**  
19 **Colstrip generation while other owners are attempting to**  
20 **disassociate themselves from Colstrip generation?**

21 **A.** Every utility faces different circumstances including portfolio needs,  
22 reliance upon market purchases, and social and political realities.  
23 NorthWestern has a valuable opportunity to enhance the reliability of our

1 system, and thus provide greater customer protection and safety, by  
2 undertaking this transaction.

3

4 As explained in the LaFave Direct Testimony, NorthWestern is  
5 significantly short of peak and flexible capacity generation. NorthWestern  
6 is over 40% reliant upon an increasingly stressed capacity market to  
7 provide sufficient reliable capacity at key periods, for example when it is  
8 critically cold.

9

10 NorthWestern appreciates that there are different and sometimes  
11 acrimonious disagreements on the role coal should play in electric  
12 portfolios, even within NorthWestern's Montana service territory.  
13 However, there should be agreement that all of NorthWestern's customers  
14 are entitled to have heat for their homes during critically cold weather, and  
15 the Capacity Acquisition, at the very minimum, helps address this  
16 reliability need through 2025.

17

18 **Q. Why do you reference 2025?**

19 **A.** While our economic analyses indicate that Colstrip is cost-effective for a  
20 much longer period, I mention this date because NorthWestern is aware of  
21 requirements imposed upon other co-owners to not be part of Colstrip by  
22 the end of 2025.

23

1 Between now and the end of 2025, Montana’s leadership needs to have a  
2 very thoughtful discussion and provide direction regarding the future role  
3 Colstrip should play in providing electricity for Montanans. NorthWestern  
4 will play a role in that discussion. However, there are many serious  
5 economic, tax base, environmental, and reliability issues that must also be  
6 given serious consideration. Focusing on just one aspect of a complex  
7 subject such as limiting carbon, however important, does a disservice to  
8 the complexity of the situation. This transaction can help Montana to  
9 make meaningful decisions about Colstrip and the future use of the assets  
10 there. It also helps provide for a responsible transition, whenever and  
11 however that occurs.

12

13 **Q. Please provide an overview of the CU4 PSA.**

14 **A.** The CU4 PSA provides the mechanism for NorthWestern to acquire  
15 Puget’s 185-MW interest in CU4 for a purchase price of \$1.00, increasing  
16 NorthWestern’s ownership in CU4 to 55%. The Durkin Direct Testimony  
17 and the Prefiled Direct Testimony of Kevin J. Markovich (“Markovich Direct  
18 Testimony”) set forth the mechanics of a zero net effect on customer bills.

19

20 In addition, customer welfare is further enhanced through the  
21 establishment of an environmental compliance, remediation, and  
22 decommissioning fund dedicated to closure and environmental

1 remediation costs associated with NorthWestern’s existing ownership in  
2 CU4.

3  
4 Critically, per the CU4 PSA, Puget remains responsible for its presale 25%  
5 ownership share of remediation costs for existing environmental  
6 conditions and decommissioning costs regardless of when CU4 is retired.  
7 This includes remediation of coal ash and coal combustion residuals, and  
8 related hazardous wastes generated from the operation of CU4 even after  
9 NorthWestern acquires Puget’s interest. Again, these responsibilities exist  
10 regardless of the ultimate closure date.

11  
12 As mentioned above, the CU4 PSA also includes a PPA between Puget  
13 and NorthWestern, which provides that NorthWestern sell 90 MW of the  
14 185-MW acquisition to Puget for approximately five years. The CU4 PSA  
15 also includes a vote sharing agreement with regard to Puget’s interest in  
16 Colstrip Unit 3 (“CU3”) and NorthWestern’s acquired interest in CU4.

17  
18 **Q. How does the CU4 PSA address Puget’s continuing liability for the**  
19 **costs of environmental remediation associated with the coal ash**  
20 **ponds?**

21 **A.** Article 8 addresses “Liabilities and Indemnification.” Under Section 8.2,  
22 Puget remains responsible for its existing obligations with regard to the  
23 Administrative Order on Consent entered into between PPL Montana,

1 LLC, now Talen Montana, LLC (“Talen”), and the Montana Department of  
2 Environmental Quality (“MDEQ”) in July and August of 2012, as amended  
3 on March 1, 2017. Puget also remains responsible for its existing  
4 obligations with regard to CU4’s operational compliance with coal  
5 combustion residuals (“CCR”) environmental regulations. Through this  
6 section of the CU4 PSA, Puget specifically recognized that its  
7 responsibility does not decrease, even though CU4 will continue to burn  
8 coal and generate coal ash, coal combustion residuals, and related  
9 hazardous wastes after Puget transfers its ownership to NorthWestern.  
10

11 **Q. How does the CU4 PSA address Puget’s responsibility for  
12 decommissioning costs?**

13 **A.** Under Section 8.3, Puget remains responsible for its existing share of  
14 decommissioning and deconstruction costs of all existing facilities.  
15

16 **Q. Does the CU4 PSA address Puget’s responsibility for pension costs?**

17 **A.** Yes. Under Section 8.4, Puget remains responsible for its existing share of  
18 pension liabilities.  
19

20 **Q. Does the CU4 PSA address the transmission needed to integrate the  
21 Capacity Acquisition into NorthWestern’s system?**

22 **A.** Yes, but indirectly. In a separate transmission purchase and sale  
23 agreement (“Transmission PSA”), which is contingent on satisfactory

1 regulatory approval of the CU4 PSA, NorthWestern will acquire 95 MW of  
2 Puget's interest in the 500-kilovolt ("kV") Colstrip Project Transmission  
3 System ("CTS" ) ("Transmission Acquisition") and retain an option to  
4 purchase an additional 90 MW of Puget's ownership interest in the system  
5 at the expiration of the previously discussed PPA. The Prefiled Direct  
6 Testimony of Michael R. Cashell ("Cashell Direct Testimony") explains the  
7 benefits of the Transmission Acquisition to NorthWestern's system. Note  
8 that the CTS purchase is not part of this application and NorthWestern is  
9 not requesting the Commission to take any action regarding the  
10 Transmission Acquisition in this application.

11

12 **Q. Please discuss the proposed PPA between Puget and NorthWestern.**

13 **A.** Pursuant to the PPA between NorthWestern and Puget (Exhibit C to the  
14 CU4 PSA), NorthWestern will sell 90 MW to Puget for just under five  
15 years. When the plant is not operating, regardless of the reason,  
16 NorthWestern is not obligated to deliver the 90 MW. Revenues will be  
17 used to address costs, and net revenues flowing from the sale will be  
18 directed back to customers, to help fund the Reserve Fund.

19

20 In addition, the PPA provides NorthWestern with the discretion to deliver  
21 this 90 MW at either Colstrip or at the Mid-Columbia trading hub (Mid-C),  
22 at the same sales price. The latter option provides NorthWestern's

1 customers with an additional 90 MW that can be used to meet peak on-  
2 system reliability, if there is insufficient electricity to serve load in the state.

3

4 **Q. What is the significance of a PPA term of less than five years?**

5 **A.** This contract length is consistent with Washington state law which  
6 prohibits Puget (and other regulated Washington utilities) from entering  
7 into PPAs associated with coal-fired generation for terms of five years or  
8 longer. The details of the PPA are discussed in the Markovich Direct  
9 Testimony.

10

11 **Q. Please explain the Vote Sharing Agreement.**

12 **A.** The Vote Sharing Agreement between NorthWestern and Puget is Exhibit  
13 F to the CU4 PSA. In Section 17 of the Ownership and Operation  
14 Agreement for Colstrip Unit 3 (“CU3”) and CU4, the Project Committee  
15 must vote to approve certain matters concerning CU3 and CU4, such as  
16 the capital and operating budgets. Under the Ownership and Operation  
17 Agreement, the Project Committee is comprised of five members,  
18 originally reflecting the five co-owners of CU3 and CU4. When The  
19 Montana Power Company (“MPC”) transferred its interest in CU3 to Talen  
20 there were six co-owners, but only five members of the Project  
21 Committee. At that time to address the difference between the number of  
22 owners and the size of the Project Committee, a vote sharing agreement  
23 was entered between Talen and MPC whereby those two entities shared

1 the vote previously held solely by MPC. When NorthWestern acquired  
2 MPC's interest in CU4, it succeeded to MPC's position in the vote sharing  
3 agreement with Talen. Similarly, when NorthWestern acquires Puget's  
4 interest in CU4, Puget and NorthWestern will enter into the Vote Sharing  
5 Agreement to govern their shared vote under the Ownership and  
6 Operation Agreement.

7

8 **Customer Reliability and Safety**

9 **Q. Why is the Capacity Acquisition important to NorthWestern's**  
10 **customers?**

11 **A.** NorthWestern is responsible for providing adequate and reliable electricity  
12 supply service at the lowest long-term total cost. NorthWestern is also  
13 required to identify and cost-effectively manage and mitigate risks related  
14 to its obligation to provide electricity supply service. The Capacity  
15 Acquisition will help address NorthWestern's urgent flexible and peak  
16 capacity needs, which are currently served in part through market  
17 purchases.

18

19 **Q. Why is the Capacity Acquisition important for reliability and safety?**

20 **A.** Capacity is the ability of a resource to provide energy when it is needed.  
21 Most importantly, peak capacity generation has a high probability of being  
22 available when our customers have the most urgent need for electricity.



1 As explained in NorthWestern’s 2019 Electricity Supply Resource  
2 Procurement Plan (“2019 Plan”), NorthWestern has a significant need for  
3 additional capacity in order to reliably and safely serve its customers. The  
4 2019 Plan states that NorthWestern’s Montana electric portfolio will be  
5 short 725 MW by 2025, including a 16% reserve margin. The LaFave  
6 Direct Testimony discusses why continued reliance on market purchases  
7 to address this shortfall is both unwise financially and jeopardizes  
8 NorthWestern’s ability to reliably serve our customers.

9  
10 NorthWestern experiences varying levels of capacity deficiencies in terms  
11 of both magnitude and duration. The Capacity Acquisition addresses the  
12 deficiencies that are the largest both in terms of quantity and duration. As  
13 discussed in the LaFave Direct Testimony, these deficiency periods  
14 present higher risk in terms of meeting reliability standards and  
15 requirements in the capacity-constrained Pacific Northwest regional  
16 market. Since longer capacity deficit durations present increased  
17 reliability risks to our customers, the Capacity Acquisition is extremely  
18 helpful in addressing these risks.

19  
20 The Capacity Acquisition does not solve our capacity shortage, but it is an  
21 important and critical first step to address this shortage. The Capacity  
22 Acquisition will meet about 25% (185 MW / 725 MW) of the necessary  
23 capacity forecast needed by 2025.

1 **Q. Should NorthWestern be concerned about its current over-reliance**  
2 **on the market for meeting its peak and flexible capacity needs?**

3 **A.** Yes. Deregulation resulted in the sell-off of the utility's owned generation  
4 and reliance on market purchases to serve load. Since then,  
5 NorthWestern's customers have been subject to significant spikes in  
6 market prices, and that risk is increasing. The Markovich Direct  
7 Testimony illustrates the financial effect of just a few days of market  
8 volatility last February.

9  
10 It is important to note that NorthWestern is not alone in identifying this  
11 growing risk associated with the electricity market. Exhibits to the LaFave  
12 Direct Testimony include numerous professional papers and reports from  
13 planning groups to utility organizations that are sounding an ominous  
14 warning. These organizations are providing analyses showing the  
15 growing lack of firm capacity to serve peak events in the Pacific  
16 Northwest. Any additional unplanned retirements of peak generation  
17 facilities will only exacerbate this situation, as will a low snow pack year  
18 and other factors.

19  
20 Mr. LaFave also addresses NorthWestern's relatively large amount of  
21 market dependence, compared to our investor-owned peers. Because  
22 NorthWestern's customers are so reliant on purchases from the market to  
23 meet peak load needs, the market risk is also disproportionately greater

1 for NorthWestern’s customers. Thus, NorthWestern’s customers are  
2 confronting a double whammy of risk – high dependence on a market that  
3 is shrinking both in Montana (with the closure of Colstrip Units 1 and 2)  
4 and the Pacific Northwest (with the closure of other generation).

5  
6 In addition, NorthWestern is also more isolated from the Pacific Northwest  
7 market because of transmission constraints. The Cashell Direct  
8 Testimony addresses the unique issues surrounding NorthWestern’s  
9 transmission system as well as the immense value of the proposed  
10 Transmission Acquisition.

11

12

**Public Interest**

13 **Q. How would the Capacity Acquisition contribute to a portfolio with**  
14 **lower electricity supply market risk?**

15 **A.** As explained in the Markovich Direct Testimony, the Capacity Acquisition  
16 will reduce the quantity of market purchases and, therefore, lower the  
17 amount of market risk in the portfolio. The closing of over 3,100 MW of  
18 thermal generation in the region will increase the portfolio risk associated  
19 with being able to find and enter into low-cost market transactions.

20

21 **Q. Is the Capacity Acquisition the lowest-cost alternative to addressing**  
22 **some of the capacity shortage?**

1 **A.** Yes, even in the short term, defined as a plant closure in 2025. The  
2 LaFave Direct Testimony presents two important comparisons – to the  
3 least-cost portfolio and to a market alternative (which, as already  
4 discussed, is extremely risky). With the Capacity Acquisition,  
5 NorthWestern’s customers would obtain \$66 million of net present value  
6 savings compared to the lowest-cost portfolio alternative, including capital  
7 expenditures made. NorthWestern’s customers would obtain \$52 million  
8 of net present value savings compared to the market alternative.

9

10 **Q. How would the Capacity Acquisition contribute to providing stable  
11 and reasonable prices and customer rates?**

12 **A.** The Capacity Acquisition as set forth in this filing will not result in an  
13 increase to customer rates. The Durkin Direct Testimony presents the  
14 basis for the increase in the Test Period Revenue Requirement associated  
15 with the Capacity Acquisition. This amount is \$7.45 million. The  
16 Markovich Direct Testimony presents NorthWestern’s proposed decrease  
17 to the PCCAM base power costs and credits to completely offset the  
18 increase in the revenue requirement. Additional forecasted PCCAM  
19 savings will also be shared between customers and the utility on a 90/10  
20 basis, with customers’ annual savings flowing into the Reserve Fund.

21

22 **Q. What are the benefits of the Capacity Acquisition?**

- 1 **A.** Obtaining the Commission’s regulatory approval and moving forward with  
2 the Capacity Acquisition will bring many important benefits, which, when  
3 compared to the risks, show that acquiring this resource, under the terms  
4 of this application, is clearly in the public interest. I will first summarize  
5 the benefits:
- 6 • CU4 will decrease the portfolio’s reliance on the capacity market that is  
7 becoming much more constrained.
  - 8 • CU4 is a known, proven, and reliable resource without development  
9 risk. The Barnes Direct Testimony discusses the metrics that indicate  
10 this reliability.
  - 11 • This capacity will be available to help serve our portfolio as soon as the  
12 transaction closes.
  - 13 • CU4 provides needed peak and flexible capacity. This capacity is  
14 necessary to integrate intermittent renewables, participate in an  
15 Energy Imbalance Market, and adequately and reliably serve our  
16 customers at critical times.
  - 17 • CU4 is forecast to be the lowest-cost generation alternative for  
18 providing flexible and peaking capacity – even just through the 2025  
19 time period.
  - 20 • NorthWestern has a relatively firm priced fuel contract through [REDACTED]  
21 that allows CU4 to operate cost-effectively compared to market. This  
22 is presented in the Barnes Direct Testimony.
  - 23 • NorthWestern is not proposing a rate increase in this application.

- 1 • The Capacity Acquisition will provide funding for the Reserve Fund.
- 2 • Puget is retaining the environmental liabilities associated with the
- 3 Capacity Acquisition.

4

5 The Capacity Acquisition reduces risk associated with the current

6 significant reliance on market purchases; increases resource adequacy

7 and reliability; and provides stable and reasonable prices and customer

8 rates. Finally, the Capacity Acquisition provides a revenue stream to help

9 fund environmental and decommissioning costs associated with

10 NorthWestern's existing 220 MW of CU4.

11

12 **Q. Does the Capacity Acquisition provide additional customer benefit?**

13 **A.** Yes. The net benefits of the PPA will also flow to the Reserve Fund,

14 reducing future costs to customers. This amount is estimated to be

15 anywhere from \$2.1 million to \$3.5 million per year. The former number

16 derived in the Markovich Direct Testimony uses the forward market curves

17 without volatility. The LaFave Direct Testimony provides the derivation for

18 the latter number, and it does include forecast market volatility. Note that

19 the Markovich Direct Testimony also conducted a 12-month look back of

20 actual market prices and derived a \$28.1 million benefit over a five-year

21 period using 2019 actual prices.

22

23 **Q. What are the risks of the Capacity Acquisition to customers?**

1 **A.** As with any generation asset, there is risk that the asset will not perform  
2 as planned, but, based on the historical figures for CU4 as discussed in  
3 the Barnes Direct Testimony, that risk is minimal here. Hydroelectric  
4 generation, wind, and solar are all subject to weather as well as  
5 mechanical malfunctions. Similarly, as with any forecast, market forecast  
6 of electricity prices cannot be guaranteed.

7  
8 **Q. Is the possibility of CU4 closing in 2025 an additional risk to**  
9 **customers for this transaction?**

10 **A.** No, the LaFave Direct Testimony includes an analysis that shows a  
11 benefit in the short term. In addition, the Markovich Direct Testimony  
12 shows a positive revenue stream from the PPA beginning in the first year.

13  
14 **Q. Do the benefits of the Capacity Acquisition outweigh the risks?**

15 **A.** Yes. This opportunity provides needed peaking and flexible capacity,  
16 helps with the integration of intermittent generation, does not require a  
17 rate increase, provides a significant cost savings compared to alternatives,  
18 precludes Puget's environmental obligations from being transferred to  
19 NorthWestern's customers, and contains a mechanism that funds existing  
20 environmental obligations without increasing rates. Finally, there is more  
21 risk in doing nothing, waiting to add capacity, and being subject to a  
22 volatile and uncertain capacity market.

23

1 **Introduction of Other Witnesses**

2 **Q. Please provide the witness name, title, and topic of the testimony**  
3 **presented by other NorthWestern witnesses in this docket.**

4 **A. Bleau J. LaFave, Director of Long-term Resources, explains that adding**  
5 **the Capacity Acquisition to NorthWestern’s supply portfolio is consistent**  
6 **with the need for capacity expressed in NorthWestern’s 2019 Plan and is**  
7 **the lowest-cost resource when compared to alternatives.**

8 **Kevin J. Markovich, Director of Energy Supply Market Operations,**  
9 **explains the Capacity Acquisition’s impact on the PCCAM and explains**  
10 **the terms of the PPA with Puget.**

11 **Michael J. Barnes, Superintendent of Joint Owned Thermal Operations,**  
12 **provides information on CU4’s operations and the cost of those**  
13 **operations, including operations and maintenance, environmental**  
14 **remediation, and eventual decommissioning.**

15 **Michael R. Cashell, Vice President – Transmission, provides information**  
16 **regarding the Transmission Acquisition.**

17 **Andrew D. Durkin, Manager of Regulatory Affairs, presents the revenue**  
18 **requirement, PCCAM tariff revisions, and the derivation of rates.**

19 **Crystal D. Lail, Vice President and Controller, primarily presents the**  
20 **accounting treatment of the Reserve Fund.**

21  
22  
23



**Pre-Filing Communications**

1  
2  
3  
4

**Q. Did NorthWestern contact stakeholders after filing its Notice of Intent to File with the Commission in this docket?**

**A.** Yes, the communications are listed in the table below.

<b>FROM: NWE EMPLOYEE</b>	<b>TO: STAKEHOLDER</b>	<b>DATE</b>	<b>TYPE OF COMMUNICATION</b>
Mike Cashell, VP Transmission	Jeffrey Cook, BPA  Brian Altman, BPA	December 10, 2019	email notification of press release
Heather Grahame, General Counsel	Chuck Magraw, HRC, NRDC	December 10, 2019	email correspondence forwarding press release and Notice of Intent
Heather Grahame, General Counsel	Laura Rennick, State of Montana	December 10, 2019	voicemail notification of transaction
Ann Hill, Corporate Counsel	Zachary Rogala, MPSC	December 10, 2019	phone discussion regarding notice of intent to file for pre- approval and overview of transaction
Joe Schwartzengerger, Director- Regulatory Affairs	Will Rosquist, MPSC	December 10, 2019	phone discussion regarding notice of intent to file for pre- approval and overview of transaction
Ann Hill, Corporate Counsel Heather Grahame, General Counsel	Chuck Magraw, Dr. Power, Jim Morton - HRC/NRDC	December 12, 2019	phone discussion of overview of acquisition
Clark Hensley, Corporate Counsel	Zachary Rogala, MPSC	January 17, 2020	phone discussion notifying MPSC of anticipated filing date
Ann Hill, Corporate Counsel	Chuck Magraw, HRC/NRDC	January 31, 2020	email correspondence regarding request for hard copy of filing
Ann Hill, Corporate Counsel	Zachary Rogala, Justin Kraske, Ashley Morigeau,	February 1, 2020	email regarding February 5, 2020 filing date and

	Luke Casey, Will Rosquist (MPSC); Jason Brown (MCC)		anticipated notice of application and procedural order
--	---	--	--

1 **Q.** Does this conclude your testimony?

2 **A.** Yes, it does.

**COLSTRIP UNIT 4 PURCHASE AND SALE AGREEMENT**

**by and between**

**NORTHWESTERN CORPORATION**

**and**

**PUGET SOUND ENERGY, INC.**

**Dated December 9, 2019**

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## **COLSTRIP UNIT 4 PURCHASE AND SALE AGREEMENT**

THIS COLSTRIP UNIT 4 PURCHASE AND SALE AGREEMENT (this “*Agreement*”), dated as of December 9, 2019, is by and between NORTHWESTERN CORPORATION, a Delaware corporation (“*Buyer*”), and PUGET SOUND ENERGY, INC., a Washington public utility corporation (“*Seller*”). Buyer and Seller are sometimes referred to herein individually as a “*Party*” and, collectively, as the “*Parties*.”

### **RECITALS**

WHEREAS, Seller is the Owner with respect to a twenty-five percent (25%) undivided interest in the 740MW Colstrip Unit 4, a coal-fired, base-load electric generation facility located in Colstrip, Montana (“*Colstrip Unit 4*”) and in all associated real property, equipment, common real property and common equipment and facilities and all rights incidental thereto, as more specifically defined in Section 2.1 (the “*Colstrip 4 Interests*”).

WHEREAS, Seller desires to sell and convey to Buyer, and Buyer desires to purchase and acquire from Seller, all of Seller’s interest the Colstrip 4 Interests, on the terms and subject to the conditions hereinafter set forth.

WHEREAS, Seller and Buyer are entering into this Agreement to evidence their respective duties, obligations, and responsibilities in respect of the purchase and sale of the Colstrip 4 Interests as contemplated herein.

WHEREAS, certain capitalized terms used herein and not otherwise defined shall have the meanings assigned to them in ARTICLE 1 hereof.

NOW, THEREFORE, in consideration of the foregoing and the representations, warranties, covenants and agreements contained in this Agreement, and intending to be legally bound, the Parties agree as follows:

### **ARTICLE 1 DEFINITIONS**

**Section 1.1 Certain Defined Terms.** As used in this Agreement, the following terms have the respective meanings set forth below or set forth in the Sections referred to below:

“AAA” is defined in Section 10.2(a).

“*Action*” means any action, suit, investigation of which Seller has Knowledge, proceeding, condemnation, or audit by or before any court or other Governmental Authority or any arbitration proceeding.

“*Ad Valorem Property*” is defined in Section 2.4(a).

“*Affiliate*” means, as to the Person specified, any Person controlling, controlled by or under common control with such specified Person. The concept of control, controlling or controlled by as used in the aforesaid context means the possession, directly or indirectly, of the



power to direct or cause the direction of the management and policies of another, whether through the ownership of voting securities, by contract or otherwise. No Person shall be deemed an Affiliate of any Person solely by reason of the exercise or existence of rights, interests, or remedies under this Agreement.

“*Agreement*” is defined in the preamble.

“*Allocation Dispute Notice*” is defined in Section 8.7.

“*Allocation Dispute Notice Response*” is defined in Section 8.7.

“*AOC*” means the means the Administrative Order on Consent Regarding Impacts Related to Wastewater Facilities Compromising the Closed-Loop System at Colstrip Steam Electric Station, Colstrip Montana entered into between PPL Montana, LLC (n/k/a Talen Montana, LLC) and the Montana Department of Environmental Quality in July and August of 2012, as amended by the March 1, 2017 Agreement to Amend Administrative Order on Consent.

“*Assignment and Assumption Agreement*” means an Assignment of the Material Contracts from Seller to Buyer to be dated as of the Closing Date and substantially in the form set forth on Exhibit A.

“*Assumed Liabilities*” is defined in Section 2.3.

“*Business Day*” means any day which is not a Saturday, Sunday, or legal holiday in the state of Montana.

“*Buyer*” is defined in the preamble.

“*Buyer’s Consents*” means the consents, filings and notices required to be obtained by Buyer and delivered at the Closing as listed on Section 5.5.

“*Buyer Fundamental Representations*” means the representations and warranties of Buyer set forth in Section 5.1 (Organization and Qualification), Section 5.2 (Authority), Section 5.3 (Enforceability), and Section 5.7 (Brokerage Fees and Commissions).

“*CCR Rules*” means those Environmental Laws relating to the release, discharge, disposal, storage, remediation, or removal of coal combustion residuals, including those rules issued by the United States Environmental Protection Agency pursuant to subtitle D of the Resource Conservation and Recovery Act.

“*Closing*” means the consummation of the transaction contemplated by this Agreement as further defined in Section 3.1.

“*Closing Date*” is defined in Section 3.1.

“*Closing Documents*” means the documents to be delivered by Buyer and Seller at the Closing in accordance with Section 3.2 and Section 3.3, respectively.

“*Code*” means the Internal Revenue Code of 1986, as amended.

“*Colstrip 4 Interests*” is defined in the Recitals and further defined in Section 2.1.

“*Colstrip Unit 3*” means the coal-fired thermal generating plant commonly referred to as Colstrip Unit 3, located near Colstrip, Montana.

“*Colstrip Unit 4*” is defined in the Recitals.

“*Colstrip Units 1 & 2*” means the coal-fired thermal generating plant, consisting of two units commonly referred to as “Colstrip Units 1 & 2,” located near Colstrip, Montana.

“*Commercially Reasonable Efforts*” means efforts which are reasonably necessary to cause, or assist in, the consummation of the transactions contemplated by this Agreement and which do not require the performing Party to (i) expend funds, incur expenses or assume liabilities other than those which are reasonable in nature and amount within the context of the transactions contemplated by this Agreement or (ii) amend, waive or terminate the material terms of any Material Contract or arrangement to which the performing Party is a party; *provided* that the Parties will cooperate to amend the Ownership and Operation Agreement and the Common Facilities Agreement to the degree required to give effect to the transactions contemplated by this Agreement.

“*Committee*” has the meaning assigned to it under the Ownership and Operation Agreement.

“*Common Facilities*” has the meaning assigned to it under the Ownership and Operation Agreement.

“*Common Facilities Interest*” is defined in Section 2.1(b).

“*Confidentiality Agreement*” is defined in Section 6.2.

“*Damages*” is defined in Section 8.9.

“*Debt*” of any Person means at any date, without duplication, (i) all obligations of such Person for borrowed money, (ii) all obligations of such Person evidenced by bonds, debentures, notes or other similar instruments, (iii) all obligations of such Person to pay the deferred purchase price of property or services, except trade accounts payable arising in the ordinary course of business and payable not more than 12 months from the date of incurrence, (iv) all obligations of such Person as lessee under any lease of any property (whether real, personal or mixed) by that Person as lessee that, in conformity with GAAP, has been or would be required to be accounted for as a capital lease on the consolidated balance sheet of that Person, (v) the undrawn face amount of any outstanding letters of credit issued in favor of such Person, and all obligations of such Person to reimburse or prepay any bank or other Person in respect of amounts paid under a letter of credit, banker’s acceptance or similar instrument, (vi) all Debt or other monetary obligations (of such Person or of others) secured by any mortgage, lien, pledge, charge, security interest or encumbrance of any kind on any asset of such Person, whether or not such Debt or other monetary obligation is assumed by such Person, (vii) all obligations of such Person

to pay a specified purchase price for assets, goods, securities or services whether or not delivered or accepted (including take-or-pay arrangements and similar obligations), (viii) all obligations of such Person under conditional sale or other title retention agreements (even if the remedies of the sellers or lenders under such agreements in the event of a default thereunder are limited to the repossession or sale of the property or assets covered thereby), and (ix) all Debt or other monetary obligations of others in respect of which such Person has any contingent liability, including without limitation any guarantee.

“*Disclosure Schedule*” is defined in the preamble of ARTICLE 4.

“*Dispute*” is defined in Section 10.1.

“*Dispute Notice*” is defined in Section 10.1.

“*Dispute Notice Response*” is defined in Section 10.1.

“*Employee Benefit Plans*” means any retirement plan, welfare plan, stock option plan, equity or equity based plan, bonus plan, change-in-control, retention, incentive award plan, severance pay plan or policy, deferred compensation plan or policy, executive compensation or supplemental income plan or policy, vacation, sick leave, disability, death benefit, group insurance, hospitalization, medical, dental, life or any other employee benefit plan or program, including, without limitation, each “employee benefit plan” within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended (“ERISA”), “multiemployer plan” within the meaning of Section 4001(a)(3) of ERISA and other employee benefit plan, program, policy, practice, agreement or arrangement, whether or not subject to ERISA.

“*Environmental Laws*” means any Law relating to pollution control or the protection of the environment, including: (a) (i) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601 et seq., (ii) the Solid Waste Disposal Act, §§ 6901 et seq., (iii) the Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq., (iv) the Clean Air Act, 42 U.S.C. §§ 7401 et seq., (v) the Hazardous Materials Transportation Act, 49 U.S.C. §§ 1471 et seq., (vi) the Toxic Substances Control Act, 15 U.S.C. §§ 2601 et seq., and (vii) the Safe Drinking Water Act, 42 U.S.C. §§ 300f-300j; and (b) such Laws imposing requirements pertaining to (i) any Hazardous Substance, (ii) the manufacture, possession, presence, use, generation, transportation, treatment, storage, disposal, Release or threatened Release of any Hazardous Substance, (iii) reporting, licensing, permitting, or investigation in connection with such activities or (iv) any abatement, removal, remedial, corrective or other corrective action in connection with any Hazardous Substance; and (c) such Laws imposing requirements pertaining to the protection of health or safety of employees or the public.

“*Environmental Liabilities*” means all liabilities involving or arising out of the operation or ownership of the Colstrip 4 Interests and arising out of or resulting from or relating to any Environmental Law or any Hazardous Substance.

“*ERISA Affiliate Liability*” means any liabilities, obligations or responsibilities (whether contingent or otherwise) imposed by law on Seller relating to any Employee Benefit Plan maintained by any trade or business (whether or not incorporated) which are or have been within

the last six years under common control with Seller within the meaning of Section 414(b), (c), (m) or (o) of the Code (an “*ERISA Affiliate*”), including (i) liability to any multiemployer plan contributed to, or obligated to contribute to, by the Seller or any of their ERISA Affiliates, including without limitation any liability to the Pension Benefit Guaranty Corporation under Title IV of ERISA and (ii) liability with respect to non-compliance with the notice and benefit continuation requirements of COBRA.

“*Excluded Assets*” means those assets listed on Exhibit B.

“*FERC*” means the Federal Energy Regulatory Commission, or any successor to its functions.

“*FERC 203 Approval*” means the authorization from FERC to transfer certain of the Colstrip 4 Interests to Buyer pursuant to Section 203 of the Federal Power Act.

“*Final Order*” is defined in Section 8.12(h).

“*GAAP*” means generally accepted accounting principles consistently applied as in effect on the date of this Agreement in the United States.

“*Governmental Authority*” means (i) the federal government of the United States of America, (ii) any state, county, municipality, or other governmental subdivision within the United States of America, and (iii) any executive, legislative or judicial court, department, commission, board, bureau, agency, or other instrumentality of the federal government of the United States of America or of any state, county, municipality, or other governmental subdivision within the United States of America.

“*Hazardous Substance*” means any substance or material listed, defined or classified as a pollutant, contaminant, hazardous substance, toxic substance, hazardous waste or words of similar import under any Environmental Law, including petroleum, polychlorinated biphenyls, and asbestos in any form, or any coal combustion materials or by-products.

“*Indemnification Dispute Notice*” is defined in Section 8.12(b).

“*Indemnified Party*” is defined in Section 8.11(a).

“*Indemnifying Party*” is defined in Section 8.11(a).

“*Indemnity Claim Amount*” is defined in Section 8.12(b).

“*Knowledge*” means, with respect to Seller, the actual knowledge of any fact, circumstance, or condition, assuming reasonable inquiry of their direct reports, by Ron Roberts, and with respect to Buyer, the actual knowledge of any fact, circumstance, or condition, assuming reasonable inquiry of their direct reports, by John Hines.

“*Labor Laws*” means any and all Laws relating in any manner to employment, employees and/or individuals performing work as consultants or contractors, including employment standards, employment of minors, employment discrimination, health and safety, labor relations,

unions, withholding, wages and hours and overtime of any kind, work authorization verification, workplace safety and insurance and pay equity.

“*Law*” means any law, statute, rule, regulation, ordinance, standard, code, order, judgment, decision, writ, injunction, decree, certificate of need, award, or other governmental restriction, including any published and publicly available policy or procedure enforceable by any Governmental Authority.

“*Lien*” means any lien, security interest, charge, claim, mortgage, deed of trust, option, warrant, purchase right, lease, pledge, easement, right-of-way, encroachment, building or use restrictions, conditional sales agreement or other encumbrance.

“*Losses*” means any and all claims, liabilities, losses, causes of action, damages, judgments, obligations, deficiencies, demands, fines, penalties, litigation, lawsuits, administrative proceedings, administrative investigations, costs, and expenses, Environmental Liabilities, and ERISA Affiliate Liability, including reasonable attorneys’ fees, court costs, investigator expenses, and other costs of suit.

“*Material Adverse Effect*” means a material and adverse effect on (i) the ability of Seller or Buyer to consummate the transactions contemplated by this Agreement or otherwise to comply with its obligations hereunder or (ii) the business, assets, financial condition, or results of operations comprising the Colstrip 4 Interests, in each case taken as a whole, including without limitation (a) any change in any applicable Law if such change has an effect on the Colstrip 4 Interests that is disproportionate to the effect on other coal generation facilities, (b) the Colstrip 4 Interests are substantially damaged or destroyed by any casualty event or a substantial portion of the Colstrip 4 Interests are taken, in part or on whole by any Governmental Authority, (c) changes or developments in national, regional, state, or local wholesale or retail markets for electric power, fuel, or related products, including seasonal changes, (including changes in commodity prices or the effects of actions by competitors), if such matters have an effect on the Colstrip 4 Interests that is disproportionate to the effect on other coal generation facilities; and (d) changes or developments in national, regional, state, or local electric transmission or distribution systems, if such matters have an effect on the Colstrip 4 Interests that is disproportionate to the effect on other coal generation facilities; *provided, however*, that such determination shall exclude (A) general economic or political conditions; (B) conditions generally affecting the industries in which the Colstrip 4 Interests operate; (C) any changes in financial, banking or securities markets in general, including any disruption and any decline in the price of any security or any market index or change in prevailing interest rates; (D) any adverse change or effect principally attributable to the announcement, pendency, or consummation of the transactions contemplated by this Agreement (including any action required or permitted by this Agreement with the written consent of or at the written request of Buyer, decrease in customer demand, any reduction in revenues, any disruption in supplier, partner or similar relationships, or any loss of employees attributable thereto but excluding any failure to obtain Required Regulatory Approvals); (E) any outbreak or escalation of hostilities or the declaration by the United States of a national emergency or war; (F) any failure by the Colstrip 4 Interests meet any internal or published projections, forecasts or supply predictions; (G) any matter of which Buyer is aware of on the date hereof; or (H) any acts of terrorism, any other international or domestic calamity or crisis or geopolitical event, except to the extent such

matters in subsections (A), (B), (C), (E) or (F) have an effect on the Colstrip 4 Interests that is disproportionate to the effect on other coal generation facilities.

“*Material Contracts*” is defined in Section 2.1(c).

“*MPSC*” means the Montana Public Service Commission.

“*Notice of Claim*” is defined in Section 8.12(a).

“*Operator*” means Talen Montana, LLC, the operator of Colstrip Unit 3 and Colstrip Unit 4.

“*Owner*” has the meaning assigned to it under the Ownership and Operation Agreement.

“*Ownership and Operation Agreement*” means the Ownership and Operation Agreement, dated May 6, 1981, as amended by Amendment No. 1 dated October 11, 1991, Amendment No. 2 dated July 13, 1998, Amendment No. 3 entered into in 2004, and Amendment No. 4 entered into in 2008, between Buyer, Seller, Portland General Electric Company, the Washington Water Power Company (now Avista) and Pacific Power & Light Company (now PacifiCorp).

“*Party*” is defined in the preamble.

“*Permits*” means written permits, licenses, franchises, registrations, variances and approvals obtained from any Governmental Authority.

“*Permitted Liens*” means (i) Liens for Taxes not yet due and payable, pledges or deposits made in the ordinary course of business under workers’ compensation legislation, unemployment insurance Laws or similar Laws, good faith deposits made in the ordinary course of business in connection with bids, tenders or contracts, including rent security deposits, (ii) in the case of the Real Property, encumbrances and other restrictions and irregularities to title which exist on the date hereof or on the Closing Date and which were not created by, through or under the Seller, (iii) rights reserved to or vested but not yet asserted respecting any Colstrip 4 Interests by any Governmental Authority by the terms of any franchise, grant, license, Permit or provision of applicable Law, to purchase, condemn, appropriate or recapture, or designate a buyer of the real property, (iv) rights reserved to or vested in any municipality or public authority to control or regulate the use of the real property or to use the real property in any manner, including zoning and land use regulations, and (v) mechanic and other similar liens for amounts not yet due or payable.

“*Person*” means any Governmental Authority or any individual, firm, partnership, corporation, limited liability company, joint venture, trust, unincorporated organization or other entity or organization.

“*post-Closing Date Project Share*” means the Project Share attributable to each of Buyer and Seller after giving effect to the transactions contemplated by this Agreement.

“*PPA*” means the Power Purchase Agreement between Buyer and Seller in the form set forth on Exhibit C.

“*pre-Closing Date Project Share*” means the Project Share attributable to each of Buyer and Seller as specified in the Ownership and Operation Agreement.

“*Pre-Closing Period*” is defined in Section 2.4(a).

“*Project*” has the meaning assigned to it under the Ownership and Operation Agreement.

“*Project Share*” has the meaning set forth in the Ownership and Operation Agreement.

“*Project Users*” has the meaning assigned to it under the Ownership and Operation Agreement.

“*Prudent Utility Practices*” means the practices, methods and acts generally engaged in or approved by the electric utility industry in the United States for similarly situated facilities in the United States during a particular time period, in a manner consistent with Laws, reliability, safety and environmental protection, and taking into consideration the requirements of this Agreement, the Material Contracts and the other contracts affecting the operation of the Colstrip 4 Interests. Prudent Utility Practices are not necessarily intended to require the optimum or best practices, methods or acts to the exclusion of all others, but rather to include a spectrum of possible practices, methods or acts consistent with the immediately preceding sentence.

“*Purchase Price*” is defined in Section 2.2.

“*Real Property*” means the real property interests which are included as part of the Colstrip 4 Interest as set forth on Schedule 2.1(a).

“*Records*” means any and all of the books, records, contracts, agreements and files of the Seller existing on the Closing Date and pertaining to the Colstrip 4 Interests, excluding any information if disclosure to Buyer would, in Seller’s sole discretion, jeopardize any attorney-client, work-product or other privilege or other information reasonably deemed confidential by Seller.

“*Release*” means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment.

“*Representatives*” means officers, directors, employees and other agents of a particular Person.

“*Required Regulatory Approvals*” means the FERC 203 Approval, and such approvals as may be necessary from the MPSC and the Washington Utilities and Transportation Commission; *provided* that an approval will not be deemed to have been obtained until the date after which all appeals have been fully adjudicated and an appeal may no longer be filed, regardless of whether an appeal is filed.

“*Retained Liabilities*” is defined in Section 2.1.

“*Rules*” is defined in Section 10.2.

“*Seller*” is defined in the preamble.

“*Seller’s Consents*” means the consents, filings and notices required to be obtained by Seller (other than the Required Regulatory Approvals) and delivered at the Closing as listed on Schedule 4.6.

“*Seller Fundamental Representations*” means the representations and warranties of Buyer set forth in Section 4.1 (Organization and Good Standing), Section 4.2 ( Authority), Section 4.3 (Enforceability), Section 4.4 (Title to Colstrip 4 Interests), and Section 4.9 (Brokerage Fees and Commissions).

“*Straddle Period*” is defined in Section 2.4(c).

“*Tax*” or “*Taxes*” means all federal, state, local, foreign and other net income, gross income, estimated, gross receipts, sales, use, ad valorem, transfer, franchise, profits, license, lease, service, service use, withholding, payroll, employment, excise, severance, stamp, occupation, premium, property taxes and levied and pending assessments, windfall profits, value added, commercial rent, customs duties, capital gain, social security, royalty, documentary, environmental or other taxes, or fees, assessments, duties or charges in the nature or taxes, of any kind whatever, together with any interest and any penalties, additions to tax or additional amounts with respect thereto.

“*Tax Return*” means all returns and reports (including elections, declarations, disclosures, attachments, schedules, estimates, information returns, and amended returns and reports) required to be filed with respect to Taxes.

“*Third Party Claim*” is defined in Section 8.11(a).

“*Transfer Taxes*” means all sales, use, excise, stock, stamp, documentary, filing, recording, permit, license, authorization and other similar Taxes, filing fees and similar charges incurred by either Party in connection with the transactions contemplated hereby.

“*Transmission Acquisition Agreement*” means the Purchase and Sale Agreement between Buyer and Seller in connection with Buyer’s purchase of Seller’s undivided interest in the 500 kilovolt Colstrip Project Transmission System.

“*Update*” is defined in Section 7.10.

“*Vote Sharing Agreement*” means the Vote Sharing Agreement between Buyer and Seller in the form set forth on Exhibit F.

“*Water Rights Transfer Certificate*” means a water rights transfer certificate in the form set forth on Exhibit E pursuant to which Seller shall convey to Buyer the water rights listed on Schedule 1.1.

**Section 1.2 Interpretation.** This Agreement shall not be construed against either Party, and no consideration shall be given or presumption made, on the basis of who drafted this



Agreement or any particular provision hereof or who supplied the form of this Agreement. In construing this Agreement:

- (a) all references in this Agreement to an “Article,” “Section,” “subsection,” “Exhibit,” or “Schedule” shall be to an Article, Section, subsection, Exhibit, or Schedule of this Agreement, unless the context requires otherwise;
- (b) unless the context otherwise requires, the words “this Agreement,” “hereof,” “hereunder,” “herein,” “hereby” or words of similar import shall refer to this Agreement as a whole and not to a particular Article, Section, subsection, clause or other subdivision hereof;
- (c) whenever the context requires, the words used herein shall include the masculine, feminine and neuter gender, and the singular and the plural;
- (d) examples shall not be construed to limit, expressly or by implication, the matter they illustrate;
- (e) the word “includes” and its derivatives means “includes, but is not limited to” and corresponding derivative expressions;
- (f) a defined term has its defined meaning throughout this Agreement and in each Exhibit and Schedule hereto, regardless of whether it appears before or after the place where it is defined;
- (g) each Exhibit and Schedule to this Agreement is a part of this Agreement, and should be construed in light of each other;
- (h) the headings and titles herein are for convenience only and shall have no significance in the interpretation hereof; and
- (i) references to a Law, rule, regulation, contract, agreement, or other document mean that Law, rule, regulation, contract, agreement, or document as amended, modified, or supplemented, if applicable.

## ARTICLE 2 PURCHASE AND SALE OF THE COLSTRIP 4 INTERESTS

**Section 2.1 Purchase and Sale of Colstrip 4 Interests.** On the terms and subject to the conditions hereof, Seller covenants and agrees to sell, assign and transfer to Buyer all of Seller’s right, title and interest in, and Buyer covenants and agrees to purchase from Seller, effective as of the Closing, all of Seller’s right, title and interest in, all of the Colstrip 4 Interests, free and clear of any and all Liens, other than Permitted Liens and excluding the Excluded Assets (as hereinafter defined). The assets, properties and rights to be purchased or otherwise transferred to Buyer under this Agreement, all of which solely relate to the Colstrip 4 Interests and, except for Excluded Assets, constitute, or will constitute as of Closing, all of Seller’s interests in or to the Colstrip 4 Interests, are as follows:

- (a) all of Seller’s ownership rights to the Real Property;

(b) the portion of Seller's interest in the Common Facilities and associated assets as described on Schedule 2.1(b) which are associated with the Colstrip 4 Interests (the "*Common Facilities Interest*");

(c) the portion of Seller's rights under the contracts, leases and agreements related to the Colstrip 4 Interests and which are associated with the Colstrip 4 Interests, including the contracts, leases and agreement that are set forth on Schedule 2.1(c) (the "*Material Contracts*");

(d) notwithstanding the provisions of Section 2.1(a)-(c) above, the Colstrip 4 Interests shall not include (and the Seller shall retain and the Buyer shall not assume):

(i) all of Seller's rights and interests related to its interest in Colstrip Units 1 & 2 and Colstrip Unit 3 including interests in Common Facilities and associated assets, rights under contracts, leases and agreements, and ownership rights to real property, to the extent such rights are associated with Seller's continued ownership of Colstrip Units 1 & 2 and a portion of Colstrip Unit 3;

(ii) claims arising out of liabilities occurring prior to Closing, including Environmental Liabilities and pension liabilities to the extent and as provided for in Sections 8.2, 8.4 and 8.5;

(iii) claims arising out of those items listed on Schedule 8.5 and as provided for in Section 8.5;

(iv) future decommissioning and demolition costs in connection with the Colstrip 4 Interests to the extent and as provided for in Section 8.3;

(v) any obligation or liability related to or arising out of any of the Excluded Assets;

(vi) any obligation or liability related to or arising out of Actions pending as of the Closing Date against the Seller or any of its Affiliates;

(vii) any obligation or liability (including any future Actions) related to or arising out of the Seller's conduct of the business or ownership of the Colstrip 4 Interests prior to the Closing;

(viii) any ERISA Affiliate Liability or any obligation or liability related to or arising out of any collective bargaining agreement of the Seller, whether prior to, on or after the Closing;

(ix) any ERISA Affiliate Liability or any obligation, liability or expense relating to or arising out of (A) the employment or termination of employment or consultancy of any employee or consultant, or former employee or consultant of the Operator, on or prior to the Closing (B) any collective bargaining agreement of the Operator on or prior to the Closing (C) compliance with or violations of any Labor Laws by the Operator on or prior to the Closing;

(x) any obligation or liability of any kind or nature relating to (A) Taxes of the Seller; and (B) Taxes related to the Seller's conduct of the business or ownership of the Colstrip 4 Interests prior to the Closing (in the case of real property Taxes, as determined in accordance with Section 2.4(a)); and

(xi) any obligation or liability of Seller for any Debt.

The foregoing liabilities listed in this Section 2.1(d) are collectively referred to as the "*Retained Liabilities*" and shall remain and be the obligations and liabilities solely of the Seller.

**Section 2.2 Purchase Price.** The aggregate purchase price and additional consideration for the sale and conveyance of the Colstrip 4 Interests shall be: One Dollar (\$1) (the "*Purchase Price*").

**Section 2.3 Assumption of Liabilities.** Except as otherwise provided in ARTICLE 8, Buyer shall assume and agree to pay, perform and discharge the liabilities and obligations of Seller related to the Colstrip 4 Interests, including without limitation those liabilities and obligations contained in the Material Contracts, but solely with respect to liabilities or obligations arising solely during periods following the Closing Date (the "*Assumed Liabilities*").

**Section 2.4 Ad Valorem Real and Personal Property Taxes.**

(a) Seller shall be responsible for its pre-Closing Date Project Share of all ad valorem Taxes imposed on or with respect to the Real Property and any personal property (the "*Ad Valorem Property*") for all Tax periods (or portion of any Tax period beginning on or before and ending after the Closing Date (a "*Straddle Period*") ending on or prior to the Closing Date (the "*Pre-Closing Periods*"). The portion of such Taxes for which Seller shall be liable for a Straddle Period shall be determined by multiplying its pre-Closing Date Project Share of the amount of Taxes for the entire Straddle Period by a fraction, the numerator of which is the number of days in such Straddle Period prior to and including the Closing Date and the denominator of which is the total number of days in such Straddle Period.

(b) Any real or personal property tax reductions or refunds with respect to the Ad Valorem Property for or relating to a Pre-Closing Period (as determined in accordance with Section 2.4(a)) shall be for the account of Seller. If Buyer receives a real property Tax refund or credit with respect to the Ad Valorem Property for or relating to a Pre-Closing Period, Buyer shall promptly remit to Seller its pre-Closing Date Project Share of such refund or credit relating to the Pre-Closing Period.

(c) Prior to the Closing Date, Seller shall control and conduct all negotiations, proceedings and communications with the Montana Department of Revenue regarding real property Taxes with respect to the Ad Valorem Property, shall keep Buyer informed regarding such negotiations, proceedings and communications and shall not agree to any settlement with the Montana Department of Revenue that affects any Tax period or portion of a Straddle Period beginning after the Closing Date without Buyer's consent, which consent shall not be unreasonably withheld, conditioned or delayed. From and after the Closing Date, Buyer shall control and conduct all negotiations, proceedings and communications with the Montana Department of Revenue regarding real property Taxes with respect to the Ad Valorem Property,

shall keep Seller informed regarding such negotiations, proceedings and communications, and shall not agree to any settlement with the Montana Department of Revenue that affects any Tax period or portion of a Straddle Period ending on or prior to the Closing Date without Seller's consent, which consent shall not be unreasonably withheld, conditioned or delayed. Seller shall reasonably cooperate with all such negotiations, proceeds and communications.

### **ARTICLE 3 CLOSING; CONDITIONS PRECEDENT**

**Section 3.1 Closing.** The closing of the transactions contemplated by this Agreement (the "*Closing*") shall occur at the offices Dorsey & Whitney LLP, 50 South Sixth Street, Suite 1500, Minneapolis, Minnesota, commencing at 9:00 A.M. or at such other location as may be agreed upon by the Parties on either (i) the second (2nd) Business Day after the satisfaction of all the conditions precedent to the Closing in accordance with Sections 3.4 and 3.5 hereof, or (ii) at such other time or place as may be mutually agreed upon by the Parties in writing. The date on which the Closing occurs is referred to herein as the "*Closing Date*".

**Section 3.2 Closing Deliveries by Buyer.** At the Closing, Buyer shall deliver, or cause to be delivered, to Seller the following:

- (a) The Purchase Price in cash in accordance with Section 2.2 hereof;
- (b) A certificate of an authorized officer of Buyer, dated as of the Closing Date, in the form set forth in Exhibit G, certifying that (i) the representations and warranties of Buyer set forth in ARTICLE 5 are true, correct and complete as of the Closing Date, except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect, (ii) the conditions set forth in Section 3.4 have been fulfilled or waived and (iii) the covenants of Buyer set forth in ARTICLE 7 to be performed on or before the Closing Date have been fulfilled or waived in writing by Seller.
- (c) A duly executed copy of the Assignment and Assumption Agreement;
- (d) A copy of the PPA, duly executed by Buyer;
- (e) Duly executed copies of each of the Buyer's Consents;
- (f) A copy of the Vote Sharing Agreement, duly executed by Buyer; and
- (g) Such other documents and certificates as Seller may reasonably request and which are customarily and ordinarily delivered in transactions similar to the transactions to be consummated at the Closing.

**Section 3.3 Closing Deliveries by Seller.** At the Closing, Seller shall execute and deliver, or cause to be executed and delivered, to Buyer the following:

- (a) A duly executed copy of the Assignment and Assumption Agreement;

(b) A certificate of an authorized officer of Seller, dated as of the Closing Date, in the form set forth in Exhibit H, certifying that (i) the representations and warranties of Seller set forth in ARTICLE 4 are true, correct and complete as of the Closing Date, except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect, (ii) the conditions set forth in Section 3.5 have been fulfilled or waived and (iii) the covenants of Seller set forth in ARTICLE 7 to be performed on or before the Closing Date have been fulfilled or waived in writing by Buyer;

(c) A copy of the PPA, duly executed by Seller;

(d) Duly executed copies of each of the Seller's Consents;

(e) A copy of the Vote Sharing Agreement, duly executed by Seller;

(f) A certificate that Seller is not a "foreign" person within the meaning of Section 1445 of the Code, which certificate shall set forth all information required by, and otherwise be executed in accordance with, Treasury Regulations Section 1.445-2(b)(2);

(g) A deed in the form attached hereto as Exhibit I conveying Seller's interest in the Real Property subject only to Permitted Liens (i.e., a deed (i) in which Seller warrants that the Real Property is free from all encumbrances made by the Seller other than Permitted Liens and that Seller will defend the same to the Buyer against the lawful claims and demands of all persons claiming by, through or under Seller, but against no other persons; and (ii) that conveys any after-acquired title to the Real Property that Seller may subsequently obtain, but reserving for Seller, for so long as the Colstrip Project Transmission Agreement, dated May 6, 1981, as amended, is in effect, such easements as may be reasonably necessary for the purpose of owning, operating, maintaining, repairing, replacing, or removing any transmission facility and associated equipment in their current locations on the Real Property), all in a form reasonably acceptable to Buyer (which shall include language providing that such easements shall not, other than to a de minimis extent, adversely effect operations on the Real Property as currently conducted);

(h) The Water Rights Transfer Certificate; and

(i) Such other documents and certificates as Buyer may reasonably request and which are customarily and ordinarily delivered in transactions similar to the transactions to be consummated at the Closing.

**Section 3.4 Conditions Precedent to the Closing Obligations of Buyer.** The obligation of Buyer to proceed with the Closing contemplated hereby is subject to the fulfillment or waiver (by the Buyer, in its absolute discretion, by written notice to the Seller) on or prior to the Closing Date, or on or prior to such earlier date if specified below, of all of the following conditions:

(a) Seller shall have delivered to Buyer each of the documents described in Section 3.3.

(b) The representations and warranties of Seller in ARTICLE 4 of this Agreement shall be true and correct without regard to any qualification respecting materiality or Material

Adverse Effect on and as of the Closing Date except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect, and the covenants and agreements of Seller to be performed on or before the Closing Date shall have been performed in all material respects in accordance with this Agreement.

(c) Seller shall have obtained and provided copies to Buyer of all the Seller's Consents required for the Closing listed in Schedule 4.6.

(d) Seller shall have obtained and provided a copy to Buyer of the Required Regulatory Approvals.

(e) Seller shall have completed the Initial Closing of the transactions contemplated by Transmission Acquisition Agreement (as such term is defined therein).

(f) No order or decree by any federal or state court or Governmental Authority which prevents the consummation of the sale of the Colstrip 4 Interests contemplated herein shall have been issued and remain in effect (each Party agreeing to use its Commercially Reasonable Efforts to have any such order or decree lifted) and no statute, rule or regulation shall have been enacted by any state or federal government or Governmental Authority which prohibits the consummation of the sale of the Colstrip 4 Interests.

(g) Seller shall have delivered to Buyer evidence of the filing for termination of all Liens that are not Permitted Liens in form and substance reasonably satisfactory to Buyer; *provided* that Seller shall indemnify Buyer for any Losses incurred by Buyer in connection with Seller's failure to terminate any Lien that is not a Permitted Lien.

(h) No event causing or constituting a Material Adverse Effect shall have occurred or be occurring.

**Section 3.5 Conditions Precedent to the Closing Obligations of Seller.** The obligation of Seller to proceed with the Closing contemplated hereby is subject to the fulfillment or waiver (by the Seller, in its absolute discretion, by written notice to the Buyer) on or prior to the Closing Date of all of the following conditions:

(a) Buyer shall have delivered to Seller each of the documents described in Section 3.2.

(b) The representations and warranties of Buyer contained in ARTICLE 5 of this Agreement shall be true and correct without regard to any qualification respecting materiality or Material Adverse Effect on and as of the Closing Date except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect, and the covenants and agreements of Buyer to be performed on or before the Closing Date shall have been performed in all material respects in accordance with this Agreement.

(c) Buyer shall have obtained and provided copies to Seller of all of Buyer's Consents required for the Closing listed on Schedule 5.5.

(d) Buyer shall have obtained and provided a copy to Seller of the Required Regulatory Approvals.

(e) Buyer shall have completed the Initial Closing of the transactions contemplated by Transmission Acquisition Agreement (as such term is defined therein).

(f) Buyer shall have delivered the Purchase Price as provided in ARTICLE 2 hereof.

(g) All Owners and Project Users shall have either declined to exercise or executed a waiver substantially in the form attached hereto as Exhibit J with respect to their rights of first refusal contained in Section 24 of the Ownership and Operation Agreement.

(h) No order or, decree by any federal or state court or Governmental Authority which prevents the consummation of the sale of the Colstrip 4 Interests contemplated herein shall have been issued and remain in effect (each Party agreeing to use its Commercially Reasonable Efforts to have any such order or decree lifted) and no statute, rule or regulation shall have been enacted by any state or federal government or Governmental Authority which prohibits the consummation of the sale of the Colstrip 4 Interests.

**Section 3.6 Failure to Close.** In the event of any failure to satisfy or waive the conditions precedent set forth in Section 3.4 or Section 3.5, the termination and other provisions of ARTICLE 9 shall govern to the extent applicable.

#### **ARTICLE 4 REPRESENTATIONS AND WARRANTIES OF SELLER**

As of the date of this Agreement, Seller hereby represents and warrants to Buyer that the statements contained in this ARTICLE 4 (as modified and supplemented by the disclosure schedule delivered to Buyer by Seller contemporaneously herewith setting forth, among other things, items the disclosure of which is necessary or appropriate either in response to an express informational requirement contained in or requested by a provision of this ARTICLE 4, or as an exception to one or more representations or warranties contained in this ARTICLE 4 (the “*Disclosure Schedule*” or “*Schedule*”)) are true and correct, *provided* that the mere inclusion of an item in a Disclosure Schedule as an exception to a representation or warranty or covenant shall not be deemed an admission by a Party that such item (or any undisclosed item or information of comparable or greater significance) represents a material exception or fact, event or circumstance with respect to the Seller. The Disclosure Schedule shall be arranged in sections and paragraphs corresponding to the numbered and lettered sections and paragraphs contained in this ARTICLE 4; *provided*, however, the disclosures in any section or paragraph of the Disclosure Schedule shall qualify as disclosures pursuant to any other sections or paragraphs under the Agreement where such disclosure is reasonably apparent on the face of such disclosures, whether or not repeated under any section number where such disclosure might be deemed appropriate.

**Section 4.1 Organization and Good Standing.** Seller is a public utility corporation duly organized and validly existing under the laws of the State of Washington and each other jurisdiction where such qualification is required, except where the failure to be so qualified has

not had, and is not reasonably likely to have, individually or in the aggregate, a Material Adverse Effect.

**Section 4.2 Authority.** Seller has all requisite power and authority to own, and to carry on its businesses related to, the Colstrip 4 Interests as now being conducted. Seller has all requisite power and authority and as of the Closing will have obtained all other applicable governmental, statutory, regulatory or other consents, licenses, waivers or exemptions necessary to execute and deliver this Agreement and the Closing Documents, and to perform its obligations hereunder and thereunder. The execution, delivery, and performance of this Agreement and the Closing Documents, when executed and delivered in accordance herewith, and the transactions contemplated hereby and thereby have been duly and validly authorized by all requisite action on the part of Seller.

**Section 4.3 Enforceability.** This Agreement has been, and the Closing Documents, when executed and delivered in accordance herewith, will be, duly and validly executed and delivered by Seller and, assuming due and valid authorization, execution and delivery hereof by Buyer, is a valid and binding agreement of Seller, enforceable against it in accordance with their respective terms, subject to (a) applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance and other similar Laws of general application from time to time in effect that affect creditors' rights generally, (b) general principles of equity, and (c) the power of a court to deny enforcement of remedies generally based upon public policy.

**Section 4.4 Title to Colstrip 4 Interests.** Seller owns the Colstrip 4 Interests free and clear of all Liens, other than Permitted Liens and those liens set forth on Schedule 4.4 (which will be terminated or released as of the Closing).

**Section 4.5 No Violation or Breach.** Except as set forth in Schedule 4.5, and assuming that all of the Required Regulatory Approvals and Seller's Consents have been obtained, neither the execution and delivery of this Agreement nor the Closing Documents, nor the consummation of the transactions contemplated hereby or thereby and performance of the terms and conditions hereof or thereof by Seller will result in a violation or breach of, or default under, (a) any provision of the organizational documents of Seller and any indenture or (b) any Material Contract under which Seller or the assets comprising Colstrip 4 Interests is bound, except with regard solely to clause (b), any violation, breach or default that would not have a Material Adverse Effect.

**Section 4.6 Consents.** No consent, approval, authorization or permit of, or filing with or notification to, any Person is required for or in connection with the execution and delivery of this Agreement or the Closing Documents by Seller or for, or in connection with, the consummation of the transactions and performance of the terms and conditions contemplated hereby and thereby by Seller except for (a) the Required Regulatory Approvals; (b) the third-party consents, filings, and notices set forth on Schedule 4.6, and (c) immaterial consents, approvals, authorizations, permits, filings or notices. Neither the execution and delivery of this Agreement or the Closing Documents nor the consummation of the transactions and performance of the terms and conditions hereof or thereof by Seller requires the consent, approval, authorization or permit of the MPSC or the Montana Consumer Counsel.



**Section 4.7 Material Contracts.** Except as set forth on Schedule 4.7, Seller is not party to any contract reasonably necessary for Buyer's use of the Colstrip 4 Interests after Closing to which Buyer is not also a party.

**Section 4.8 No Disputes; Litigation.** There is no Action pending, or to Seller's Knowledge, threatened in writing against Seller, except for Actions that would not have a Material Adverse Effect on Seller's ability to perform its obligations under the Closing Documents.

**Section 4.9 Brokerage Fees and Commissions.** Neither Seller nor any Affiliate of Seller has incurred any obligation or entered into any agreement for any investment banking, brokerage, or finder's fee or commission in respect of the transactions contemplated by this Agreement or the Closing Documents for which Buyer or any of Buyer's Affiliates shall incur any liability.

**Section 4.10 Bankruptcy.** There are no bankruptcy, reorganization, or arrangement proceedings pending against, being contemplated by, or to the Knowledge of Seller threatened against, Seller.

**Section 4.11 Records.** Seller has provided to Buyer copies of any final reports, memoranda, audits, studies, or investigations prepared by Seller's internal environmental professionals or outside environmental consultants retained by or on behalf of Seller which analyze, quantify, audit, or report on actual or potential environmental issues, conditions, or Environmental Liabilities connected with the Colstrip 4 Interests, other than any documents protected by the attorney-client privilege or work-product prepared for litigation or in anticipation of litigation at the direction of counsel.

## ARTICLE 5 REPRESENTATIONS AND WARRANTIES OF BUYER

As of the date of this Agreement and as of the Closing Date, Buyer represents and warrants to Seller as follows and, except as expressly set forth to the contrary herein, acknowledges that the Seller has entered into this Agreement in reliance upon such representations and warranties:

**Section 5.1 Organization and Qualification.** Buyer is a corporation, duly incorporate, validly existing, and in good standing under the laws of the State of Delaware, and has all requisite corporate power and authority and all necessary permits to carry on its business as now being conducted.

**Section 5.2 Authority.** Buyer has all requisite corporate power and authority to execute and deliver this Agreement and the Closing Documents and to perform its obligations hereunder and thereunder. The execution, delivery, and performance of this Agreement and the Closing Documents, when executed and delivered in accordance herewith, and the transactions contemplated hereby and thereby have been duly and validly authorized by all requisite corporate action on the part of Buyer.

**Section 5.3 Enforceability.** This Agreement has been and, when executed and delivered in accordance herewith, the Closing Documents will be, duly and validly executed and delivered by Buyer and constitute valid and binding obligations of Buyer enforceable against it in accordance with their respective terms, subject to (a) applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, and other similar Laws of general application from time to time in effect that affect creditors' rights generally, (b) general principles of equity, and (c) the power of a court to deny enforcement of remedies generally based upon public policy.

**Section 5.4 No Violation or Breach.** Neither the execution and delivery of this Agreement or the Closing Documents nor the consummation of the transactions and performance of the terms and conditions hereof or thereof by Buyer will (a) result in a violation or breach of any provision of the certificate of incorporation, bylaws or other similar governing documents of Buyer or any material agreement, indenture or other instrument under which Buyer is bound or (b) violate any applicable Law other than such violations as would not, individually or in the aggregate, have a Material Adverse Effect.

**Section 5.5 Consents.** No consent, approval, authorization or permit of, or filing with or notification to, any Person is required for or in connection with the execution and delivery of this Agreement or the Closing Documents by Buyer or for, or in connection with, the consummation of the transactions and performance of the terms and conditions contemplated hereby and thereby by Buyer, except for (a) the Required Regulatory Approvals; (b) the third-party consents, filings, and notices set forth on Schedule 5.5, and (c) consents, approvals, authorizations, permits, filings, or notices that, if not obtained or made, would not, individually or in the aggregate, have a Material Adverse Effect.

**Section 5.6 No Disputes; Litigation.** There is no Action pending, or to Buyer's Knowledge, threatened in writing against Buyer, except for Actions that would not have a Material Adverse Effect on Buyer's ability to perform its obligations under the Closing Documents.

**Section 5.7 Brokerage Fees and Commissions.** Neither Buyer nor any Affiliate of Buyer has incurred any obligation or entered into any agreement for any investment banking, brokerage, or finder's fee or commission in respect of the transactions contemplated by this Agreement or the Closing Documents for which Seller or any of the Seller's Affiliates shall incur any liability.

**Section 5.8 Bankruptcy.** There are no bankruptcy, reorganization, or arrangement proceedings pending against, being contemplated by, or to the Knowledge of Buyer threatened against, Buyer.

**Section 5.9 Regulatory Matters.**

(a) Buyer represents that its acquisition of the Colstrip 4 Interests would not reasonably be expected to result in (i) a denial of any Required Regulatory Approvals primarily based upon Buyer's ability to exercise horizontal or vertical market power or (ii) a denial of any Required Regulatory Approvals primarily based upon any increase in Buyer's horizontal or

vertical market power in the NorthWestern balancing authority area using the standards adopted by FERC in Order No. 697.

(b) Buyer represents that it does not need approval from any Governmental Authority, other than the Required Regulatory Approvals, to acquire the Colstrip 4 Interests.

## ARTICLE 6 ACCESS AND CONFIDENTIALITY

**Section 6.1 General Access.** Seller shall, until the Closing Date (or the earlier termination of this Agreement), (i) cooperate in facilitating reasonable access by Buyer to all of Seller's books, records, contracts, agreements, files, personnel, offices and other facilities and properties, in each case, of Seller, related to the Colstrip 4 Interests and to, (ii) permit Buyer to make such copies and inspections thereof as Buyer may reasonably request, and (iii) furnish Buyer with such financial and operating data and other information with respect to the Colstrip 4 Interests as Buyer may from time to time reasonably request; *provided*, that any such access shall be conducted at Buyer's expense, at a reasonable time and on reasonable notice, under the reasonable supervision of Seller's or Operator's personnel, as appropriate, and in such a manner as to maintain the confidentiality of such information, this Agreement, and the transactions contemplated hereby and not to interfere with the normal operation of the business of Seller or the Colstrip 4 Interests; and *provided, further*, that Buyer and its representatives shall comply with all applicable safety rules, regulations and procedures implemented by Seller or Operator, as the case may be. Seller further agrees to cooperate in facilitating the provision of information by the Operator and its employees of such financial, operating, environmental, and other information with respect to the Colstrip 4 Interests as Buyer may reasonably request.

(b) In addition to Section 6.1(a) above, Seller specifically agrees to facilitate Buyer's environmental due diligence by promptly providing Buyer copies of any documents prepared by Seller's internal environmental professionals or outside environmental consultants retained by or on behalf of Seller which analyze, quantify, audit, or report on actual or potential environmental issues, conditions, or Environmental Liabilities connected with the Colstrip 4 Interests.

(c) Nothing in this ARTICLE 6 shall be construed to permit Buyer or its representatives to have access prior to the Closing to (i) any files, records, contracts, or documents of Seller not relating to the Colstrip 4 Interests, (ii) any bids or offers received by Seller for the sale of any of the Colstrip 4 Interests, it being agreed that all such bids or offers shall be the sole property of Seller, (iii) any jeopardize any attorney-client or other privilege as determined by Seller's sole discretion.

**Section 6.2 Confidential Information.** Buyer and Seller agree to maintain in confidence all information made available to it under this Agreement and to cause their respective officers, directors, agents, employees, representatives, consultants, and advisors to maintain in confidence all information made available to them under this Agreement, all as provided in that certain Mutual Non-Disclosure Agreement between Buyer and Seller dated July 19, 2019 (the "*Confidentiality Agreement*"), and the terms of which are incorporated herein by reference and made a part of this Agreement; *provided* that the Confidentiality Agreement shall terminate upon Closing or two years following the date hereof. In the event that terms of the

Confidentiality Agreement and this Agreement conflict, the terms of the Confidentiality Agreement shall control.

## ARTICLE 7 COVENANTS OF SELLER AND BUYER

**Section 7.1 Conduct of Business Pending Closing.** Seller covenants and agrees that:

(a) *Exclusivity.* Upon execution of this Agreement and except as noted below, Seller grants Buyer the exclusive right to acquire the Colstrip 4 Interests until the earlier of the Closing or termination of this Agreement. During such exclusivity period, Seller agrees to: (i) deal with Buyer, or its representatives, exclusively with regard to all aspects of the acquisition of the Colstrip 4 Interests, and (ii) refrain, directly or indirectly, from soliciting, initiating, encouraging, or engaging in any discussions or negotiations with any Person or entering into any agreement, commitment, understanding or transaction with any Person concerning any proposal regarding the acquisition of the Colstrip 4 Interests, or providing any business, financial or other information relating to any such transaction to any person or entity. Notwithstanding the foregoing, Buyer and Seller acknowledge and agree that nothing in this Section 7.1 or elsewhere in this Agreement shall restrict or impair Seller's right or obligation to provide a right of first refusal to the Project Users under the Ownership and Operation Agreement pursuant and subject to Section 7.9. Notwithstanding this Section 7.1(a), nothing in this Section 7.1 shall be construed as limiting the termination rights of the Buyer or Seller under ARTICLE 9 or Buyer's or Seller's rights if any party shall exercise such right of first refusal.

(b) *Conduct of Business.* Pending the Closing, and taking into consideration the fact that the Seller is not the Operator and except as provided for in Section 7.1(a) or as reasonably necessary under emergency circumstances (or if required or prohibited pursuant to applicable Law or the Ownership and Operation Agreement), and always subject to and consistent with the extent of Seller's rights and limitations under the Ownership and Operation Agreement, Seller shall comply with the following:

(i) Seller shall conduct its business related to the Colstrip 4 Interests, and utilize its Commercially Reasonable Efforts to cause the Colstrip 4 Interests to conduct its business in a manner which assumes the long-term operation of Colstrip Unit 4, in the ordinary course in accordance with past practice, and not make any material change with respect thereto;

(ii) Seller shall comply in all material respects with the Ownership and Operation Agreement;

(iii) Seller shall take all Commercially Reasonable Efforts to preserve and protect the Colstrip 4 Interests subject to the terms of the Ownership and Operation Agreement and applicable Laws;

(iv) With respect to any approvals of the Committee: (A) Buyer, following its good faith consideration of Seller's input regarding any matters concerning the Colstrip 4 Interests to be voted upon under the Ownership and Operation Agreement, shall direct all of Seller's votes in connection with the

Colstrip 4 Interests, (B) Seller shall continue to vote on its own behalf in connection with its votes arising from its ownership interest in Colstrip Units 1 & 2 and Colstrip Unit 3 and (C) Buyer and Seller shall consult with each other in good faith regarding any issues regarding both Colstrip Unit 3 and Colstrip Unit 4 and/or Common Facilities prior to voting.

(v) except as set forth on Schedule 7.1, Seller shall not assign, terminate, amend, give any consent with respect to or waive any rights under, in any material respect, any Material Contract;

(vi) Seller shall not take any action or enter into any commitment with respect to or in contemplation of any liquidation, dissolution, recapitalization, reorganization, or other winding up of its business or operations related to the Colstrip 4 Interests, except as required by applicable Laws;

(vii) Seller shall not grant any express further Lien on any of the Colstrip 4 Interests, except for Permitted Liens, those Liens that will be terminated, without cost to Buyer, at Closing;

(viii) Seller shall provide prompt written disclosure to the Buyer of all relevant information which comes to the attention of the Seller in relation to any fact or matter (whether existing on or before the date of this Agreement or arising afterwards) which may constitute a breach of any of the Seller's representations and warranties set forth in ARTICLE 4; and

**Section 7.2 Public Announcements.** Without the prior written approval of the other Party, no Party shall issue, or permit any agent or Affiliate of such Party to issue, any press releases or otherwise make, or cause any agent or Affiliate of such Party to make, any public statements with respect to this Agreement or the Closing Documents or the transactions contemplated hereby or thereby, except when and to the extent that such release or statement is deemed in good faith by the releasing Party to be required to obtain the Required Regulatory Approvals or by applicable Law or under the applicable rules and regulations of a stock exchange or market on which the securities of the releasing Party or any of its Affiliates are listed. In each case to which such exception applies, the releasing Party will use its reasonable efforts to provide a copy of such release or statement to the other Party and incorporate any reasonable changes which are suggested by the non-releasing Party prior to releasing or making the statement.

**Section 7.3 Actions by Parties.** Each Party agrees to use Commercially Reasonable Efforts to satisfy the conditions to the Closing set forth in Sections 3.4 and 3.5; *provided, however,* that neither Buyer nor Seller shall be deemed to have breached its obligations under Section 6.2, Section 7.2 or this Section 7.3 by pursuing the discussions with the MPSC or the Washington Utilities and Transportation Commission or by making any required filings in connection with obtaining the Required Regulatory Approvals.

**Section 7.4 Further Assurances.** Seller and Buyer each agree that from time to time after the Closing, it will execute and deliver or cause its respective Affiliates to execute and

deliver such further agreements, certificates, documents or opinions and take (or cause its respective Affiliates to take) such other action, as may be reasonably necessary to carry out the purposes and intents of this Agreement. If at any time any Party shall reasonably request any further action by any other Party to carry out the purposes of this Agreement and the Closing Documents or to further effectuate the transactions contemplated hereby, such other Party, shall promptly take such action (including the prompt execution and delivery of further instruments and documents).

**Section 7.5 Records.**

(a) **Maintenance.** Buyer agrees to maintain the Records in accordance with its records retention policy as maintained in compliance with applicable Laws and Buyer's past practices, or if any of the Records pertain to any claim or dispute pending on the date upon which such records would be destroyed pursuant to Buyer's records retention policy, Buyer shall maintain any of the Records designated by Seller until such claim or dispute is finally resolved and the time for all appeals has been exhausted. Buyer shall give Seller reasonable notice and an opportunity to retain any Records relating to Taxes in the event that Buyer determines to destroy or dispose of them during such period. After the Closing Date, except as might result in a waiver of any attorney/client, work product or like privilege or violate applicable Laws, Buyer shall provide Seller and its representatives during normal business hours, and upon reasonable notice, reasonable access to, and the right to copy, the Records existing as of the Closing Date, at Seller's cost and expense, for the purposes of

(i) complying with any applicable Law affecting Seller's ownership of the Colstrip 4 Interests prior to the Closing Date;

(ii) preparing any audit of the books and records of any third party relating to Colstrip Unit 4 prior to the Closing Date, or responding to any audit prepared by such third parties;

(iii) preparing Tax Returns;

(iv) responding to or disputing any audit, examination, claim or other proceeding in respect of Taxes; or

(v) asserting, defending, or otherwise dealing with any inquiry, investigation, claim or dispute under this Agreement or with respect to the Colstrip 4 Interests.

(b) **Privilege.** Buyer shall not after the Closing Date intentionally waive the attorney/client, work product, or like privilege of Seller or its Affiliates with respect to any of the Records existing as of the Closing Date, without Seller's prior written consent.

**Section 7.6 Regulatory and Other Authorizations and Consents Filings.**

(a) **General.** Each Party shall use Commercially Reasonable Efforts to obtain all authorizations, consents, orders, and approvals of, and to give all notices to and make all filings with, all Governmental Authorities and third parties that may be or become necessary for its

execution and delivery of, and the performance of its obligations under, this Agreement and will cooperate fully with the other Party in promptly seeking to obtain all such authorizations, consents, orders, and approvals, giving such notices, and making such filings.

(b) *Required Regulatory Approvals.* Without limiting the generality of the undertakings pursuant to Section 7.6(a) above, each Party shall (i) use its Commercially Reasonable Efforts to: gather and obtain all necessary information to complete its respective filings in connection with the Required Regulatory Approvals (including all reports, studies, and exhibits related thereto); consult with the other Party regarding any such filings, consider and incorporate all reasonable comments (if any) submitted by the other Party or its representatives; and the Parties shall make such filings as soon as practicable following the execution and delivery of this Agreement, if not already completed; (ii) prior to and during the pendency of any notice and approval period with respect to such filings, (A) consult with the other Party prior to providing any supplemental information to the applicable regulatory authority and provide prompt written notice to the other Party of all discussions and correspondence with the applicable regulatory authorities that reasonably relates to or bears upon such filings, and (B) use all Commercially Reasonable Efforts and act in good faith to expedite and obtain the Required Regulatory Approvals. In furtherance and not in limitation of the foregoing, each of the Parties agrees to use its Commercially Reasonable Efforts to applications with any applicable Governmental Authority whose approval is required in connection with the consummation of the purchase by Buyer of the Colstrip 4 Interests as promptly as practicable following the date of this Agreement, the date of which shall be mutually agreed upon by Buyer and Seller.

(c) *Transfer.* If the transfer of any instrument, contract, license, lease, permit, or Material Contract to Buyer hereunder shall require the consent of any party thereto other than Seller, then such item shall not be assigned to or assumed by Buyer, if an actual or attempted assignment thereof would constitute a breach thereof or default thereunder. In such case, Seller and Buyer shall cooperate and each shall use Commercially Reasonable Efforts to obtain such consents to the extent required by such other parties and, if and when any such consents are obtained, to transfer the applicable instrument, contract, license, lease, permit, or Material Contract. If any such consent cannot be obtained, Seller shall, at Buyer's expense, cooperate in any commercially reasonable arrangement designed to obtain for Buyer all benefits, obligations and privileges of the applicable instrument, contract, license, lease, permit, or document. Buyer shall indemnify and hold harmless the Seller from any and all Losses arising from or related to Seller's actions taken pursuant to the Buyer's request and/or direction (or such non-action as requested and/or directed by the Buyer, as the case may be) pursuant to this Section 7.6(c). Notwithstanding the foregoing, the indemnification provisions of this Section 7.6(c) shall not apply to any actions taken by Seller with regard to the Ownership and Operation Agreement.

(d) *Third Party Consents.* Seller shall use its Commercially Reasonable Efforts, and Buyer shall use its Commercially Reasonable Efforts to assist Seller, in obtaining any and all consents of third parties and Governmental Authorities necessary or advisable in connection with the transactions contemplated by this Agreement and the Closing Documents, including the provision by Buyer to such third parties and Governmental Authorities of such publicly available financial statements and other publicly available financial information with respect to Buyer and its parent company or companies as such third parties or Governmental Authorities may reasonably request.

**Section 7.7 Fees and Expenses.** Except as otherwise expressly provided in this Agreement, all fees and expenses, including fees and expenses of counsel, financial advisors, and accountants, incurred in connection with this Agreement and the Closing Documents and the transactions contemplated hereby, shall be paid by the Party incurring such fee or expense, whether or not the Closing shall have occurred.

**Section 7.8 Tax Matters.**

(a) After the Closing Date, Buyer and Seller shall provide each other with such cooperation and information related to Colstrip Unit 4 and the Colstrip 4 Interests as the Parties reasonably may request in (i) filing any Tax Return, amending any Tax Return or claiming any Tax refund, (ii) determining any liability for Taxes or any right to Tax refunds or (iii) conducting or defending any audit, examination, claim or other proceeding in respect of Taxes. Seller and Buyer shall retain all Tax Returns, schedules and work papers, and all material records and other documents related thereto until the expiration of the statute of limitations for the taxable years to which such Tax Returns and other documents relate.

(b) Buyer and Seller each shall be responsible under applicable Law for payment of fifty percent (50%) of all Transfer Taxes. The Party responsible for preparing any Tax Returns or other documentation relating to such Transfer Taxes shall prepare and file such Tax Returns or other documentation; *provided, however*, that to the extent required by applicable Law, the other Party shall join in the execution of any such Tax Returns and other documentation relating to such Transfer Taxes. The Party responsible for preparing and filing any such Tax Return or other documentation shall provide to the other Party copies of each such Tax Return or other documentation at least fifteen (15) days prior to the date on which such Tax Return is required to be filed.

(c) In the event of any conflict between the provisions of ARTICLE 8 of this Agreement and this Section 7.8 or Section 2.4, the provisions of this Section 7.8 and Section 2.4 shall control.

**Section 7.9 Right of First Refusal.** Without limiting the generality of the undertakings pursuant to Section 7.3 above, Seller shall use its Commercially Reasonable Efforts to: (a) within five (5) Business Days of the date hereof, notify the Owners and Project Users concerning their execution of a waiver substantially in the form attached hereto as Exhibit J with respect to their rights of first refusal contained in Section 24 of the Ownership and Operation Agreement, (b) use its Commercially Reasonable Efforts to satisfy the condition to the Closing set forth in Section 3.5(g), and (c) keep Buyer reasonably informed in respect of the status and substance of such discussions, including by providing copies of all relevant correspondence to Buyer. Seller shall immediately notify Buyer if at any time any Project User or Owner shall exercise or indicate their intent to exercise any such right of first refusal. Seller shall (x) as soon as practicable, but in any event no later than [date], notify Buyer in writing that the condition set forth in Section 3.5(g) has been satisfied (the “*ROFR Resolution Notice*”), or (y) no later than one hundred twenty (120) days after the date hereof, notify Buyer in writing that the condition set forth in Section 3.5(g) has not yet been satisfied.



**Section 7.10 Updates to Disclosure Schedules.** From time to time prior to and up to three (3) days prior to the Closing Date, Seller shall provide written notice to Buyer of any fact, matter, condition, event or circumstance that occurs following the date of this Agreement and that, individually or in the aggregate, renders Seller unable, without amending the Disclosure Schedules, to satisfy the condition precedent under Section 3.4(b) (each, an “*Update*”). For the avoidance of doubt, the uploading of documents to the electronic data site of Seller related to the Colstrip 4 Interests or other delivery of documents to Buyer or Seller, as applicable, shall not constitute written notice of an Update. In the event that Buyer does not terminate this Agreement pursuant to Section 9.1(d)(i) following delivery of such Update, then Seller shall be permitted to update the applicable Schedule(s) to properly reflect the fact, matter, condition, event or circumstance disclosed to Buyer in such Update, and the applicable representations and warranties of Seller set forth in this Agreement made following the Update shall be subject to the Schedules attached hereto, as modified or amended by such Update, for purposes of satisfying the conditions to Closing set forth in Section 3.4; *provided*, that, if the Closing occurs, such Update shall not be deemed to have modified the Schedules for purposes of determining whether there has been a breach of the applicable representations and warranties related to Seller’s indemnification obligations in ARTICLE 8.

**Section 7.11 Transfers of Interests.** If, at any time between the date of this Agreement and one year following the Closing Date, Buyer enters into any contract, agreement, arrangement or other understanding with respect to the purchase of any interests of Colstrip Units 1 & 2, Colstrip Unit 3 or Colstrip Unit 4 on terms (individually or in the aggregate) more favorable to the seller of such interests than the terms as agreed upon in this Agreement (as determined by Seller in its sole discretion), Buyer hereby agrees to amend this Agreement to reflect such more favorable terms in this Agreement.

## **ARTICLE 8 LIABILITY AND INDEMNIFICATION**

**Section 8.1 Survival.** The representations and warranties of Buyer and Seller shall survive until the date that is eighteen (18) months after the Closing Date, except that the Seller Fundamental Representations, the Buyer Fundamental Representations shall each survive Closing indefinitely. Claims for breach of any of the covenants and agreements of the Parties set forth herein must be brought no later than sixty (60) days following the expiration of the applicable statute of limitations applicable to such claims.

**Section 8.2 AOC and CCR Rules.** The Parties shall be responsible for Losses arising from the ownership or operation of the Colstrip 4 Interests, the Project, or the Common Facilities, in each case that are caused by or arise from the AOC and/or CCR Rules based on their respective pre-Closing Date Project Shares; provided, however, to the extent any such Losses increase due to violations of Environmental Laws by the Operator or Owners or Releases of Hazardous Substances that (a) wholly arise or wholly take place after the Closing or (b) commenced prior to Closing but that a reasonable environmental professional would determine substantially all of such violations or Releases of Hazardous Substances occurred after the Closing, liability with respect to those incremental Losses shall be as set forth in Section 8.6. The Parties specifically recognize that the Project will continue to burn coal and generate coal combustion residuals after Closing, and agree, notwithstanding anything to the contrary in the

proviso contained in the prior sentence, that Losses arising from the continued burning of coal and the generation, storage, deposit, and Release of coal combustion residuals, including the deposit of coal combustion residuals into ponds, the dry storage or staging of coal combustion residuals, and any Release of coal combustion residuals or Hazardous Substances resulting from coal combustion residuals from existing ponds, shall not be considered incremental Losses of the sort described in the preceding sentence and shall not decrease Seller's liability or responsibility for such Losses based on the Parties' respective pre-Closing Date Project Shares, such that all Losses caused by or arising from the AOC and/or CCR Rules that arise from or are caused by the deposit, storage, generation, staging, or Release of coal combustion residuals shall be based on pre-Closing Date Project Shares without regard to whether such deposit, storage, generation, staging, or Release occurs before or after Closing. Continued operation of the Colstrip 4 Interests consistent with Prudent Utility Practice shall not have any bearing on the allocation of Losses provided for in this Section. Changes in Law, including changes that alter the nature, scope, or expense of obligations and Losses caused by or arising from the AOC and/or the CCR Rules shall not alter or otherwise have any bearing on the allocation of Losses provided for in this Section; provided, that if any changes in Law after the Closing impact the operation of Colstrip Unit 4, Seller's liability for Losses arising from such impacts on the operation of Colstrip Unit 4 shall be as set forth in Section 8.6.

**Section 8.3 Decommissioning.** The Parties shall be responsible for Losses arising from the decommissioning, mothballing, closure, retirement, deactivation, shut down, deconstruction, removal, or demolition of all or a portion of Colstrip Unit 4, the Project, or the Common Facilities based on their respective pre-Closing Date Project Shares; provided, however, that Seller shall not be responsible for Losses caused by or arising from the decommissioning, mothballing, closure, retirement, deactivation, shut down, deconstruction, removal, or demolition of any buildings constructed after Closing intended to predominantly benefit Colstrip Unit 4. Continued operation of the Colstrip 4 Interests consistent with Prudent Utility Practice shall not have any bearing on the allocation of Losses provided for in this Section. Changes in Law, including changes that alter the nature, scope, or expense of obligations and Losses caused by or arising from the decommissioning, mothballing, closure, retirement, deactivation, shut down, deconstruction, removal, or demolition of all or a portion of the Colstrip 4 Interests, the Project, or the Common Facilities shall not alter or otherwise have any bearing on the allocation of Losses provided for in this Section; *provided* that if any changes in Law after the Closing impact the operation of Colstrip Unit 4, Seller's liability for Losses arising from such impacts on Colstrip Unit 4 shall be as set forth in Section 8.6.

**Section 8.4 Pension Costs.** The Parties shall be responsible for Losses arising from pension liabilities that arose prior to Closing or are wholly or partially caused by events, incidents, liabilities, work performed, or conditions from prior to Closing, including claims by the Operator that it has made excess pension contributions, based on their respective pre-Closing Date Project Shares. If some or all of the pensions for those employed at the Project are converted after Closing to annuities, the Parties' responsibility for any costs to the Owners of such conversions shall be based on the pre-Closing Date Project Shares for that portion of the costs attributable to employment before Closing and based on post-Closing Date Project Shares for that portion of the costs attributable to employment after Closing. Changes in Law shall not have any bearing on the allocation of Losses provided for in this Section.

**Section 8.5 Other Losses Allocated Based on Pre-Closing Date Project Shares.**

The Parties specifically agree that they shall be responsible for all Losses arising from or caused by the items listed on Schedule 8.5 based on their respective pre-Closing Date Project Shares. The Parties shall be responsible for Losses arising from the ownership or operation of the Colstrip 4 Interests, the Project, or the Common Facilities, in each case that are not described in Sections 8.2, 8.3, 8.4, or 8.6, and that do not arise from or are not caused by items listed on Schedule 8.5 or Schedule 8.6, but that are caused by or which arise from events, occurrences or conditions which a reasonable environmental professional would determine substantially all of such events, occurrences or conditions took place or existed before Closing based on their respective pre-Closing Date Project Shares; provided, however, to the extent any such Losses increase due to (a) actions taken after Closing by the Operator or Owners, (b) violations of Environmental Laws by the Operator or Owners that wholly arise or wholly take place after Closing or which a reasonable environmental professional would determine substantially all of such violations took place after the Closing or (c) Releases of Hazardous Substances arising from events, occurrences or conditions that wholly arise or take place or which a reasonable environmental professional would determine substantially all of such events, occurrences or conditions took place after the Closing, Seller's liability with respect to those incremental Losses shall be as set forth in Section 8.6, except that continued operation of the Colstrip 4 Interests consistent with Prudent Utility Practice shall not be deemed an action which gives rise to an increase in Losses. Continued operation of the Colstrip 4 Interests consistent with Prudent Utility Practices shall not have any bearing on the allocation of Losses provided for in this Section. The Parties specifically recognize that the Project will continue to burn coal and generate coal combustion residuals after Closing, and agree, notwithstanding anything to the contrary in the proviso contained in the prior sentence, that Losses arising from the continued burning of coal and the generation, storage, deposit, and Release of coal combustion residuals, including the deposit of coal combustion residuals into ponds, the dry storage or staging of coal combustion residuals, and any Release of coal combustion residuals or Hazardous Substances resulting from coal combustion residuals from existing ponds, shall not reduce Seller's liability or be deemed an increase in Losses of the sort described in the proviso to the first sentence in this Section. Changes in Law shall not have any bearing on the allocation of Losses provided for in this Section; *provided* that if changes in Law after the Closing impact the operation of Colstrip Unit 4, Seller's liability for Losses arising from such impacts on the operations of Colstrip Unit 4 shall be as set forth in Section 8.6.

**Section 8.6 Losses Allocated Based on Post-Closing Date Project Shares.** The Parties specifically agree that they shall be responsible for all Losses arising from or caused by the items listed on Schedule 8.6 based on their respective post-Closing Date Project Shares. The Parties shall be responsible for Losses arising from the ownership or operation of the Colstrip 4 Interests, the Project, or the Common Facilities, in each case that are not governed by Sections 8.2, 8.3, 8.4, or 8.5, and that do not arise from or are not caused by items listed on Schedule 8.5 or Schedule 8.6, but that are wholly caused by or arise wholly from events or occurrences which take place, or which a reasonable environmental professional would determine substantially all of such events or occurrences took place, after Closing based on their respective post-Closing Date Project Shares.

**Section 8.7 Disagreements Regarding Causes of Losses.** If the Parties are unable to agree as to how Sections 8.2 through 8.6 apply to the allocation of liability for particular Losses,

the Parties agree in the first instance to attempt to settle such disagreement by mutual discussion between executives from both Parties. Within seven (7) Business Days of the receipt by either Party of a notice from the other Party of the existence of a disagreement referring to this ARTICLE 8 (the “Allocation Dispute Notice”), the receiving Party shall reply with a written response (an “Allocation Dispute Notice Response”). Both the Allocation Dispute Notice and the Allocation Dispute Notice Response shall include (a) a statement of the relevant Party’s position with regard to the Dispute and a summary of arguments supporting such position; and (b) the name and title of the executive who will represent that Party in attempting to resolve the Dispute pursuant to this Section 8.7. Within seven (7) Business Days of delivery of the Allocation Dispute Notice Response, the designated executives shall meet and attempt to resolve the disagreement. All negotiations pursuant to this clause shall be confidential and shall be treated as compromise and settlement negotiations, and no oral or documentary representations or offers made by the Parties during such negotiations shall be admissible for any purpose in any subsequent proceedings.

**Section 8.8 Resolution if Executive Negotiations Do Not Succeed.**

(a) If any disagreement is not resolved within thirty (30) Days of receipt of an Allocation Dispute Notice pursuant to Section 8.7, then, upon either Party’s request, the Parties shall jointly retain an independent third-party consultant (with expertise in the subject matter giving rise to the liability) to promptly determine whether the events or occurrences that caused or gave rise to the Losses in question fit within the scope of Section 8.2, Section 8.3, Section 8.4, Section 8.5 (including Schedule 8.5), or Section 8.6 (including Schedule 8.6), and how such Losses are to be allocated based on the application of those sections. To the extent permitted by law, the Parties shall provide for the confidentiality of the independent third-party consultant’s determination, and each Party shall pay half of the consultant’s fees and costs. The determination of the third-party consultant shall be final and binding on the Parties and is not subject to review in other arbitration or in court. Apportionment of liability disputes described in this Section shall be resolved using this procedures and requirements set forth in this Section (and the subsections below) and not using the procedures provided for in ARTICLE 10 of this Agreement.

(b) The independent third-party consultant shall agree to act as an impartial and neutral arbitrator in carrying out the duties set forth herein. The independent third-party consultant shall carry out his or her duties based on the standard procedures used by consultants researching or investigating matters in the industry in question, and not by using processes that are quasi-judicial in nature. In particular, the independent third-party consultant shall not be required to hold a hearing. The Parties shall jointly submit written background information to the independent third-party consultant, and shall then cooperate in responding to follow-up questions and requests for documents from the independent third-party consultant. If the independent third-party consultant asks to conduct a site visit and/or interview Colstrip personnel, the Parties shall cooperate in facilitating such a site visit and/or interviews, including by jointly making requests to the Operator. The independent third-party consultant shall not communicate to either Party without also including or copying the other Party in such conversation or exchange. The independent third-party consultant shall provide his or her determination in a written report that is to be transmitted to both Parties.

(c) If the Parties are unable to agree on an independent third-party consultant, each Party shall appoint one third-party consultant, each of whom shall agree to serve impartially and independently, and then the two consultants so appointed shall themselves find and appoint a third consultant who agrees to serve as the independent third-party consultant contemplated by this Section under the procedures and requirements set forth in this Section.

**Section 8.9 Indemnification By Seller.** Seller shall indemnify, save and hold harmless, Buyer, its Affiliates, and their respective Representatives from and against any and all Losses, costs, losses, liabilities (including liabilities arising under principles of strict or joint and several liability), damages, lawsuits, deficiencies, claims and expenses (whether or not arising out of Third Party Claims), including interest, penalties, additions, travel expenses, wages allocable to loss of employee time, reasonable attorneys' fees and all amounts paid in investigation, defense or settlement of any of the foregoing (collectively, the "*Damages*"), incurred in connection with or arising out of or resulting from:

(a) any breach or inaccuracy in any of the representations or warranties of Seller contained in this Agreement, any Closing Document to which Seller is a party or any certificate delivered by or on behalf of Seller pursuant to this Agreement (any such breach or inaccuracy to be determined without regard to any qualification for "materiality," "in all material respects" or similar qualification);

(b) any breach or violation of any covenant, agreement or other obligation of Seller set forth in this Agreement or any Closing Document to which Seller is a party;

(c) if the Closing has occurred, any failure by Seller to pay, perform or discharge any Retained Liabilities as and when due;

(d) if the Closing has occurred, any failure by Seller to pay, perform or discharge any Retained Liability as and when due;

(e) if the Closing has occurred, any liability, obligation or commitment of Seller of any nature (absolute, accrued, contingent or otherwise) relating to the Colstrip 4 Interests and not assumed;

(f) Seller's portion of any Transfer Taxes in accordance with Section 7.8(b);

(g) any fraud, willful misconduct or gross negligence in connection with this Agreement by Seller or its Affiliates; or

(h) any claim by a third-party or liability to a third-party, including a current or former Project User, to the extent it seeks to hold Buyer responsible for more than the share of any Losses provided for in Sections 8.2 through 8.6 above.

**Section 8.10 Indemnification By Buyer.** Buyer shall indemnify, save and hold harmless, Seller, its Affiliates, and their respective Representatives from and against any and all Damages incurred in connection with or arising out of or resulting from:

- (a) any breach or inaccuracy of any representation or warranty made by Buyer in this Agreement or any Closing Document to which Buyer is a party;
- (b) any breach or violation of any covenant, agreement or obligation of Buyer set forth in this Agreement or any Closing Document to which Buyer is a party;
- (c) if the Closing has occurred, any failure of Buyer to pay, discharge or perform any of the Assumed Liabilities as and when due;
- (d) Buyer's portion of any Transfer Taxes in accordance with Section 7.8(b);
- (e) any fraud, willful misconduct or gross negligence in connection with this Agreement by Buyer; or
- (f) any claim by a third-party or liability to a third-party, including a current or former Project User, to the extent it seeks to hold Seller responsible for more than the share of any Losses provided for in Sections 8.2 through 8.6 above.

**Section 8.11 Third Party Claims.**

- (a) Promptly after receipt by a Party of notice of the commencement of any Action by a third party (a "*Third Party Claim*") with respect to any matter for which indemnification is or may be owing pursuant to Section 8.9 or Section 8.10 hereof (such Party making a claim under this ARTICLE 8, an "*Indemnified Party*"), the Indemnified Party will give notice thereof to Buyer or Seller, as applicable (the "*Indemnifying Party*"); *provided, however*, that the failure of the Indemnified Party to notify the Indemnifying Party will not relieve the Indemnifying Party of any of its obligations hereunder, except to the extent that the Indemnifying Party demonstrates that the defense of such Third Party Claim has been actually prejudiced by the Indemnified Party's failure to give such notice.
- (b) If any Action referred to in this Section is brought against an Indemnified Party and the Indemnified Party gives notice to the Indemnifying Party of the commencement of such Action, the Indemnifying Party will be entitled to participate in such Action, and (unless (x) the Indemnifying Party is also a party to such Action and the Indemnified Party determines in good faith that joint representation would be inappropriate upon the advice of outside counsel that a conflict of interest exists between the Indemnified Party and the Indemnifying Party with respect to such Action, or (y) the Indemnifying Party fails to provide reasonable assurance to the Indemnified Party of its financial capacity to defend such Action and provide indemnification with respect to such Action) may assume the defense of such Action with counsel reasonably satisfactory to the Indemnified Party and, after notice from the Indemnifying Party to the Indemnified Party of its election to assume the defense of such Action, the Indemnifying Party will not, as long as it diligently conducts such defense, be liable to the Indemnified Party under this Section for any fees of other counsel with respect to the defense of such Action, in each case subsequently incurred by the Indemnified Party in connection with the defense of such Action.
- (c) If the Indemnifying Party is entitled to and assumes the defense of an Action, no compromise or settlement of such claims or Action may be effected by the Indemnifying Party without the Indemnified Party's written consent unless (i) there is no effect on or grounds for the

basis of any other claims that may be made against the Indemnified Party, (ii) the sole relief provided is monetary damages that are paid in full by the Indemnifying Party, and (iii) the Indemnified Party will have no liability with respect to any compromise or settlement of such claims or Action. Notwithstanding the assumption by the Indemnifying Party of the defense of any claim or Action, the Indemnified Party will be permitted to join in such defense and to employ counsel at its own expense.

(d) Notwithstanding the foregoing, if the Indemnified Party determines in good faith that there is a reasonable probability that an Action may result in the Indemnified Party or its Affiliates having to pay monetary Damages for which it would not be entitled to indemnification under this Agreement or having to perform specific performance, the Indemnified Party may, by notice to the Indemnifying Party, assume the exclusive right to defend, compromise or settle such Action, but the Indemnifying Party will not be bound by any compromise or settlement thereof effected without its written consent (which consent shall not be unreasonably withheld, delayed or conditioned).

(e) The Indemnifying Party and the Indemnified Party agree to provide each other with reasonable access during regular business hours to the properties, books and records and representatives of the other, as reasonably necessary in connection with the preparation for an existing or anticipated Action involving a Third Party Claim and its obligations with respect thereto pursuant to this Article.

#### **Section 8.12 Direct Claims.**

(a) The following procedures will apply to any claim for indemnification by an Indemnified Party that does not involve a Third Party Claim.

(b) An Indemnified Party will deliver a notice to the Indemnifying Party (a “*Notice of Claim*”) as soon as practicable, but in no event later than sixty (60) days, after the Indemnified Party determines that it is or may be entitled to indemnification pursuant to this Agreement; *provided, however*, that failure to provide notice will not prejudice the Indemnified Party’s right to indemnity, except to the extent the Indemnifying Party prejudiced by the Indemnified Party’s failure to give such notice.

(c) If the Indemnifying Party disputes (x) its obligation to indemnify the Indemnified Party in respect of any indemnification claim set forth in a Notice of Claim, or (y) the amount of such indemnification claim set forth in a Notice of Claim (the “*Indemnity Claim Amount*”), a dispute notice (“*Indemnification Dispute Notice*”) will be given as soon as practicable, but in no event later than thirty (30) days, after the Notice of Claim. If no Indemnification Dispute Notice is given within such thirty (30) day period, the validity of the claim for indemnification and the amount of such claim, each as set forth in the Notice of Claim, will be deemed to be agreed, effective on the first (1st) day following such thirty (30) day period, and the amount of such claim as set forth in the Notice of Claim will immediately be payable by the Indemnifying Party. If an Indemnification Dispute Notice is given within such thirty (30) day period, then:

(d) The portion, if any, of the amount of such claim which is not disputed in the Indemnification Dispute Notice will immediately be payable by the Indemnifying Party.

(e) Buyer and Seller will negotiate in good faith to settle the dispute, and the portion, if any, of the claim amount which Buyer and Seller agree in writing is payable will be immediately payable by the Indemnifying Party.

(f) If Buyer and Seller are unable to resolve any portion of the Indemnity Claim Amount within two (2) months following the date the Indemnification Dispute Notice is given, either Buyer or Seller may initiate proceedings in accordance with Section 8.7 to obtain resolution of the dispute.

(g) If neither Buyer nor Seller initiates legal or arbitration proceedings in respect of the dispute within twelve (12) months following the date the Indemnification Dispute Notice is given, the portion of the claim amount which is disputed will not be payable, and the Indemnified Party will have no further right, under this Agreement, to seek to recover such amount from the Indemnifying Party.

(h) If Buyer or Seller initiates legal proceedings within the twelve (12) month period specified in Section 8.12(g), the amount, if any, determined in a written final order of a court of competent jurisdiction or final non-appealable decision of an arbitrator (“*Final Order*”) as payable by the Indemnifying Party will be payable by the Indemnified Party as of the date of such Final Order.

**Section 8.13 Acknowledgement.** Seller and Buyer each acknowledge that (a) only representations, warranties, covenants or agreements expressly made in this Agreement or the Closing Documents will be deemed to be representations, warranties, covenants or agreements for purposes of this Agreement, and (b) neither Party has relied on any representation, warranty, covenant or agreement not expressly made in this Agreement or the Closing Documents in consummating the transactions herein.

## ARTICLE 9 TERMINATION AND REMEDIES

**Section 9.1 Methods of Termination.** This Agreement and the transactions contemplated hereby may be terminated prior to the Closing Date as follows:

- (a) at any time by mutual written agreement of Seller and Buyer; or
- (b) by either Seller or Buyer upon the material breach of this Agreement by the other, to be effective, if curable, upon the breaching Party’s failure to cure within five (5) Business Days of notice given, and if incurable, upon notice given, *provided* that the Party seeking to terminate has complied with and fulfilled its obligations and undertakings under this Agreement in all material respects; or
- (c) by Seller, in the following events:
  - (i) at any time after any final, non-appealable decision is made by the applicable Governmental Authority denying any Required Regulatory Approval requested by the Seller or failing to reasonably meet the request of the Seller in all material respects; or



(ii) at any time after December 31, 2020 if the Closing has not yet occurred;

*provided further*, that the event triggering Seller's termination right did not result from the failure by Seller to fulfill any undertaking or commitment provided for herein on the part of Seller that is required to be fulfilled on or prior to the Closing Date or any such applicable date.

(d) by Buyer, in the following events:

(i) if a fact, matter, condition, event or circumstance first disclosed in an Update from Seller has had or would reasonably be expected to have a Material Adverse Effect; *provided*, that (A) Buyer has given Seller at least fifteen (15) Business Days' prior notice of the intent to terminate and (B) Seller has not cured such Material Adverse Effect during such fifteen (15) Business Day period;

(ii) at any time after any final, non-appealable decision is made by the applicable Governmental Authority denying any Required Regulatory Approval requested by the Buyer or failing to reasonably meet the request of the Buyer in all material respects;

(iii) at any time after December 31, 2020 if the Closing has not yet occurred;

(iv) at any time after December 31, 2020, if any order or decree by any federal or state court or Governmental Authority exists which would delay or otherwise impair the consummation of the sale of the Colstrip 4 Interests;

(v) at any time if any Project User exercises a right of first refusal offered to it by the Seller (pursuant to the terms of the Ownership and Operation Agreement); or

(vi) if Seller has failed to deliver to the Buyer the ROFR Resolution Notice by within the time specified in Section 7.9;

*provided*, that the event triggering Buyer's termination right did not result from the failure by Buyer to fulfill any undertaking or commitment provided for herein on the part of Buyer that is required to be fulfilled on or prior to the Closing Date or any such applicable date.

**Section 9.2 Effect of Termination.** In the event either Party desires to terminate this Agreement pursuant to Section 9.1, written notice thereof shall promptly be given by the terminating Party to the other Party, and this Agreement shall terminate effective as of the later of the date such notice is received (or such later effective date as may be set forth therein) or the expiration of any cure period. If this Agreement is terminated as provided in Section 9.1, all filings, applications and other submissions made to any Governmental Authority with respect to the transactions contemplated by this Agreement and the Closing Documents (other than any filings, applications and other submissions made by Seller that do not involve Buyer) shall, to the

extent practicable, be withdrawn from the Governmental Authority to which they were made; and except for those obligations set forth in ARTICLE 6, pursuant to which the Parties shall continue to be bound, no Party shall have any further obligation hereunder; *provided*, that such termination shall not be construed to limit or waive any right with respect to any breach of this Agreement occurring prior to such termination.

**Section 9.3 No Liability.** There shall be no liability of any shareholder, partner, member, director, officer, employee, advisor or representative of Buyer or Seller or any Affiliate thereof, whether to Buyer or Seller, as the case may be, or any other Person (including any shareholder, partner, member, director, officer, employee, advisor or representative thereof) in connection with any liability or other obligation of Buyer or Seller or any Affiliate thereof, whether hereunder or otherwise in connection with the transactions contemplated hereby.

## **ARTICLE 10 DISPUTE RESOLUTION**

**Section 10.1 Mutual Discussions.** If any dispute or difference of any kind whatsoever shall arise between the Parties in connection with, or arising out of, this Agreement or the Closing Documents, or the interpretation, performance, breach, termination or validity hereof or thereof, including without limitation any claim based on contract, text or statute (the “*Dispute*”), the Parties shall attempt to settle such Dispute in the first instance by mutual discussions in accordance with this Section 10.1. Within seven (7) Business Days of the receipt by either Party of a notice from the other Party of the existence of a Dispute referring to this ARTICLE 10 (the “*Dispute Notice*”), the receiving Party shall reply with a written response (a “*Dispute Notice Response*”). Both the Dispute Notice and the Dispute Notice Response shall include (a) a statement of the relevant Party’s position with regard to the Dispute and a summary of arguments supporting such position; and (b) the name and title of the executive who will represent that Party in attempting to resolve the Dispute pursuant to this Section 10.1. Within seven (7) Business Days of delivery of the Dispute Notice Response, the designated executives shall meet and attempt to resolve the Dispute. All negotiations pursuant to this clause shall be confidential and shall be treated as compromise and settlement negotiations, and no oral or documentary representations or offers made by the Parties during such negotiations shall be admissible for any purpose in any subsequent proceedings.

**Section 10.2 Arbitration.** If any Dispute is not resolved within thirty (30) Days of receipt of a Dispute Notice pursuant to Section 10.1, then, upon either Party’s request, the Dispute shall be finally and exclusively resolved by arbitration as follows:

(a) The arbitration shall be held accordance with the Commercial Arbitration Rules (the “*Rules*”) of the American Arbitration Association (the “*AAA*”), then in effect, except as modified herein. The arbitration shall be held, and the award shall be issued in Chicago, Illinois.

(b) The Parties shall appoint an arbitrator satisfactory to both Parties. If the arbitrator is not appointed within the time limit provided herein, such arbitrator shall be appointed by the AAA by using a listing, striking and ranking procedure in accordance with the Rules. Any arbitrator appointed by the AAA shall be a retired judge, preferably from a Federal District Court or Federal Court of Appeals, or a practicing attorney with no less than twenty (20) years of

experience and an experienced arbitrator and if possible shall have experience with disputes relating to electric power infrastructure.

(c) The hearing shall be held, if possible, within four (4) months after the appointment of the arbitrator, or as soon thereafter as is reasonably practicable.

(d) By agreeing to arbitration, the entities signing this Agreement do not intend to deprive any court of its jurisdiction to issue a pre-arbitral injunction, pre-arbitral attachment, or other order in aid of arbitration proceedings and the enforcement of any award. Without prejudice to such provisional remedies as may be available under the jurisdiction of a court, the arbitrator shall have full authority to grant provisional remedies and to direct the entities signing this Agreement to request that any court modify or vacate any temporary or preliminary relief issued by such court, and to award damages for the failure of any entity signing this Agreement to respect the arbitrator's orders to that effect.

(e) Any arbitration proceedings, decision or award rendered hereunder and the validity, effect and interpretation of this arbitration agreement shall be governed by the Federal Arbitration Act, 9 U.S.C. §1 et seq. In arriving at their decision, the arbitrator shall be bound by the terms and conditions of this Agreement and the Closing Documents and shall apply the governing law of this Agreement as designated in Section 11.2 hereof.

(f) Any controversy concerning whether a Dispute is an arbitrable Dispute or as to the interpretation or enforceability of this paragraph shall be determined by the arbitrator.

(g) The arbitrator is not empowered to award damages in excess of compensatory damages, and each Party hereby irrevocably waives any right to recover consequential, punitive, exemplary or similar damages with respect to any Dispute. The award, which shall be in writing and shall state the findings of fact and conclusions of Law upon which it is based, shall be final and binding on the Parties and shall be the sole and exclusive remedy among the Parties regarding any claims, counterclaims, issues or accounting presented to the arbitrator. Judgment upon any award may be entered in any court of competent jurisdiction. In appropriate circumstances, the arbitrator shall have the authority to order a termination of this Agreement.

(h) The arbitrator's award shall allocate, in their discretion, among the Parties to the arbitration all costs of the arbitration, including the fees and expenses of the arbitrator and reasonable attorneys' fees, costs and expert witness expenses of the Parties. The award shall be final and binding on the Parties and may be enforced in any court having jurisdiction.

## **ARTICLE 11 OTHER PROVISIONS**

**Section 11.1 Counterparts.** This Agreement may be executed in one or more counterparts, all of which, taken together, shall be considered one and the same agreement, and shall become effective when one or more counterparts have been signed by each of the Parties and delivered to the other Party.

**Section 11.2 Governing Law.** THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER AND THE TRANSACTIONS

CONTEMPLATED HEREBY SHALL BE GOVERNED BY, ENFORCED, AND INTERPRETED IN ACCORDANCE WITH THE LAWS OF THE STATE OF DELAWARE WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAWS.

**Section 11.3 Entire Agreement.** This Agreement and the Confidentiality Agreement and the Schedules and Exhibits hereto and thereto contain the entire agreement between the Parties with respect to the subject matter hereof and supersedes any prior agreements, understandings, representations, or warranties between the Parties.

**Section 11.4 Notices.** Any notice, request, instruction or other document to be given hereunder by a Party hereto shall be in writing and shall be deemed to have been given (a) when delivered by hand (with written confirmation of receipt); (b) when received by the addressee if sent by a nationally recognized overnight courier (receipt requested); (c) on the date sent by e-mail of a PDF document (with confirmation of transmission) if sent during normal business hours of the recipient, and on the next Business Day if sent after normal business hours of the recipient; or (d) on the third (3rd) Business Day after the date mailed, by certified or registered mail, return receipt requested, postage prepaid.

Notices to Seller shall be addressed as follows:

NorthWestern Corporation  
208 North Montana Ave. Suite 205  
Helena, MT 59601  
Attention: Legal Department  
Email: [Heather.Grahame@northwestern.com](mailto:Heather.Grahame@northwestern.com) and [John.Tabaracci@northwestern.com](mailto:John.Tabaracci@northwestern.com)

with copies to:

Dorsey & Whitney LLP  
50 South Sixth Street, Suite 1500  
Minneapolis, MN 55042  
Attention: B. Andrew Brown and David Swanson  
Email: [Brown.Andrew@dorsey.com](mailto:Brown.Andrew@dorsey.com) and [Swanson.Dave@dorsey.com](mailto:Swanson.Dave@dorsey.com)

or at such other address and to the attention of such other Person as Seller may designate by written notice to Buyer.

Notices to Seller shall be addressed to:

Puget Sound Energy, Inc.  
355 110th Avenue NE  
Bellevue, WA 98004  
Attention: Legal Department  
Email: [Steve.Secret@pse.com](mailto:Steve.Secret@pse.com) and [Samuel.Osborne@pse.com](mailto:Samuel.Osborne@pse.com)

with copies to:

Perkins Coie LLP  
1201 Third Avenue, Suite 4900  
Seattle, WA 98101  
Attention: Andrew Bor and Stephanie Hirano  
Email: [ABor@perkinscoie.com](mailto:ABor@perkinscoie.com) and [SHirano@perkinscoie.com](mailto:SHirano@perkinscoie.com)

or at such other address and to the attention of such other Person as Buyer may designate by written notice to Seller.

**Section 11.5 Successors and Assigns.** The rights and obligations of the Parties shall not be assigned or delegated by either Party, other than with the written consent of the other Party, which may be withheld in such Party's sole discretion; *provided, however*, that notwithstanding the foregoing, Buyer may freely transfer its obligations hereunder to any subsidiary or financing source of Buyer, without Seller's prior consent, *provided* that Buyer shall remain liable for all obligations of Buyer hereunder that may be assumed by such subsidiary or financing source. Subject to the preceding sentence, this Agreement shall be-binding upon and inure to the benefit of the Parties and their successors and assigns.

**Section 11.6 Amendments.** This Agreement may not be modified or amended except by an instrument or instruments in writing signed by both Parties.

**Section 11.7 Agreement for the Parties' Benefit Only.** This Agreement is not intended to confer upon any Person not a Party hereto any rights or remedies hereunder, and no Person, other than the Parties and the Indemnified Parties is entitled to rely on any representation, warranty, covenant, or agreement contained herein.

**Section 11.8 Severability.** If any term or other provision of this Agreement is invalid, illegal, or incapable of being enforced by any applicable Law or public policy, all other conditions and provisions of this Agreement shall nevertheless remain in full force and effect. Upon such determination that any term or other provision is invalid, illegal, or incapable of being enforced, the Parties shall negotiate in good faith to modify this Agreement so as to give effect to the original intent of the Parties as closely as possible in an acceptable manner to the end that the transactions contemplated hereby are fulfilled to the extent possible.

**Section 11.9 Bulk Sales or Transfer Laws.** Buyer hereby waives compliance by Seller with the provisions of the bulk sales or transfer laws of all applicable jurisdictions. Seller agrees to pay all claims of creditors which could be asserted against Buyer because of such noncompliance. Seller indemnifies Buyer against any liability or expense, including attorneys' fees, incurred by Buyer by reason of the failure of Seller to pay such claims.

**Section 11.10 No Waiver.** No failure or delay by a Party to this Agreement in exercising any right or remedy provided by Law or under or pursuant to this Agreement shall impair such right or remedy or operate or be construed as a waiver or variation of it or preclude its exercise at any subsequent time and no single or partial exercise of any such right or remedy shall preclude any other or further exercise of it or the exercise of any other right or remedy.

**Section 11.11 Cumulative Remedies.** The rights and remedies of the Parties under or pursuant to this Agreement are cumulative, may be exercised as often as such Party considers appropriate and are in addition to its rights and remedies under general law.

**Section 11.12 Further Assurances.** The Parties agree to use Commercially Reasonable Efforts to perform (or procure the performance of) all further acts and things, and execute and deliver (or procure the execution and delivery of) such further documents, and may be required by applicable Law or as either of the Parties may reasonably require, whether on or after the Closing, to implement and/or give effect to this Agreement and the Closing Documents and the transactions contemplated herein and therein and for the purpose of vesting in the Buyer the full benefit of the Colstrip 4 Interests, rights and benefits to be transferred to the Buyer under this Agreement and the Closing Documents.


**Section 11.13 Counterparts; Effectiveness.** This Agreement may be executed in counterparts (including by PDF), each of which shall be deemed an original, but all of which together shall constitute one and the same original instrument. This Agreement shall become effective when each Party hereto shall have received a counterpart hereof signed by the other Party hereto.

**Section 11.14 Specific Performance.** Seller hereby acknowledges and agrees that money damages would not be a sufficient remedy for any breach of this Agreement by Seller, that Buyer would suffer irreparable harm as a result of any such breach, and that, in addition to all other remedies available under this Agreement or at Law or in equity, Buyer shall be entitled to specific performance and injunctive or other equitable relief as a remedy for any such breach or threatened breach, without posting any bond, security or other undertaking. In the event of any action by Buyer to enforce this Agreement, Seller hereby waives the defense that there is an adequate remedy at Law.

IN WITNESS WHEREOF, this Agreement has been signed by or on behalf of each of the Parties as of the day first above written.

Buyer:

**NORTHWESTERN CORPORATION**

By:   
Name: Robert C. Rowe  
Title: CEO

Seller:

**PUGET SOUND ENERGY, INC.**

By: \_\_\_\_\_  
Name:  
Title:

IN WITNESS WHEREOF, this Agreement has been signed by or on behalf of each of the Parties as of the day first above written.

Buyer:

**NORTHWESTERN CORPORATION**

By: \_\_\_\_\_

Name:

Title:

Seller:

**PUGET SOUND ENERGY, INC.**

By:  \_\_\_\_\_

Name: Mary Kipp

Title: President



**EXHIBIT A**  
**ASSIGNMENT AND ASSUMPTION AGREEMENT**

ASSIGNMENT AND ASSUMPTION AGREEMENT (this “*Agreement*”), dated as of [•], 2020 (the “*Effective Date*”), between PUGET SOUND ENERGY, INC., a Washington public utility corporation (“*Assignor*”), and NORTHWESTERN CORPORATION, a Delaware corporation (“*Assignee*”).

**RECITALS:**

WHEREAS, Assignor and Assignee are parties to that certain Colstrip Unit 4 Purchase and Sale Agreement, dated December 9, 2019 (the “*Purchase Agreement*”);

WHEREAS, Assignor is a party to, or has obligations with respect to the Material Contracts set forth on Schedule 2.1(c) to the Purchase Agreement, each of which Assignor has agreed to assign and, except as otherwise provided herein or in the Purchase Agreement, Assignee has agreed to assume (collectively, the “*Assumed Contracts*”); and

WHEREAS, pursuant to the Purchase Agreement, Assignor agrees to assign the Assumed Contracts to Assignee and, except as otherwise provided herein or in the Purchase Agreement, Assignee agrees to assume the obligations of Assignor under the Assumed Contracts.

NOW, THEREFORE, in consideration of the foregoing, and for other good and valuable consideration, the receipt and sufficiency of which hereby are acknowledged, the parties agree as follows:

**SECTION 1. Sale and Assignment.** Except as otherwise provided herein or in the Purchase Agreement, Assignor, for good and valuable consideration to it, receipt of which is hereby acknowledged, does hereby assign, transfer, sell and convey unto Assignee all of Assignor’s right, title and interest in and to the Assumed Contracts.

**SECTION 2. Assumption.**

(a) Assignee hereby (i) assumes the obligations and liabilities of Assignor under the Assumed Contracts to the extent that such obligation or liability. relates to or arises out of the time period after the Effective Date, (ii) shall, subject to clause (i), hereafter be deemed a party to the Assumed Contracts in the same role formerly held by Assignor, (iii) confirms that it has the requisite corporate power and authority to enter into and carry out the transactions contemplated by the Assumed Contracts, and (iv) agrees that after the Effective Date it shall be bound by all the terms of, and undertake all the obligations of Assignor contained in, the Assumed Contracts, with the same force and effect as if Assignee had executed on the Effective Date each of the Assumed Contracts originally as the contracting party named therein. Each of the foregoing is for the benefit of Assignor and the other parties to the Assumed Contracts.

(b) Assignee and Assignor hereby covenant and agree to execute and to deliver to the other parties to the Assumed Contracts from time to time such other documents, instruments and agreements as they reasonably may request in order to further evidence the assignment,

assumption and substitution effected hereby or otherwise to carry out the purposes and intent of this Agreement.

(c) Upon the Effective Date, Assignor shall be released and discharged from each obligation, liability or duty pursuant to the Assumed Contracts arising or accruing on or after the Effective Date and Assignee shall be substituted in lieu of Assignor as a party to each of the Assumed Contracts to which Assignor is a party.

**SECTION 3. Successors and Assigns.** This Agreement shall be binding upon and inure to the benefit of and shall be enforceable by the parties hereto and their respective successors and assigns and shall inure to the benefit of the other parties to the Assumed Contracts and their respective successors and assigns.

**SECTION 4. Governing Law.** This Agreement, including all matters of construction, validity and performance, shall in all respects be governed by, and construed in accordance with, the law of the State of Delaware applicable to contracts made in such state and to be performed entirely within such state, without giving effect to principles relating to conflicts of law.

**SECTION 5. Counterparts.** This Agreement may be executed by the parties hereto in separate counterparts (or upon separate signature pages bound together into one or more counterparts), each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute but one and the same instrument.

*[Signature page follows]*

**IN WITNESS WHEREOF**, the parties hereto have each caused this Agreement to be duly executed and delivered by their respective officers thereunto duly authorized as of the Effective Date.

**Assignor:**

**PUGET SOUND ENERGY, INC.**

By: \_\_\_\_\_

Name:

Title:

**Assignee:**

**NORTHWESTERN CORPORATION**

By: \_\_\_\_\_

Name:

Title:

**EXHIBIT B**  
**EXCLUDED ASSETS**

The "Kluver Property," described as:

Township 1 North, Range 42 East, M.P.M.

Section 9: All

To the extent Seller has any interest in any assets that are or relate to the the property commonly referred to as the "Ankney Property" that had been the subject of litigation, no such interests or rights will be transferred as part of the transactions contemplated by this Agreement and as such are Excluded Assets.

**EXHIBIT C  
POWER PURCHASE AGREEMENT**

**EXHIBIT A TO TERM SHEET  
WITH RESPECT TO THE  
COLSTRIP UNIT 4 TRANSACTION**

**CONFIRMATION FOR UNIT COMMITMENT SERVICE – COLSTRIP UNIT 4**

This Confirmation (this “Confirmation”) shall confirm the terms agreed to between NorthWestern Corporation, d/b/a NorthWestern Energy (“Seller”) and Puget Sound Energy, Inc. (“Buyer”) regarding the purchase of Unit Commitment Service subject to the terms and conditions of the Western Systems Power Pool Agreement, dated effective as of [July 22, 2010], as amended from time to time prior to the date hereof (the “WSPP Agreement”). The undersigned Parties agree to sell and purchase electric energy pursuant to the WSPP Agreement as it is supplemented and modified below:

<b>Seller</b>	NorthWestern Corporation, d/b/a NorthWestern Energy
<b>Purchaser</b>	Puget Sound Energy, Inc.
<b>Period of Delivery</b>	[Commencing on hour ending (“HE”) 0100 June 1, 2020 through HE 2400 May 15, 2025] <sup>1</sup>
<b>Schedule (Days and Hours)</b>	7 x 24 (including NERC holidays)
<b>Delivery Rate</b>	N/A
<b>Delivery Point</b>	The high side of the 500 kV bus for Unit 4 in the Colstrip Switchyard, or, at Seller’s option and with prior notice to Purchaser, at Mid-C.
<b>Type of Service</b>	Unit Commitment Service from Colstrip Unit 4, Service Schedule B
<b>Contract Quantity</b>	90 MW at any time that Colstrip Unit 4 is operating at or greater than minimum load; 0 MW when Colstrip Unit 4 is off-line.
<b>Contract Price</b>	For each hour of the term of the contract, regardless of the Delivery Point, the higher of (i) the Mid C Day-Ahead Index Price for on-peak and off-peak periods, as applicable, minus O&M Costs (Base) Equilivant and (ii) the Floor Price applicable to such hour. In addition Purchaser shall pay a monthly payment of 1/12 <sup>th</sup> of the annual O&M Costs (Base).

As used herein:

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<sup>1</sup> Note to Draft: Delivery term to be confirmed.

“Floor Price” means, for any hour during the Period of Delivery, a per MWh price calculated in accordance with Exhibit A to this Confirmation.

“O&M Costs (Base)” means, the 90 MW share of the O&M Cost (Base) fixed costs as identified and approved annually for Colstrip Units 3 and 4 Budget. .

“O&M Costs (Base) Equilivant” means, O&M Cost (Base) divided by the annual net generation, as identified and approved annually for Colstrip Units 3 and 4 Budget.

“Mid C Day-Ahead Index Price” means, as applicable, the “ELECTRICITY-MID C PEAK-ICE” price or the “ELECTRICITY-MID C OFF-PEAK-ICE” price, as published by the Intercontinental Exchange for the applicable day of delivery, or if at any time such index is no longer available, such other index as the parties agree provides an economically comparable price.<sup>2</sup>

**Transmission Path for the Transaction**

N/A

**Date of Agreement**

[            ], 2019

**Special Terms and Exceptions**

Notwithstanding anything to the contrary in the WSPP Agreement, the Parties hereby agree to the following modifications thereto:

1. Section 22 of the WSPP Agreement is hereby revised as follows:
  - a. The reference to two (2) Business Days in Section 22.1(a) is amended to be a reference to ten (10) Business Days;
  - b. Section 22.1(c) is hereby revised to add the following to the end there of:

*“provided, that, in the case of the institution of any such proceeding by another person or entity, such proceeding is consented or acquiesced to by the Defaulting Party or is not withdrawn or dismissed within sixty (60) days;”*

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<sup>2</sup> Note to Draft: Parties to confirm index.

- c. The first and second sentences of Section 22.2(a) are deleted in their entirety and the following is substituted therefor:

“If an Event of Default shall have occurred and be continuing, the Non-Defaulting Party, upon written notice to the Defaulting Party, shall have the right to suspend, reinstate and resuspend performance of transactions under this Agreement. Suspension periods shall not affect in any way the thirty (30) day period for exercising a right of termination under Section 22.2(b).”

- d. The last sentence of Section 22.2(a) is deleted in its entirety and the following is substituted therefor:

“The Non-Defaulting Party shall provide at least twenty-four (24) hours written notice to the Defaulting Party before any suspension may be terminated.”

- e. The last sentence of Section 22.3(c) is hereby deleted in its entirety and the following is substituted therefor: “If the Non-Defaulting Party's aggregate Gains exceed its aggregate Losses and Costs, the Termination Payment shall be deemed to equal \$0 and in no event shall the Defaulting Party be entitled to be paid a Termination Payment”; and

- f. Section 22.3(e) shall be deleted in its entirety.

2. Sections B-3.8 and B-5 of Service Schedule B are hereby deleted in their entirety.
3. Revision of B-3.9(b) in Schedule B to read, “By the Seller when all of the output of the unit is unavailable” and deleting the remainder of that subsection.
4. THE PARTIES HERETO HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVE, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHTS THEY MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED HEREON, OR DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER, OR IN CONNECTION WITH, THIS CONFIRMATION OR ANY OTHER DOCUMENT DELIVERED IN CONNECTION HEREWITH, OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS

(WHETHER ORAL OR WRITTEN) OR ACTIONS OF THE PARTIES HERETO.

5. This Agreement is made under and shall be governed by and construed in accordance with the substantive laws of the State of New York, without giving effect to any choice of law rule (except Section 5-1401 of the New York General Obligations Law) that would cause the application of the laws of any jurisdiction other than the internal laws of the State of New York<sup>3</sup>.

**Miscellaneous**

This Confirmation may be executed in multiple counterparts, each of which when so executed and delivered shall constitute a duplicate original and all counterparts together shall constitute one and the same instrument. The Parties acknowledge and agree that any document or signature delivered by facsimile, PDF or other electronic transmission shall be deemed to be an original executed document for the purposes hereof and such execution and delivery shall be considered valid, binding and effective for all purposes.

IN WITNESS WHEREOF the Parties have executed this Confirmation in the manner appropriate to each on the date set forth above.

NORTHWESTERN CORPORATION, d/b/a NORTHWESTERN ENERGY

By: \_\_\_\_\_  
Name:  
Title:

PUGET SOUND ENERGY, INC.

By: \_\_\_\_\_  
Name:  
Title:

---

<sup>3</sup> NTD: New York law is acceptable, but NorthWestern would prefer to stick with WSPP mediation and arbitration.



Exhibit A to  
Colstrip Unit 4 Unit Contingent Confirmation

Methodology for calculating the minimum electric cost

Combination of Two parts

- Fuel related variable cost in \$/MW
- Non-Fuel variable cost in \$/MW

Fuel related Variable costs

- Base price is the equivalent cost of fuel expressed in \$/MW at minimum load heat rate
  - Heat rate is approximately 13,500Btu/KWhr
  - Coal consumption at that rate is 0.8 tons /MW
- Base price on the contract starts at \$27/ton
  - \$27/ton is equivalent to \$21.60/MW (\$27.00/ton times 0.8tons/MW)
- Base price under the fuel contract adjusts quarterly under the fuel contract – the base price of this contract would be adjusted accordingly (the quarterly base price would be multiplied by 0.8)

Non Fuel variable costs

- The plant produces an incremental cost worksheet every year which includes a place for non-fuel variable cost
  - For 2019, it is \$3.81/MW at minimum load
  - A new sheet will be developed for the 2020 budget – a new number would be used annually under the contract for non-fuel variable O&M
  - If the operator no longer produces an incremental cost worksheet, then mutually agreeable alternative will be calculated or used

Minimum charge for electricity under the PPA then is the combination of Fuel and non-Fuel variable costs as described and adjusted above.

- Minimum charge = Fuel related variable cost + non-Fuel variable cost
  - the example above would produce a minimum charge of  $\$21.60 + 3.81 = \$25.41/\text{MW}$

**EXHIBIT E**  
**WATER RIGHTS TRANSFER CERTIFICATE**

(See attached.)

Form No. 641 (U3-2015)



## DNRC OWNERSHIP UPDATE DIVIDED INTEREST

Complete one form for each water right that will be divided. Your water right will be divided into separate water rights based on the information provided.

**Submit all three pages of this form with the filing fee; a deed, contract for deed, or other recorded document; a water right abstract; and a map.**

Contact your local DNRC Water Resources Regional Office if you have any questions.

**Filing Fee \$50.00**

### FOR DEPARTMENT USE ONLY

Rec'd Date \_\_\_\_\_

Rec'd By \_\_\_\_\_

Fee Rec'd \$ \_\_\_\_\_ Check No. \_\_\_\_\_

Payor \_\_\_\_\_

Refund \$ \_\_\_\_\_ Date \_\_\_\_\_

Deposit Receipt # \_\_\_\_\_

OID # \_\_\_\_\_

***If all interested parties wish to split the water right, each must fill out and sign either part B or part C of this form. A water right can be split into several portions on one form for one \$50 filing fee. All interested parties must sign off on the split of water rights even if their portions are not split into individual rights.***

### PART A – GENERAL INFORMATION

1. **DATE OF LAND TRANSFER (SALE)** \_\_\_\_\_

2. **WATER RIGHT BEING DIVIDED** \_\_\_\_\_

3. **SELLER (Grantor)** \_\_\_\_\_

MAILING ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE \_\_\_\_\_ EMAIL \_\_\_\_\_

4. **BUYER (Grantee)** \_\_\_\_\_

MAILING ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE \_\_\_\_\_ EMAIL \_\_\_\_\_

5. **HOW IS THIS WATER RIGHT BEING DIVIDED?** Please check only one.

The water right is being divided as specifically identified in a deed, contract for deed, or other recorded document. (Attach a copy and underline the divided interest information.)

The water right is being divided proportionately between the buyer and seller based on the place of use described in the water right. (Attach a copy of the deed, contract for deed, or other recorded document.)

6. **WATER RIGHT ABSTRACT**

A current DNRC general abstract of the water right being divided must be submitted. To receive DNRC generated water right abstracts, query the water right at the following web address: <http://www.nris.mt.gov/dnrc/waterrights/default.aspx> or contact the regional office serving your area.

7. **MAP**

A map must be provided. An aerial photo is preferred. You may also use a scaled map, county plat or quad map showing township and range, section corners, and a north arrow. **The following elements must be identified on the map:**

a. The place of use the seller is retaining;

c. Point(s) of diversion; and

b. The place of use the buyer is receiving;

d. The location of any irrigated acres.

### IMPORTANT NOTES

- If you want to change or add a point of diversion, place of use, place of storage, or purpose of use of a water right you must first file a change application with the DNRC.
- The combined portions of a divided water right cannot exceed the total flow rate, volume, or period of diversion of the original right.
- The DNRC has no jurisdiction concerning easement, right-of-way, and zoning matters. The buyer and seller must make these provisions where necessary.
- There may be ongoing court action regarding this water right and terms and conditions applicable to the exercise of the divided right. The buyer should be familiar with all aspects of the right received.

**PART B – SELLER’S PORTION**

(Attach additional sheets if necessary)

1. **SELLER’S NAME** \_\_\_\_\_

**2. PORTION OF WATER RIGHT RETAINED**

If specifically identified in the attached recorded document, what flow rate will be retained by the Seller? \_\_\_\_\_  gpm  cfs

Unless specifically divided in the attached recorded document, both the Seller’s and Buyer’s water right will retain the full flow rate and the use of the flow rate must be shared and/or alternated. Attach an additional sheet explaining how this will be done such that, in combination, the flow rate of the original water right will not be exceeded.

Purpose of Use \_\_\_\_\_ Volume (acre-feet) \_\_\_\_\_

Purpose of Use \_\_\_\_\_ Volume (acre-feet) \_\_\_\_\_

**3. POINT OF DIVERSION** (describe the location to the nearest 10 acres, three quarter sections)

\_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

Lot/Tract \_\_\_\_\_ Block \_\_\_\_\_ Subdivision Name \_\_\_\_\_

COS \_\_\_\_\_ Gov’t Lot \_\_\_\_\_ County \_\_\_\_\_

\_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

Lot/Tract \_\_\_\_\_ Block \_\_\_\_\_ Subdivision Name \_\_\_\_\_

COS \_\_\_\_\_ Gov’t Lot \_\_\_\_\_ County \_\_\_\_\_

**4. PLACE OF USE**

Purpose of Use \_\_\_\_\_ County \_\_\_\_\_

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

**Total Acres**

Lot/Tract \_\_\_\_\_ Block \_\_\_\_\_ Subdivision Name \_\_\_\_\_

COS \_\_\_\_\_ Gov’t Lot \_\_\_\_\_

Geocodes(s) \_\_\_\_\_

Purpose of Use \_\_\_\_\_ County \_\_\_\_\_

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

**Total Acres**

Lot/Tract \_\_\_\_\_ Block \_\_\_\_\_ Subdivision Name \_\_\_\_\_

COS \_\_\_\_\_ Gov’t Lot \_\_\_\_\_

Geocodes(s) \_\_\_\_\_

**5. SIGNATURE**

I DECLARE UNDER PENALTY OF PERJURY AND UNDER THE LAWS OF THE STATE OF MONTANA THAT THE FOREGOING IS TRUE AND CORRECT.

Seller Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Seller Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**PART C - BUYER'S PORTION**

(Attach additional sheets if necessary. If more than one buyer, add sheets showing each buyer's portion.)

1. **BUYER'S NAME** \_\_\_\_\_

**2. PORTION OF WATER RIGHT ACQUIRED**

Flow Rate (gpm/cfs) \_\_\_\_\_ (Only if specifically identified in the attached recorded document—see Part B, Number 2)

Purpose of Use \_\_\_\_\_ Volume (acre-feet) \_\_\_\_\_

Purpose of Use \_\_\_\_\_ Volume (acre-feet) \_\_\_\_\_

**3. POINT OF DIVERSION** (describe the location to the nearest 10 acres, three quarter sections)

\_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

Lot/Tract \_\_\_\_\_ Block \_\_\_\_\_ Subdivision Name \_\_\_\_\_

COS \_\_\_\_\_ Gov't Lot \_\_\_\_\_ County \_\_\_\_\_

\_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

Lot/Tract \_\_\_\_\_ Block \_\_\_\_\_ Subdivision Name \_\_\_\_\_

COS \_\_\_\_\_ Gov't Lot \_\_\_\_\_ County \_\_\_\_\_

**4. PLACE OF USE**

Purpose of Use \_\_\_\_\_ County \_\_\_\_\_

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

**Total Acres**

Lot/Tract \_\_\_\_\_ Block \_\_\_\_\_ Subdivision Name \_\_\_\_\_

COS \_\_\_\_\_ Gov't Lot \_\_\_\_\_

Geocodes(s) \_\_\_\_\_

Purpose of Use \_\_\_\_\_ County \_\_\_\_\_

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

\_\_\_\_ acres \_\_\_\_ 1/4 \_\_\_\_ 1/4 \_\_\_\_ 1/4 Sec \_\_\_\_\_ TWP \_\_\_\_\_  N  S RGE \_\_\_\_\_  E  W

**Total Acres**

Lot/Tract \_\_\_\_\_ Block \_\_\_\_\_ Subdivision Name \_\_\_\_\_

COS \_\_\_\_\_ Gov't Lot \_\_\_\_\_

Geocodes(s) \_\_\_\_\_

**5. SIGNATURE**

I DECLARE UNDER PENALTY OF PERJURY AND UNDER THE LAWS OF THE STATE OF MONTANA THAT THE FOREGOING IS TRUE AND CORRECT.

Buyer Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Buyer Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## WATER RESOURCES OFFICES

- BILLINGS:** AIRPORT INDUSTRIAL PARK, 1371 RIMTOP DR., BILLINGS MT 59105-1978  
PHONE: 406-247-4415 FAX: 406-247-4416  
SERVING: Big Horn, Carbon, Carter, Custer, Fallon, Powder River, Prairie, Rosebud, Stillwater, Sweet Grass, Treasure, and Yellowstone Counties
- BOZEMAN:** 2273 BOOT HILL COURT, SUITE 110, BOZEMAN MT 59715  
PHONE: 406-586-3136 FAX: 406-587-9726  
SERVING: Gallatin, Madison, and Park Counties
- GLASGOW:** 222 6TH STREET SOUTH, PO BOX 1269, GLASGOW MT 59230-1269  
PHONE: 406-228-2561 FAX: 406-228-8706  
SERVING: Daniels, Dawson, Garfield, McCone, Phillips, Richland, Roosevelt, Sheridan, Valley, and Wibaux Counties
- HAVRE:** 210 6TH AVENUE, PO BOX 1828, HAVRE MT 59501-1828  
PHONE: 406-265-5516 FAX: 406-265-2225  
SERVING: Blaine, Chouteau, Glacier, Hill, Liberty, Pondera, Teton, and Toole Counties
- HELENA:** 1424 9TH AVE., PO BOX 201601, HELENA MT 59620-1601  
PHONE: 406-444-6999 FAX: 406-444-9317  
SERVING: Beaverhead, Broadwater, Deer Lodge, Jefferson, Lewis and Clark, Powell, and Silver Bow Counties
- KALISPELL:** 655 TIMBERWOLF PARKWAY, SUITE 4, KALISPELL MT 59901-1215  
PHONE: 406-752-2288 FAX: 406-752-2843  
SERVING: Flathead, Lake, Lincoln, and Sanders Counties
- LEWISTOWN:** 613 NORTHEAST MAIN ST., SUITE E, LEWISTOWN MT 59457-2020  
PHONE: 406-538-7459 FAX: 406-538-7089  
SERVING: Cascade, Fergus, Golden Valley, Judith Basin, Meagher, Musselshell, Petroleum, and Wheatland Counties
- MISSOULA:** 2705 SPURGIN RD. BLDG.C, PO BOX 5004, MISSOULA MT 59806-5004  
PHONE: 406-721-4284 FAX: 406-542-5899  
SERVING: Granite, Mineral, Missoula, and Ravalli Counties

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**MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION**  
**Water Resources Division - Water Rights Bureau**  
WEBSITE: <http://dnrc.mt.gov/wrd/>

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**EXHIBIT F**  
**VOTE SHARING AGREEMENT**  
**VOTE SHARING AGREEMENT**

THIS VOTE SHARING AGREEMENT (this “*Agreement*”) is entered into as of [•], 2019 (the “*Effective Date*”) by and between NORTHWESTERN CORPORATION, a Delaware corporation (“*NorthWestern*”), and PUGET SOUND ENERGY, INC., a Washington public utility corporation (“*Puget*”). NorthWestern and Puget are sometimes referred to herein individually as a “*Party*” and, collectively, as the “*Parties*.” Capitalized terms used herein without definition shall have the respective meanings assigned to such terms in the Ownership and Operation Agreement.

**RECITALS**

WHEREAS, the ownership, operation and maintenance of the Project is governed by that certain Ownership and Operation Agreement, dated as of May 6, 1981, by and between The Montana Power Company, a Montana corporation (“*MPC*”), Puget Sound Energy, Inc. (formerly named “*Puget Sound Power & Light Company*”), a Washington corporation, Avista Corporation (formerly named “*Washington Water Power Company*”), a Washington corporation, Portland General Electric Company, an Oregon corporation, and PacifiCorp (successor by merger to the Maine corporation named “*Pacific Power & Light Company*”), an Oregon corporation, as amended on or about October 11, 1991, July 13, 1998, September 14, 2004 and August 18, 2008 (and as may be subsequently amended, modified and supplemented from time to time, the “*Ownership and Operation Agreement*”);

WHEREAS, NorthWestern and Puget are parties to that certain Colstrip Unit 4 Purchase and Sale Agreement dated as of December 9, 2019 whereby NorthWestern acquired Puget’s undivided interest in Colstrip Unit 4 (the “*Colstrip Unit 4 Acquisition Agreement*”); and

WHEREAS, the Parties desire to enter into this Agreement to govern their respective voting obligations under the Ownership and Operation Agreement with respect to Puget’s retained undivided interest in Colstrip Unit 3 and NorthWestern’s undivided interest in Colstrip Unit 4 acquired from Puget, but not NorthWestern’s preexisting interest in Colstrip Unit 4 (the “*Shared Vote*”).

NOW, THEREFORE, in consideration of the foregoing and the representations, warranties, covenants and agreements contained in this Agreement, and intending to be legally bound, the Parties agree as follows:

**ARTICLE 1**  
**DEFINITIONS & INTERPRETATION**

**Section 1.1 Definitions.** In this Agreement, the following capitalized terms have the meanings assigned below.

“AAA” has the meaning assigned to it in Section 4.2(a).

“*Appointee*” means any of a NorthWestern Appointee or a Puget Appointee.

“*Authorized Officer*” means, with respect to a Party, any officer of such Party.

“*Business Day*” means any day which is not a Saturday, Sunday or legal holiday in the state of Montana.

“*Classification Objection*” means an Objection on the grounds that the other Party has incorrectly classified the subject matter of the Proposal as a Colstrip 3 Proposal, Colstrip 4 Proposal, Mixed Proposal, Unit 3 Decommissioning Proposal, Unit 4 Decommissioning Proposal, Unit 3 Budget Proposal, Unit 4 Budget Proposal, or Remediation Proposal, as applicable.

“*Colstrip Unit 3*” means such portion of the Project commonly known as “Colstrip Unit 3” and the corresponding interest in the Common Facilities and related facilities, real property and property rights.

“*Colstrip 3 Proposal*” means a Proposal, other than a Unit 3 Decommissioning Proposal or Remediation Proposal that relates primarily to Colstrip Unit 3, but not to Proposals concerning the Common Facilities.

“*Colstrip Unit 4*” means such portion of the Project commonly known as “Colstrip Unit 4” and the corresponding interest in the Common Facilities and related facilities, real property and property rights.

“*Colstrip 4 Proposal*” means a Proposal, other than a Unit 3 Decommissioning Proposal or Remediation Proposal that relates primarily to Colstrip Unit 4, but not to Proposals concerning the Common Facilities.

“*Colstrip Unit 4 Acquisition Agreement*” has the meaning assigned to it in the Recitals.

“*Common Facilities*” has the meaning assigned to it under the Ownership and Operation Agreement.

“*Dispute*” has the meaning assigned to it in Section 4.1.

“*Dispute Notice*” has the meaning assigned to it in Section 4.1.

“*Dispute Notice Response*” has the meaning assigned to it in Section 4.1.

“*Disapproval Statement*” means the written statement submitted to the other members of the Project Committee pursuant to Section 17(h) of the Ownership and Operation Agreement.

“*Governmental Authority*” means (i) the federal government of the United States of America, (ii) any state, county, municipality, or other governmental subdivision within the United States of America, and (iii) any executive, legislative or judicial court, department, commission, board, bureau, agency, or other instrumentality of the federal government of the United States of America or of any state, county, municipality, or other governmental subdivision within the United States of America.

“*Law*” means any applicable law, statute, rule, regulation, ordinance, standard, code, order, judgment, decision, writ, injunction, decree, certificate of need, award, or other governmental



restrictions, including any published and publicly available policy or procedure enforceable by any Governmental Authority.

“*Mixed Proposal*” means a Proposal that is not a Colstrip 3 Proposal, Colstrip 4 Proposal, Unit 4 Decommissioning Proposal, Unit 3 Decommissioning Proposal, Unit 3 Budget Proposal, Unit 4 Budget Proposal, or a Remediation Proposal. Mixed Proposal includes, but is not limited to, budget proposals for years for which there are no planned maintenance outages and budget proposals for years for which there are planned maintenance outages for both Unit 3 and Unit 4 which are of the exact same scheduled duration.

“*NorthWestern Appointee*” has the meaning assigned in Section 2.1(c).

“*NorthWestern’s Colstrip 4 Project Share*” means the 25% undivided interest in Colstrip Unit 4 acquired by NorthWestern from Puget, pursuant to the Colstrip Unit 4 Acquisition Agreement. For avoidance of doubt NorthWestern’s Colstrip 4 Project Shares shall not include NorthWestern 30% undivided interest in Colstrip Unit 4, acquired by NorthWestern from MPC, which at the time of this Agreement is subject to a separate vote sharing agreement.

“*Objection*” means an objection by a Party (or such Party’s Appointee) to the manner in which the other Party’s Appointee intends to use the Shared Vote. Only the following Objections may be asserted under this Agreement: Classification Objections or Prudency Objections.

“*Ownership and Operation Agreement*” has the meaning assigned to it in the Recitals.

“*Party Appointee*” means either a NorthWestern Appointee or a Puget Appointee.

“*Person*” means any Governmental Authority or any individual, firm, partnership, corporation, limited liability company, joint venture, trust, unincorporated organization or other entity or organization.

“*Poll*” has the meaning assigned in Section 3.2(b).

“*Project*” has the meaning assigned to it under the Ownership and Operation Agreement.

“*Project Committee*” has the meaning assigned to it under the Ownership and Operation Agreement.

“*Puget Appointee*” has the meaning assigned in Section 2.1(b).

“*Proposal*” means any proposal being considered for action by the Project Committee.

“*Prudency Objection*” means an objection by a Party resulting from a good faith determination by an Authorized Officer of such Party that the all or a portion of a Proposal would be inconsistent with Prudent Utility Practices (such determination to be made on the assumption that such Party is a long-term owner (and not merely a lessee) of Puget’s Colstrip 3 Project Share or NorthWestern’s Colstrip 4 Project Share, as appropriate).

“*Prudent Utility Practices*” means the practices, methods and acts generally engaged in or approved by the electric utility industry in the United States for similarly situated facilities in the United States during a particular time period, in a manner consistent with Laws, reliability, safety and environmental protection, and taking into consideration the requirements of this Agreement, the contracts set forth on Schedule 2.1(c) to the Colstrip Unit 4 Acquisition Agreement and the other contracts affecting the operation of the Project. Prudent Utility Practices are not necessarily intended to require the optimum or best practices, methods or acts to the exclusion of all others, but rather to include a spectrum of possible practices, methods or acts consistent with the immediately preceding sentence.

“*Puget’s Colstrip 3 Project Share*” means the 25% undivided interest in Colstrip Unit 3 owned by Puget.

“*Remediation Proposal*” means a Proposal primarily concerning the remediation of ground water or soil contamination located at Colstrip Unit 3 or Colstrip Unit 4 as required under applicable Laws.

“*Rules*” has the meaning assigned to it in Section 4.2(a).

“*Shared Vote*” has the meaning assigned to it in the Recitals.

“*Unit 3 Budget Proposal*” means a Proposal regarding the Project’s budget for a year during which Unit 3 is the only unit at the Project for which there is a planned maintenance outage, or, if both Unit 3 and Unit 4 have planned maintenance outages during a given year, a Proposal regarding the Project’s budget for that year if the scheduled duration of the planned maintenance outage for Unit 3 is longer than the scheduled duration of the planned maintenance outage for Unit 4.

“*Unit 4 Budget Proposal*” means a Proposal regarding the Project’s budget for a year during which Unit 4 is the only unit at the Project for which there is a planned maintenance outage, or, if both Unit 3 and Unit 4 have planned maintenance outages during a given year, a Proposal regarding the Project’s budget for that year if the scheduled duration of the planned maintenance outage for Unit 4 is longer than the scheduled duration of the planned maintenance outage for Unit 3.

“*Unit 3 Decommissioning Proposal*” means a Proposal regarding the decommissioning, mothballing, closure, retirement, deactivation, shut down, deconstruction, removal, or demolition of all or a portion of Colstrip Unit 3.

“*Unit 4 Decommissioning Proposal*” means a Proposal regarding the decommissioning, mothballing, closure, retirement, deactivation, shut down, deconstruction, removal, or demolition of all or a portion of Colstrip Unit 4.

**Section 1.2 Other Capitalization.** Unless otherwise defined in this Agreement (including the Recitals), all other capitalized terms used in this Agreement have the meanings assigned to such terms in the Ownership and Operation Agreement.

**Section 1.3 Interpretation.** Unless the context of this Agreement otherwise requires, (a) words of any gender include each other gender; (b) words using the singular or plural number also include the plural or singular number, respectively; (c) the terms “hereof,” “herein,” “hereby” and derivative or similar words refer to this entire Agreement; (d) the terms “Article” or “Section” refer to the specified Article or Section of this Agreement; and (e) any reference to the entirety or any part of any agreement or document shall refer to any amendment, supplement or replacement of the same. Whenever this Agreement refers to a number of days, such number shall refer to calendar days unless Business Days are specified.

## **ARTICLE 2 APPOINTEES; GENERAL COVENANTS OF THE PARTIES**

### **Section 2.1 Appointment Processes.**

(a) Unless otherwise agreed in writing by the Parties, each Appointee appointed pursuant to this Agreement shall (i) have sufficient financial and/or operational experience with electric energy plants similar to the Project, (ii) be an individual who is an employee of one of the Parties to this Agreement or one of their respective affiliates, and (iii) serve in accordance with the applicable terms and provisions of this Agreement and the Ownership and Operation Agreement.

(b) Puget shall appoint the individual and alternates who shall be entitled to use the Shared Vote on Puget’s behalf under this Agreement (the “*Puget Appointee*”) and Northwestern shall appoint the individual and alternates who shall be entitled to use the Shared Vote on NorthWestern’s behalf under this Agreement (the “*NorthWestern Appointee*”).

(c) Notice of any appointment made pursuant to this Section 2.1 shall be delivered in writing to the other Party not later than one Business Day prior to the effective date of such appointment. Nothing in this Section 2.1 is intended to limit the Parties’ ability to agree in writing to alter the selection process for any Appointee. The Notice of appointment shall contain contact information for the Appointee, including a physical mailing address, electronic mail address, and telephone number.

**Section 2.2 Appointee Obligations.** During his or her term each Appointee shall act in accordance with this Agreement. If an Appointee breaches any of its material obligations under this Agreement, such Appointee shall be removed by the appointing Party promptly after (a) receipt of written notice from the non-appointing Party, which notice shall describe the breach in reasonable detail, and (b) such appointing Party’s or its Appointee’s failure to cure such breach within five business days from the date such written notice is received. A replacement Appointee shall be selected in the manner of selecting the Appointee set forth in Section 2.1.

**Section 2.3 General Acknowledgments and Agreements.** The Parties hereby make the following acknowledgements and agreements:

(a) Wherever either Party’s approval, consent or agreement is required under this Agreement, it is understood that such approval, consent or agreement shall not be unreasonably

withheld, delayed or conditioned unless this Agreement specifically provides that a different standard should apply.

(b) The Parties shall maintain in confidence the communications, discussions and deliberations with the Appointees and between the Parties regarding the advice to, consultation with, and the establishment of strategy and casting of votes with respect to the Shared Vote; provided that (i) the obligation set forth herein shall not be construed to prohibit disclosure (A) to a Party's employees, shareholders, directors, officers, advisors, agents, representatives or lenders, (B) of information that is or becomes generally available to the public other than as a result of any improper disclosure of such information by the disclosing Party, or (C) of information required to be disclosed under applicable Laws and (ii) the Parties may mutually agree to disclose some or all of the communications, discussions or deliberations addressed hereby. Nothing in this Section 2.3(b) shall constitute a waiver of, or agreement not to assert, any attorney-client, work product, or other privilege unless otherwise available with respect to a Party, its Appointees and their separate deliberations and consultations.

(c) Nothing contained herein shall prohibit an Appointee from advancing any argument or taking any position at a Project Committee meeting inconsistent with the official vote being cast by the Shared Vote, and the Parties shall not interfere with an Appointee's efforts to communicate with the Project Committee on any matter before the Project Committee.

(d) This Agreement does not apply to rights, votes, approvals, consents, waivers or the like that are to be made or exercised directly by Owners or Project Users (including by an individual appointed as a Party Appointee but only to the extent acting on behalf of such Owners or Project Users and not as a Party Appointee) under the Ownership and Operation Agreement (as opposed to rights, votes, approvals, consents, waivers or the like designed to be made or exercised by the members of Project Committee or the Project Committee as a whole). The Party Appointees shall not have the power to bind the Parties beyond their ability to cast the Shared Vote hereunder; it being understood that Appointees may waive Objections but do not, in capacities as such, have the power to waive any other rights under this Agreement.

**Section 2.4 Exclusive Remedies.** Furthermore, each Party agrees that its exclusive remedy for a breach of this Agreement shall be an action against the other Party, and not its Appointee, in the manner permitted by this Agreement.

### ARTICLE 3 THE VOTING PROCESS

#### **Section 3.1 Voting Rights and Objections Generally.**

(a) With respect to any Colstrip 3 Proposal, Colstrip 4 Proposal, Mixed Proposal, Colstrip 3 Decommissioning Proposal, Colstrip 4 Decommissioning Proposal or Remediation Proposal, the Shared Vote shall be cast strictly in accordance with this Agreement by one of the Party Appointees as described in the table contained below in this Section 3.1(a). Objections shall be communicated as soon as possible but in any event prior to the casting of an official vote by the Project Committee as follows: (i) the Objection shall be communicated verbally by telephone or in person to the other Party Appointee for any Proposal received on the day of the

Project Committee meeting in which such Proposal is to be considered and (ii) the Objection shall be communicated in writing delivered via email or verbally by telephone or in person to the other Party Appointee for any Proposal received prior to the day of the Project Committee meeting in which such Proposal is to be considered. The types of Objections which may be raised and the manner in which the Shared Vote may be cast are set forth on the table below. Subject to Section 3.1(b), if a Party Appointee is absent from a Project Committee meeting and appropriate alternate arrangements consistent with the Ownership and Operation Agreement have not been made (except for such absences due to an emergency or similar circumstances beyond such Appointee’s control), the other Party may cast the Shared Vote.

<b>Subject Matter</b>	<b>Voting Rights if no Objection is Raised</b>	<b>Permitted Objections</b>	<b>Default Resolution After Objection is Raised</b>
<b>Colstrip 3 Proposal</b>	Puget Appointee casts Shared Vote	Classification Objection	The Proposal shall be reclassified pursuant to NorthWestern’s instructions and the Shared Vote shall be cast by the Party entitled pursuant to this Section 3.1(a), unless Puget contests the Classification Objection in accordance with <u>ARTICLE 4</u> .
<b>Colstrip 4 Proposal</b>	NorthWestern Appointee casts Shared Vote	Classification Objection	The Proposal shall be reclassified pursuant to Puget’s instructions and the Shared Vote shall be cast by the Party entitled pursuant to this Section 3.1(a), unless NorthWestern contests the Classification Objection in accordance with <u>ARTICLE 4</u> .
<b>Mixed Proposal</b>	NorthWestern Appointee casts Shared Vote	Classification Objection; Prudency Objection	<p><i>Classification Objection:</i> The Proposal shall be reclassified pursuant to Puget’s instructions and the Shared Vote shall be cast by the Party entitled pursuant to this Section 3.1(a), unless NorthWestern contests the Classification Objection in accordance with <u>ARTICLE 4</u>.</p> <p><i>Prudency Objection:</i> NorthWestern Appointee casts the Shared Vote consistent with the results of a valid Poll conducted in accordance with <u>Section 3.2</u>. So long as a Poll may be conducted, <u>ARTICLE 4</u> does not apply to Prudency Objections.</p>

<b>Unit 3 Budget Proposal</b>	Puget Appointee casts the Shared Vote	Classification Objection	The Proposal shall be reclassified pursuant to NorthWestern’s instructions and the Shared Vote shall be cast by the Party entitled pursuant to this Section 3.1(a), unless Puget contests the Classification Objection in accordance with <u>ARTICLE 4</u> .
<b>Unit 4 Budget Proposal</b>	NorthWestern Appointee casts the Shared Vote	Classification Objection	<i>Classification Objection:</i> The Proposal shall be reclassified pursuant to Puget’s instructions and the Shared Vote shall be cast by the Party entitled pursuant to this Section 3.1(a), unless NorthWestern contests the Classification Objection in accordance with <u>ARTICLE 4</u> .
<b>Unit 4 Decommissioning Proposal</b>	NorthWestern Appointee casts the Shared Vote	Classification Objection; Prudency Objection	<i>Classification Objection:</i> The Proposal shall be reclassified pursuant to Puget’s instructions and the Shared Vote shall be cast by the Party entitled pursuant to this Section 3.1(a), unless NorthWestern contests the Classification Objection in accordance with <u>ARTICLE 4</u> .  <i>Prudency Objection:</i> NorthWestern Appointee casts the Shared Vote consistent with the results of a valid Poll conducted in accordance with <u>Section 3.2</u> . So long as a Poll may be conducted, <u>ARTICLE 4</u> does not apply to Prudency Objections.
<b>Unit 3 Decommissioning Proposal</b>	Puget Appointee casts the Shared Vote	Classification Objection	The Proposal shall be reclassified pursuant to NorthWestern’s instructions and the Shared Vote shall be cast by the Party entitled pursuant to this Section 3.1(a), unless Puget contests the Classification Objection in accordance with <u>ARTICLE 4</u> .

<b>Remediation Proposal</b>	Puget Appointee casts the Shared Vote	Classification Objection	The Proposal shall be reclassified pursuant to NorthWestern’s instructions and the Shared Vote shall be cast pursuant to this Section 3.1(a), unless Puget contests the Classification Objection in accordance with <u>ARTICLE 4</u> .
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(b) If, despite the good faith efforts of both Parties the Project Committee vote occurs prior to resolution of the validity of an Objection pursuant to ARTICLE 4, the Shared Vote shall not be cast.

(c) In connection with any Mixed Proposal, Unit 3 Decommissioning Proposal, Unit 4 Decommissioning Proposal, Unit 3 Budget Proposal, Unit 4 Budget Proposal, or Remediation Proposal, the Party entitled to cast the Shared Vote for such Proposal agrees to reasonably cooperate and consult with the other Party regarding the classification of Proposals and the establishment of strategy and casting of the Shared Vote in accordance with and subject to the terms of this Agreement. This covenant to cooperate includes, without limitation, the obligation to provide the other Party with notice of any conflict or disagreement as soon as reasonably practicable.

**Section 3.2 The Conduct and Results of a Prudency Objection Poll.**

(a) If a Party asserts a Prudency Objection, the non-objecting Party shall request that the Project Committee conduct a Poll regarding such Proposal as follows: (i) if the Prudency Objection is asserted on the day of or during the Project Committee meeting in which the Proposal is to be considered, the non-objecting Party shall request during the Project Committee meeting that a Poll be conducted during such meeting and (ii) if the Prudency Objection is asserted prior to the day of the Project Committee meeting in which the Proposal is to be considered, the non-objecting Party shall give notice both telephonically and by email to the objecting Party that it will request that a Poll be taken at the Project Committee meeting.

(b) A valid “Poll” is one in which the Project Committee members (including each of the Appointees selected pursuant to this Agreement) present their respective good faith indications of how they intend to vote on the Proposal being considered. For purposes of conducting the Poll, the Project Shares of NorthWestern and Puget shall be separately tallied for purposes of the Poll and not counted as indicative of the single combined Shared Vote to be cast. Therefore, the results of a valid Poll shall present a pure tally of the Project Users’ positions with respect to a Proposal based on each Project User’s actual Project Share.

(c) The official Shared Vote on the Proposal being considered in the Poll shall be cast consistent with the results of the Poll in light of the voting and approval requirements under the Ownership and Operation Agreement (i.e., either approved or not approved). The fact that a Project Committee member casts an official vote on the Proposal that differs from its Poll vote shall have no bearing on the official Shared Vote cast in accordance with this Section 3.2(c). The Shared Vote cast may be changed only upon the concurrence of both Party Appointees and in accordance with the terms and provisions of the Ownership and Operation Agreement.

(d) Where, through the successful exercise of an Objection, a Party, through its Appointee, has cast the Shared Vote to reject (or not approve) a Proposal, such Party shall have the sole right and, as between the two Parties, the responsibility to submit a Disapproval Statement, and the other Party shall have no right to submit a Disapproval Statement representing the Shared Vote relating to such rejected (or unapproved) Proposal. If in accordance with Section 3.1(b) the Shared Vote was not cast, the Parties shall attempt to submit a joint Disapproval Statement that contains both Parties' positions on, and alternatives with respect to, the Proposal. In all other situations, the Parties shall reasonably cooperate to prepare and submit Disapproval Statements on behalf of the Shared Vote that present positions and alternative proposals that are agreeable to both Parties; it being the express preference of this Agreement that a Disapproval Statement actually be submitted within the time periods required under the Ownership and Operation Agreement.

#### **ARTICLE 4 DISPUTE RESOLUTION**

**Section 4.1 Mutual Discussions.** If any dispute or difference of any kind whatsoever shall arise between the Parties in connection with, or arising out of, this Agreement or the interpretation, performance, breach, termination or validity hereof, including without limitation any claim based on contract, text or statute (the "*Dispute*"), the Parties shall attempt to settle such Dispute in the first instance by mutual discussions in accordance with this Section 4.1. Within seven (7) Business Days of the receipt by either Party of a notice from the other Party of the existence of a Dispute referring to this ARTICLE 4 (the "*Dispute Notice*"), the receiving Party shall reply with a written response (a "*Dispute Notice Response*"). Both the Dispute Notice and the Dispute Notice Response shall include (i) a statement of the relevant Party's position with regard to the Dispute and a summary of arguments supporting such position; and (ii) the name and title of the executive who will represent that Party in attempting to resolve the Dispute pursuant to this Section 4.1. Within seven (7) Business Days of delivery of the Dispute Notice Response, the designated executives shall meet and attempt to resolve the Dispute. All negotiations pursuant to this clause shall be confidential and shall be treated as compromise and settlement negotiations, and no oral or documentary representations or offers made by the Parties during such negotiations shall be admissible for any purpose in any subsequent proceedings.

**Section 4.2 Arbitration.** If any Dispute is not resolved within thirty (30) days of receipt of a Dispute Notice pursuant to Section 4.1, then, upon either Party's request, the Dispute shall be finally and exclusively resolved by arbitration as follows:

(a) The arbitration shall be held accordance with the Commercial Arbitration Rules (the "*Rules*") of the American Arbitration Association (the "AAA"), then in effect, except as modified herein. The arbitration shall be held, and the award shall be issued in Billings, Montana.

(b) The Parties shall appoint an arbitrator satisfactory to both parties. If the arbitrator is not appointed within the time limit provided herein, such arbitrator shall be appointed by the AAA by using a listing, striking and ranking procedure in accordance with the Rules. Any arbitrator appointed by the AAA shall be a retired judge, preferably from a Federal District Court or Federal Court of Appeals, or a practicing attorney with no less than twenty (20) years of



experience and an experienced arbitrator and if possible shall have experience with disputes relating to electric power infrastructure.

(c) The hearing shall be held, if possible, within four (4) months after the appointment of the arbitrator, or as soon thereafter as is reasonably practicable.

(d) By agreeing to arbitration, the entities signing this Agreement do not intend to deprive any court of its jurisdiction to issue a pre-arbitral injunction, pre-arbitral attachment, or other order in aid of arbitration proceedings and the enforcement of any award. Without prejudice to such provisional remedies as may be available under the jurisdiction of a court, the arbitrator shall have full authority to grant provisional remedies and to direct the entities signing this Agreement to request that any court modify or vacate any temporary or preliminary relief issued by such court, and to award damages for the failure of any entity signing this Agreement to respect the arbitrator's orders to that effect.

(e) Any arbitration proceedings, decision or award rendered hereunder and the validity, effect and interpretation of this arbitration agreement shall be governed by the Federal Arbitration Act, 9 U.S.C. §1 et seq. In arriving at their decision, the arbitrator shall be bound by the terms and conditions of this Agreement and the Closing Documents and shall apply the governing law of this Agreement as designated in Section 7.3 hereof.

(f) Any controversy concerning whether a Dispute is an arbitrable Dispute or as to the interpretation or enforceability of this paragraph shall be determined by the arbitrator.

(g) The arbitrator is not empowered to award damages in excess of compensatory damages, and each Party hereby irrevocably waives any right to recover consequential, punitive, exemplary or similar damages with respect to any Dispute. The award, which shall be in writing and shall state the findings of fact and conclusions of Law upon which it is based, shall be final and binding on the Parties and shall be the sole and exclusive remedy among the Parties regarding any claims, counterclaims, issues or accounting presented to the arbitrator. Judgment upon any award may be entered in any court of competent jurisdiction. In appropriate circumstances, the arbitrator shall have the authority to order a termination of this Agreement.

The arbitrator's award shall allocate, in their discretion, among the Parties to the arbitration all costs of the arbitration, including the fees and expenses of the arbitrator and reasonable attorneys' fees, costs and expert witness expenses of the Parties. The award shall be final and binding on the Parties and may be enforced in any court having jurisdiction.

## ARTICLE 5 TERM & TERMINATION

**Section 5.1 Term.** This Agreement shall become effective as of the date first written above and shall continue in full force and effect until the end of the term of the Ownership and Operation Agreement in accordance with Section 32 thereof.

## ARTICLE 6 REPRESENTATIONS AND WARRANTIES

Each Party represents and warrants to the other Party that, as of the Effective Date:

(a) such Party is duly formed and validly existing under the laws of the jurisdiction of its organization and is duly authorized to do business in each other jurisdiction in which it is required to be so qualified with full power and authority to perform its obligations hereunder and that the execution, delivery and performance of this Agreement has been duly authorized by such Party;

(b) this Agreement has been duly executed and delivered by such Party and constitutes the legal, valid, binding and enforceable obligation of such Party enforceable in accordance with its terms against such Party subject to the effect of bankruptcy, insolvency, moratorium and other similar laws relating to creditors' rights generally, whether existing at law or in equity, by general equitable principles and by an implied covenant of good faith and fair dealing;

(c) no consent, approval or authorization of, or filing, registration or qualification with, any court or governmental authority on the part of such Party is required for the execution and delivery of this Agreement by such Party and the performance of its obligations and duties hereunder, other than those that have been made or obtained; and

(d) such Party is in material compliance with all laws and legal requirements applicable to its business.

## ARTICLE 7 MISCELLANEOUS

**Section 7.1 Assignment: Third Party Beneficiaries.** A transfer or assignment by either Party of any part of its interest under this Agreement to any other Person (an "Assignee") shall be subject to the non-assigning Party's receipt of written evidence that each of the following conditions has been satisfied: (a) the assigning Party shall be simultaneously transferring or assigning a corresponding portion of its Project Share, which is subject to this Agreement, to such Assignee, (b) such Assignee shall have assumed in writing the corresponding duties and obligations of the assigning Party which arise and are attributable to the period after the effective date of the assignment and (c) if a partial (but not a full) assignment of this Agreement is being effected, arrangements regarding the casting of the Shared Vote acceptable to the non-assigning Party shall be agreed upon in writing (including, without limitation, by amending this Agreement). Except as explicitly provided herein, nothing in this Agreement, express or implied, is intended to confer on any person or entity other than the Parties and their successors and assigns permitted hereunder any rights, remedies, obligations or liabilities under or by reason of this Agreement.

**Section 7.2 Specific Performance.** The Parties hereby declare that it is impossible to measure in money the damages that will accrue to a Party hereto by reason of a failure to perform any of the obligations under this Agreement and agree that the terms of this Agreement shall be specifically enforceable. If any Party hereto institutes any action or proceeding to

specifically enforce the provisions hereof, the Party against whom such action or proceeding is brought hereby waives the claim or defense therein that such Party has an adequate remedy at law, and such Party shall not offer in any such action or proceeding the claim or defense that such remedy at law exists.

**Section 7.3 Governing Law.** THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF MONTANA WITHOUT REGARD TO CONFLICTS OF LAWS PRINCIPLES.

**Section 7.4 Severability.** Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions of this Agreement, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

**Section 7.5 Notices and Communications.** Except as otherwise provided in this Agreement, any notice, request, instruction or other document to be given hereunder by a party hereto shall be in writing and shall be deemed to have been given (a) when delivered by hand (with written confirmation of receipt); (b) when received by the addressee if sent by a nationally recognized overnight courier (receipt requested); (c) on the date sent by e-mail of a PDF document (with confirmation of transmission) if sent during normal business hours of the recipient, and on the next Business Day if sent after normal business hours of the recipient; or (d) on the third (3rd) Business Day after the date mailed, by certified or registered mail, return receipt requested, postage prepaid

Notices to NorthWestern shall be addressed to the NorthWestern Appointee at the address provided pursuant to Section 2.1(c), with a copy to:

NorthWestern Corporation  
208 North Montana Ave. Suite 205  
Helena, MT 59601  
Attention: Legal Department  
Email: [Heather.Grahame@northwestern.com](mailto:Heather.Grahame@northwestern.com) and [John.Tabaracci@northwestern.com](mailto:John.Tabaracci@northwestern.com)

or at such other address and to the attention of such other Person as NorthWestern may designate by written notice to Puget.

Notices to Puget shall be addressed to the Puget Appointee at the address provided pursuant to Section 2.1(c), with a copy to:

Puget Sound Energy, Inc.  
355 110th Avenue NE  
Bellevue, WA 98004  
Attention: Legal Department  
Email: [Steve.Secrist@pse.com](mailto:Steve.Secrist@pse.com) and [Samuel.Osborne@pse.com](mailto:Samuel.Osborne@pse.com)

or at such other address and to the attention of such other Person as Puget may designate by written notice to NorthWestern.

**Section 7.6 Amendments and Waivers.** This Agreement may be amended, supplemented or otherwise modified only by a writing executed and delivered by each Party. No waiver of any right under this Agreement shall be binding unless such waiver is in a writing by the Party to be bound. No failure to exercise and no delay in exercising, on the part of any Party, any right, remedy, power or privilege under this Agreement, shall operate as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege under this Agreement preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege.

**Section 7.7 Further Assurances: Cooperation in Seeking Amendment.** Each of the Parties agrees to perform all such acts (including executing and delivering such instruments and documents) as reasonably may be requested by the other Party to fully effect the intent and each and all of the purposes of this Agreement.

**Section 7.8 Conflicts.** In the event of a conflict between the Colstrip Unit 4 Acquisition Agreement, on the one hand, and this Agreement, on the other hand, the terms and provisions of this Agreement shall govern.

**Section 7.9 Headings.** The article and section headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

**Section 7.10 Survival.** The representations and warranties set forth in ARTICLE 6 shall survive the Effective Date.

**Section 7.11 Counterparts.** This Agreement may be executed in any number of counterparts, each of which shall be considered an original, but all of which together shall constitute a single instrument.

**Section 7.12 Contract Only, etc.** This Agreement creates a contractual relationship between the Parties and does not give rise to any fiduciary, quasi-fiduciary, partnership or other special relationship which would result in the implication of rights, duties or standards of care or performance other than such rights, duties and standards as would attend a contract between sophisticated commercial parties each represented by separate counsel.

*[Signature Page Follows]*

IN WITNESS WHEREOF, this Agreement has been signed by or on behalf of each of the Parties as of the day first above written.

**NORTHWESTERN CORPORATION**

By: \_\_\_\_\_  
Name:  
Title:

**PUGET SOUND ENERGY, INC.**

By: \_\_\_\_\_  
Name:  
Title:

**EXHIBIT G  
OFFICER'S CERTIFICATE**

**[•], 2020**

The undersigned, [•], hereby certifies that [he/she] is the duly elected [•] of NORTHWESTERN CORPORATION, a Delaware corporation (“*Buyer*”), and that [he/she] is authorized to execute this Certificate on behalf of Buyer. Pursuant to Section 3.2(b) of that certain Colstrip Unit 4 Purchase and Sale Agreement, dated December 9, 2019 between and PUGET SOUND ENERGY, INC., a Washington public utility corporation (“*Seller*”), and Buyer (the “*Purchase Agreement*”), the undersigned hereby certifies that:

1. the representations and warranties of Buyer set forth in Article 5 of the Purchase Agreement are true, correct and complete as of the date hereof, except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect;
2. the conditions set forth in Section 3.4 of the Purchase Agreement have been fulfilled or waived on or before the date hereof; and
3. the covenants of Buyer set forth in Article 7 of the Purchase Agreement have been fulfilled or waived in writing by Seller.

*[Signature page follows]*

**IN WITNESS WHEREOF**, the undersigned has executed this Certificate as of the date first written above.

---

Name:  
Title:

**EXHIBIT H  
OFFICER'S CERTIFICATE**

**[•], 2020**

The undersigned, [•], hereby certifies that [he/she] is the duly elected [•] and PUGET SOUND ENERGY, INC., a Washington public utility corporation (“*Seller*”), and that [he/she] is authorized to execute this Certificate on behalf of Seller. Pursuant to Section 3.3(b) of that certain Colstrip Unit 4 Purchase and Sale Agreement, dated December 9, 2019 between Seller and NORTHWESTERN CORPORATION, a Delaware corporation (“*Buyer*”) (the “*Purchase Agreement*”), the undersigned hereby certifies that:

1. the representations and warranties of Seller set forth in Article 4 of the Purchase Agreement are true, correct and complete as of the date hereof, except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect;
2. the conditions set forth in Section 3.5 of the Purchase Agreement have been fulfilled or waived on or before the date hereof; and
3. the covenants of Seller set forth in Article 7 of the Purchase Agreement have been fulfilled or waived in writing by Buyer.

*[Signature page follows]*



**IN WITNESS WHEREOF**, the undersigned has executed this Certificate as of the date first written above.

---

Name:  
Title:

*[Signature page to Seller's Officer's Certificate]*

**EXHIBIT I  
FORM OF DEED**

After Recording Return to:  
Northwestern Corporation  
Attn: Lands and Permitting  
11 East Park Street  
Butte, MT 59701

**DEED**

FOR VALUABLE CONSIDERATION, the receipt of which is acknowledged, the undersigned, Puget Sound Energy, Inc., a Washington Public utility corporation with its offices at 355 110th Avenue NE Bellevue, WA 98004 (“Grantor”) hereby grants unto Northwestern Corporation, a Delaware corporation with its offices at 11 East Park Street, Butte, MT 59701 (“Grantee”) all of Grantor’s right, title and interest in and to the following property situated in Rosebud County, Montana (the “County”):

- (a) The real property, interests in real property and other interests described or referenced, or described in the documents referenced, in Part I of Exhibit A (which is attached hereto and hereby made a part hereof) (“Fee Lands”);
- (b) The easements, use rights and other interests described or referenced, or described in the documents referenced, in Part II of Exhibit A (“Easements”);
- (c) The water rights described in Part III of Exhibit A and all other water rights in the County (“Water Rights”);
- (d) The oil and gas leases, severed fee minerals, severed fee oil and gas rights, royalties, agreements, assignments, gas storage agreements and rights, and other interests described or referenced, or described in the documents referenced, in Part IV of Exhibit A, and all operating agreements, farmout agreements, farming agreements, areas of mutual interest, salt water disposal agreements, water injection agreements, gas storage agreements, pooling agreements, unitization agreements, purchase agreements, production sales agreements and all other agreements, rights and interests relating to the interests described or referenced, or described in the documents referenced, in Part IV of Exhibit A (“Mineral Interests”);
- (e) All other real property or interests in real property in the County of any kind or nature, including without limitation fee, term, leasehold, easement (including without limitation all easements appurtenant to Fee Lands or Mineral Interests or granted or reserved in any document referenced in Exhibit A), prescriptive, possessory, oil, gas, mineral, royalty, deferred and reversionary interests and rights other than the “Kliver Property,” as such property is legally described in EXHIBIT C (“Other Interests”); and
- (f) All buildings, fixtures, equipment, and other improvements, and all tenements, hereditaments and appurtenances belonging, appertaining or related to the Fee Lands,

Easements, Water Rights, Mineral Interests and Other Interests (the “Appurtenant Rights”).

Grantor’s right, title and interest in the Fee Lands, Easements, Water Rights, Mineral Interests, Other Interests and Appurtenant Rights, are collectively referred to herein as the “Property.”

The description (meaning herein both word descriptions and specific descriptions) of the Property shall be construed broadly and as inclusive and there shall be no implied exclusions because of the structure of the description of the Property or otherwise. It is Grantor’s intent to make a full and complete transfer to Grantee of all of Grantor’s right, title and interest in and to any and all real property and interests in real property other than the Kluver Property, located in the County owned or otherwise vested in Grantor as of the date hereof, whatever size, wherever located and whether or not described or inaccurately or inadequately described in Exhibit A, and it is Grantor’s further intent that this deed convey after-acquired rights, titles and interests.

TO HAVE AND TO HOLD unto Grantee, and Grantee’s successors and assigns, forever, SUBJECT TO THOSE MATTERS SET FORTH ON EXHIBIT B (the “Permitted Encumbrances”). Grantor agrees to defend the same to the Grantee against the lawful claims and demands of all persons claiming by, through or under Grantor, but against no other persons.

EXCEPT with reference to the items referred to in paragraphs (a) to (e) inclusive, this deed is given with the usual covenants expressed in Montana Code Annotated § 30-11-110.

Grantor also hereby conveys to Grantee, its successors and assigns, all rights of Grantor, to the extent assignable, in and to all covenants and warranties with respect to the Property made by Grantor’s predecessors in title and with full subrogation of all rights accruing under such covenants and warranties and the statutes of limitation, repose or prescription under the laws of Montana and all rights of action of warranty against all former owners of the Property.

Grantor agrees to take all such further action and execute, acknowledge and deliver all such further documents as may be reasonably necessary or useful to accomplish the purposes of this Deed and to evidence Grantee’s interests of record.

This Deed shall be binding upon and shall inure to the benefit of Grantor and Grantee and their respective successors, legal representatives and assigns.

[Signature and acknowledgment on the following page]



**EXHIBIT A  
PART I**

***An undivided twenty-five percent (25%) interest as Tenant in  
Common in and to the real property described in Schedule I  
below.***

**SCHEDULE I  
UNIT 4 GENERATION**

- Parcel 13 That portion of Sections 34 and 35 in Township 2 North, Range 41 East, PMM, described as Parcel 3 Amended of Certificate of Survey No. 85124 filed December 30, 1998 for record in the office of the Clerk and Recorder of Rosebud County, Montana as document No. 85124.
- Parcel 14 Intentionally deleted and replaced by Parcels 14A, 14B and 14C.<sup>1</sup>
- Parcel 14A That portion of the E1/2NE1/4 of Section 34 and W1/2NW1/4 of Section 35 in Township 2 North, Range 41 East, described as Tract 1 of Colstrip Unit 3 and 4 Cooling Towers Minor Subdivision being a subdivision of Parcel 2 of Certificate of Survey No. 34153 as amended by Certificate of Survey No. 85789, which Minor Subdivision was filed in the office of the Clerk and Recorder of Rosebud County, Montana on June 5, 2000 under Document No. 88170.
- Parcel 14B Intentionally deleted.
- Parcel 14C That portion of the E1/2NE1/4 of Section 34 and W1/2NW1/4 of Section 35 in Township 2 North, Range 41 East, described as Tract 3 of Colstrip Unit 3 and 4 Cooling Towers Minor Subdivision being a subdivision of Parcel 2 of Certificate of Survey No. 34153 as amended by Certificate of Survey No. 85789, which Minor Subdivision was filed in the office of the Clerk and Recorder of Rosebud County, Montana on June 5, 2000 under Document No. 88170.
- Parcel 15 Intentionally deleted and replaced by Parcels 15A, 15B, and 15C.
- Parcel 15A That portion of the S1/2NE1/4 and N1/2SE1/4 of Section 34 in Township 2 North, Range 41 East, described as Tract 1 of Colstrip Unit 3 and 4 Generation Sites Minor Subdivision being a subdivision of Parcel 4 of Certificate of Survey No. 29931 Amended, filed for record as Document No. 37265, which Minor Subdivision was filed in the office of the Clerk and Recorder of Rosebud County, Montana on June 5, 2000 under Document No. 88169.
- Parcel 15B Intentionally deleted.

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<sup>1</sup> **Note to Draft:** The replacement of Parcels 14 and 15 with 14A, 14B, 14C and 15A, 15B and 15C, respectively, is to be reviewed by Seller between signing and closing.

Parcel 15C That portion of the S1/2NE1/4 and N1/2SE1/4 of Section 34 in Township 2 North, Range 41 East, described as Tract 3 of Colstrip Unit 3 and 4 Generation Sites Minor Subdivision being a subdivision of Parcel 4 of Certificate of Survey No. 29931 Amended, filed for record as Document No. 37265, which Minor Subdivision was filed in the office of the Clerk and Recorder of Rosebud County, Montana on June 5, 2000 under Document No. 88169.

Parcel 16 That portion of Section 3 in Township 1 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 58701 filed October 29, 1987 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 58701.

Parcel 17 Township 1 North, Range 41 East, P.M.M., Rosebud County, Montana

Section 2: W1/2 of Lot 2, Lots 3 and 4, and the S1/2N1/2

Descriptions are from a deed in settlement of a condemnation action given by Burlington Northern Railroad Company to the Montana Power Company, a Montana corporation, Pacific Power & Light Company, a Maine corporation, Portland General Electric Company, an Oregon corporation, The Washington Water Power Company, a Washington Corporation, and Puget Colstrip Construction Company, a Washington corporation, dated January 25, 1983, recorded in Book 79 Deeds, page 588, records of Rosebud County, Montana.

Parcel 17A Township 2 North, Range 41 East, P.M.M.

Section 35: Those portions of the S1/2 being two separate tracts herein referred to as Parcel 1 and Parcel 2 described as follows:

Parcel 1 beginning at the common corner of Sections 34 and 35, T2N, R41E Sections 2 and 3, T1N, R41E, which is the true point of beginning; thence N 02° 06' 11" W along the common line between Sections 34 and 35 a distance of 632.34 feet; thence N 41° 52' 20" E a distance of 2,126.31 feet; thence S 65° 04' 46" E a distance of 1,493.70 feet; thence S 05° 36' 54" E a distance of 1,581.65 feet to the common lines between Sections 2 and 35; thence S 89° 44' 06" W a distance of 260.76 feet along the common line between Section 2 and Section 35 to the quarter section corner common to Sections 2 and 35; thence S 89° 46' 14" W a distance of 2,644.79 feet along the common line between Section 2 and 35 to the true point of beginning.

Parcel 2 beginning at the common corner of Sections 35 and 36, T2N, R41E and Sections 1 and 2, T1N, R41E; thence S 89° 44' 06" W along the common Line of Sections 2 and 35 a distance of 723.39 feet to a point on the Southwesterly boundary of the Burlington Railroad right-of-way, which point is the true point of beginning; thence S 89° 44' 06" W along the common line of Sections 2 and 35 a distance of 599.14 feet; thence N 02° 22' 02" W a distance of 1,640.32 feet to a point on the southwesterly boundary of the Burlington Northern Railroad right-of-

way; thence S 22° 10' 32" E along the southwesterly boundary of the Burlington Northern Railroad right-of-way to the point of beginning.

Descriptions are from a deed in settlement of a condemnation action given by Burlington Northern Railroad Company to The Montana Power Company, a Montana corporation, Pacific Power & Light Company, a Maine corporation, Portland General Electric Company, an Oregon corporation, The Washington Water Power Company, a Washington corporation, and Puget Colstrip Construction Company, a Washington corporation, dated January 25, 1983, recorded in Book 79 Deeds, page 588, records of Rosebud County, Montana.

Parcel 17B Township 1 North, Range 41 East, P.M.M., Rosebud County, Montana

Section 3: That portion of Lot 1 and the SE1/4NE1/4 beginning at the common corner of said Sections 34 and 35, T2N, R41E and Sections 2 and 3, T1N, R41E, which is the true point of beginning; thence S 89° 43' 02" W along the common lines between Sections 34 and 3 a distance of 776.23 feet; thence S 01° 31' 17" W a distance of 2,782.94 feet to the east-west mid-section line of Section 3; thence N 89° 57' 01" E along the mid-section line a distance of 864.60 feet to the quarter section corner common to Sections 2 and 3; thence N 00° 17' 53" W along the common line between Sections 2 and 3 a distance of 2,785.08 feet to the true point of beginning.

Descriptions are from a deed in settlement of a condemnation action given by Burlington Northern Railroad Company to The Montana Power Company, a Montana corporation, Pacific Power & Light, a Maine corporation, Portland General Electric Company, an Oregon corporation, The Washington Water Power Company, a Washington corporation, dated January 25, 1983, recorded in Book 79 Deeds, page 593, records of Rosebud County, Montana.

Parcel 18 Township 2 North, Range 42 East, P.M.M., Rosebud County, Montana

Section 31: S1/2  
Section 32: S1/2

Township 1 North, Range 42 East, P.M.M., Rosebud County, Montana

Section 5: All  
Section 6: Lots 1, 2, 3, 4, 5, and 6, SE1/4, S1/2NE1/4, E1/2SW1/4, SE1/4NW1/4

(Recording Reference: Warranty Deed recorded September 21, 1981 in Book 78 Deeds, page 606).

Parcel 18A Township 1 North, Range 42 East, P.M.M., Rosebud County, Montana

Section 7: NE1/4NW1/4, N1/2NE1/4  
Section 8: N1/2 NW1/4

Parcel 19 Easements and rights-of-way more particularly described in documents recorded in the office of the Clerk and Recorder of Rosebud County, Montana under the following book and page numbers, which documents are incorporated herein by this reference and made a part hereof:

Book 79 Deeds	Page 270
Book 79 Deeds	Page 3
Book 79 Deeds	Page 688
Book 81 Deeds	Page 648
Book 79 Deeds	Page 599
Book 79 Deeds	Page 582
Book 85 Deeds	Page 60

*An undivided 12.5% of the real property described in Schedule II below.*

**SCHEDULE II**  
**UNITS 3 & 4 OTHER**

Parcel 20 That portion of Section 28 in Township 2 North, Range 41 East, PMM, described as Tract 1A-A of Certificate of Survey No. 88360 filed July 17, 2000, for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 88360.

Parcel 21 Intentionally deleted.

Parcel 22 That portion of Section 21 in Township 2 North, Range 41 East, PMM, described as Tract 1A-1 of Amended Tract 1A of Amended Tract 1 of Certificate of Survey No. 27879 filed October 19, 1982 for record in the Clerk and Recorder of Rosebud County, Montana as Document No. 37085.

Parcel 23 That portion of Section 33 in Township 2 North, Range 41 East, PMM, described as Tract 1 Amended of Certificate of Survey No. 85920, filed May 4, 1999 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 85920, excepting therefrom:

(a) Tract 2 of Certificate of Survey No. 44126

(b) Castle Rock Lake Subdivision First Filing Document No. 37500

(c) Castle Rock Lake Subdivision Second Filing Document No. 37501

(d) Castle Rock Lake Subdivision Third Filing Document No. 37502

(e) Cimarron Subdivision First Filing Document No. 37503

(f) Plat of Amended Lots 19 and 20, Block 5 Cimarron Subdivision First Filing Document No. 86070.



(g) Amended Plat of Cimarron Subdivision Second Filing Document No. 39051

(h) Cimarron Subdivision Third Filing Document No. 37505

- Parcel 24 That portion of Sections 21 and 22 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44906 filed August 4, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44906.
- Parcel 25 That portion of Section 22 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44909 filed August 14, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44909.
- Parcel 26 That portion of Section 21 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44910 filed August 14, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44910.
- Parcel 27 That portion of Section 22 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44911 filed August 14, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44911.
- Parcel 28 That portion of Section 22 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44912 filed August 14, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44912.
- Parcel 29 That portion of Section 22 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44907 filed August 14, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44907.
- Parcel 30 That portion of Section 22 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44908 filed August 14, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44908.
- Parcel 31 That portion of Section 27 in Township 2 North, Range 41 East, PMM, described as Tract 1A-1, Tract 1A-2, and Tract 1A-3 of Amended Tract 1A of Amended Tract 1 of Certificate of Survey No. 27874 filed December 1, 1982 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 37510, subject to Dedication of Tract 1A-3 (Pinebutte Drive) as a public roadway.

Parcel 32      Township 2 North, Range 42 East P.M.M., Rosebud County, Montana

Section 31: N1/2  
Section 32: N1/2  
Section 30: S1/2SE1/4, S1/2SE1/4SW1/4

Township 1 North, Range 42 East, P.M.M., Rosebud County, Montana

Section 4: SW1/4

Parcel 33      Lot 12, Block 1, and Lots 6, 7, 10, 11, 12, 17 and 19, Block 3, of The Amended Plat of BIG TIMBER SUBDIVISION, Corrected Plat of Eastside Townsite Expansion, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 29033.

Lots 1C and 1J, Block 6, Lots 3E, 3H, 3L, Block 7, Lots 2C, 2D, 5, and 6, Block 8, and Lots 2F, 3E, 3G, 4A, and 4B, Block 9, of The Plat of BIG TIMBER SUBDIVISION, Amended Plat of Eastside Townsite Expansion, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 29032.

Lots 1, 2, 3, 4, 5, 6, 7 and 8, of Block 8, Lots 1, 2, 5, 7, 9, 10, 11, 12, 13, 14, 15, 16 and 18, of Block 9, Lots 1 and 5, of Block 11, Lots 1, 2, 3, 6 and 11, Block 4, and Lots 1, 2, 4, 5 and 6, Block 5, of The Amended Plat of STILLWATER SUBDIVISION, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 29031.

Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14, Block 1, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23, Block 2, Lots 1, 2, 3, 4 and 5, Block 3, Lots 7, 8, 12 and 13, Block 5, Lots 3, 7, 8, 9, 12, 13, 14 and 15, Block 6, Lot 20, Block 7, Lots 5 and 11, Block 8, and Lot 5, Block 11, of The Amended Plat of SWEETGRASS SUBDIVISION, First Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 40609.

Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13, Block 1, Lots 1, 2, 3, 4, 6, 7, and 8, Block 2, Lots, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19 and 20, Block 3, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30 and 31, Block 6, and Lots 4, 5, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22 and 23, Block 7, of the Amended Plat of STILLWATER SUBDIVISION, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 40611.

Lots 4 and 18, Block 3, Lot 12 Block 4, Lots 3 and 4, Block 6, of CIMARRON SUBDIVISION, Second Filing, Rosebud County, Montana, according to the

official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 37504.

Lots 6, 7, 10 and 31, Block 4, of CASTLE ROCK LAKE SUBDIVISION, Second Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 37501.

Lots 32, 33 and 34, Block 4, of CASTLE ROCK LAKE SUBDIVISION, Third Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 37502.

Tracts 5, 8, 11, 33, 34, 35, 36, 37, 38, 39, 40, 41, 43, 44, 45, 47, 48, 49, of SWEETGRASS ACREAGE TRACTS SUBDIVISION. This Subdivision Plat Amends a portion of Amended Plat of Sweetgrass Subdivision, First Filing, Sweetgrass Subdivision, Second Filing, and a portion of Amended Plat of Sweetgrass Subdivision, Third Filing, Rosebud County Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 44417.

Lots 12, 19, 20, 21 and 24, Block 3, and Lot 16, Block 4, of CIMARRON SUBDIVISION, Second Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 37504.

Lots 32, 33, 34, 35 and 36, Block 2, Lots 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32A, 32B, 32C, 32D, 32E, 32F, 32G, 32H, 32I, 32J, 32K, 32L, 32M, 32N, 32O, 32P, 32R, 32S, 32T, 32U, 32V, W, X, Y, Block 5, and Lots 1A, B, C, D, 1E, F, G, H, 1I, J, K, L, 1M, 32Q and 32Z, Block 7, Block 4, of CIMARRON SUBDIVISION, First Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County.

Lot 1B, Block 8, and Lots 1B, 2, and 3, Block 9, of CIMARRON SUBDIVISION, Third Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 37505.

Lots 2A, 2B and 2C, Block 11, of the Second Amended Plat of Block 11 of STILLWATER SUBDIVISION, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 73210.

Lots 1A, 1B, 1C, 1D, 1E and 1F, Block 1 and Lots 1A, 1B, 1C and 1D, Block 2 of CASTLEROCK LAKE SUBDIVISION, First Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 37500.

Lot 2 in Block 43 and Lots 1 and 2 in Block 46 of the CORRECTED PLAT OF THE AMENDED PLAT OF BLOCKS 43 AND 46 OF COLSTRIP TOWNSITE, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 28708.

Parcel 34 Intentionally deleted

*An undivided 12.5% of the Colstrip Units 3 and 4 interest in the Common Facilities real property as allocated by the Common Facilities Agreement in the real property described in Schedule III below.*

**SCHEDULE III**  
**COMMON FACILITIES - ALL UNITS**

Parcel 35 That portion of Sections 34 and 35 in Township 2 North, Range 41 East, PMM, described as Parcel B Certificate of Survey No. 34152 filed January 8, 1981 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 34152.

Parcel 36 That portion of Sections 27 and 34 in Township 2 North, Range 41 East, PMM, described as Parcel C of Certificate of Survey No. 34153 filed January 8, 1981 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 34153.

Parcel 37 That portion of Section 35 in Township 2 North, Range 41 East & Section 2 in Township 1 North, Range 41 East, PMM, described as Tract H-1, Tract H-2, Tract H-3 of Certificate of Survey No. 34995 filed March 25, 1982 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 34995.

Parcel 38 That portion of Section 3 in Township 1 North, Range 41 East, PMM, described as Parcel G of Certificate of Survey No. 34996 filed March 25, 1982 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 34996.

Parcel 39 That portion of Section 34 in Township 2 North, Range 41 East, PMM, described as Parcel A-1 Amended of Certificate of Survey No. 85561, filed March 17, 1999 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 85561, excluding therefrom a tract of land described as Parcel A-1-B of Certificate of Survey 85561.

Parcel 40 That portion of Sections 28 and 33 in Township 2 North, Range 41 East, PMM, described as Parcel F-1 Amended and Parcel F-2 Amended of Certificate of Survey No. 85920 filed May 4, 1999 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 85920.

- Parcel 41 That portion of Section 34 in Township 2 North, Range 41 East, PMM, described as Parcel D-1 and Parcel D-2 of Certificate of Survey No. 42210 filed January 10, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 42210.
- Parcel 42 That portion of Section 34 in Township 2 North, Range 41 East, PMM, described as Tract 1-A-1, Tract 1-A-2 and Tract 1-A-3 of Certificate of Survey No. 54257 amending Certificate of Survey No. 27875 (Tract 1), Certificate of Survey No. 27878, Certificate of Survey No. 34994 and Dedication of Tracts 1-A-2, 1-B-2, 1-B and 1-D, filed July 30, 1986 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 54257, subject to dedication of Tract 1-A-2 (Willow Avenue) as a public road.
- Parcel 43 That portion of Section 24 in Township 6 North, Range 39 East, PMM, described as Tract A and Tract C of Certificate of Survey No. 6100 filed February 13, 1974 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 6100.
- Parcel 44 That parcel commencing at the section corner common Sections Thirteen (13), Fourteen (14), Twenty-three (23) and Twenty-four (24), Township Six (6) North, of Range Thirty-nine (39) East, M.P.M., Rosebud County, Montana, running thence northerly along the section line common to Sections Fourteen (14) and Thirteen (13) to the Yellowstone River; running thence southeasterly along the Yellowstone River to a point where the south boundary line of Section Thirteen (13) meets the Yellowstone River; thence westerly along the south boundary line of the said Section Thirteen (13) to the point of beginning, containing in all approximately 17 acres as described in deed dated December 7, 1973, recorded December 12, 1973 in Book 73, Page 127 and confirmed in Judgment and Decree dated March 21, 1975 by The District Court of the Sixteenth Judicial District, in and for the County of Rosebud, recorded March 21, 1975 in Book 19 Orders and Decree, page 996, records of the County Clerk and Recorder of Rosebud County, Montana.
- Parcel 45 Easements and rights-of-way more particularly described in documents recorded in the office of the Clerk and Recorder of Rosebud County, Montana, under the following Book and Page numbers; which documents are incorporated herein by this reference and made a part hereof:
- Book 77 Deeds, page 29
  - Book 75 Deeds, page 306
  - Book 73 Deeds, page 430
  - Book 73 Deeds, page 466
  - Book 74 Deeds, page 245
  - Book 78 Deeds, page 782
  - Book 78 Deeds, page 838
  - Book 74 Deeds, page 169
  - Book 74 Deeds, page 110

Book 74 Deeds, page 70  
Book 77 Deeds, page 941  
Book 78 Deeds, page 134  
Book 79 Deeds, page 238  
Book 74 Deeds, page 14  
Book 74 Deeds, page 65  
Book 74 Deeds, page 112  
Book 79 Deeds, page 240  
Book 74 Deeds, page 62  
Book 74 Deeds, page 67  
Book 74 Deeds, page 242  
Book 73 Deeds, page 891  
Book 73 Deeds, page 893  
Book 73 Deeds, page 284  
Book 78 Deeds, page 131  
Book 32 Misc., page 476

*An undivided 12.5% of the real property described in Schedule  
IV below.*

**SCHEULDE IV**  
**COLSTRIP COMM SERV, LLC - PROPERTY**

Township 1 North, Range 41 East, M.P.M

Section 1: Lots 1 (43.40), 2(43.40), N/2SE/4, S/2NE/4, SE/4NW/4, less and except the existing Railroad Right-of-way being the Northern Pacific Railway Company's Cow Creek Extension of its Rosebud Branch line right-of-way.

Township 1 North, Range 42 East, M.P.M

Section 6: Lot 7 (40.55), less and except 2.66 acres of the Burlington Northern Railroad Right-of-way.

Section 7: Lots 1 (40.34), 2 (40.29), SE/4NW/4, NE/4SW/4, N/2SE/4, S/2NE/4, less and except Tract 1 as described in Easement Deed No. 33671-E dated October 11, 1973, recorded in Book 73 Deeds; Page 143 on December 20, 1973, Rosebud County, Montana, and less and except that portion of the Burlington Northern Right-of-way located in Lots 1 and 2.

Section 8: NE/4, S/2NW/4, S/2, less and except 35.93 Ao of the Burlington Northern Railroad Right-of-way, and less and except Tract 1 as described in Easement Deed No. 33671-E dated October 11, 1973, recorded in Book 73 Deeds, Page 143 on December 20, 1973, Rosebud County, Montana.

Section 17: E/2, lying north and east of the north and east boundary line of Tract 1 as described in Easement Deed No. 33671-E dated October 11, 1973, recorded in Book 73 Deeds, Page 143 on December 20, 1973, Rosebud County, Montana and lying north and west of the Cow Creek Road as now established in the E/2E/2 and as recorded in the County Road Book, Rosebud County, Montana.

**EXHIBIT A  
PART II**

[List of easements]<sup>2</sup>

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<sup>2</sup> Note to Draft: To be provided by Seller between signing and closing.



**EXHIBIT A  
PART III**

An undivided 8.5175% interest subject to its 8.5175% proportionate share of the burden of 2.0 cubic feet per second of water assigned to Colstrip Community Service Company by instrument recorded March 24, 1989 in Book 84 Deeds, page 528:

(1) Water Right Number 42KJ W094423-00                      Statement of Claim

An undivided 12.5% interest:

WRKEY	WR NUMBER
190930-2	42A 108297 00
190949-2	42A 108308 00
190961-2	42A 108317 00
231813-2	42A 146426 00
255643-1	42A 173935 00
255644-1	42A 173937 00
255645-1	42A 173938 00
255646-1	42A 173939 00
255647-1	42A 173940 00
255648-2	2A 17394100
255648-2	42A 17394100
255649-2	42A 173943 00
255650-2	42A 173944 00
255651-2	42A 173945 00
255652-1	42A 173946 00
255653-2	42A 173947 00
311888-1	42A 173948 00
326585-1	42A 48616 00

152039-1	42A 83584 00
335309-1	42KJ 108793 00
110786-1	42KJ 58886 00
166954-2	42KJ 94428 00

All water rights listed above are subject to item (a) following and water right No. 1 above is subject item (b) following:

(a) Final adjudication under Montana Code Annotated, Title 85, Chapter 2, Part 2.

(b) Grantor's water rights are subject to its proportionate share (8.5175%) of the burden of the 1/4" taps and valves for purpose of stock watering, on an "as is from source, if and when available":

- (i) Granted to Janet MacDonald for use at one location on her lands.
- (ii) Granted to Janet K. MacDonald, situate on Section 21, Township 2 North, Range 41 East, for use on one location on her lands.
- (iii) Granted to Albert Kozelka for use at one location on his lands.
- (iv) Granted to Leo DeCock for use at one location on his lands.
- (v) Granted to Vassau's Flying J for use at one location on his lands.
- (vi) Granted to J. R. Lee for use at one location on his lands.
- (vii) Granted to J.M. Nansel for use at one location on his lands.
- (viii) Granted to Friez Circle Four Ranch for use at one location on its land.

**EXHIBIT A**  
**PART IV**

All of Grantor's interest in mineral rights with respect to its ownership interest in the Fee Lands.

## EXHIBIT B

### PERMITTED ENCUMBRANCES:

- (a) Terms and conditions of a Ownership and Operation Agreement between The Montana Power Company, Puget Sound Power and Light Company, The Washington Water Power Company, Portland General Electric Company and Pacific Power & Light Company dated May 6, 1981, as amended by Amendment No. 1 October 11, 1991 and by Amendment No. 2, effective July 13, 1998 (“Ownership and Operation Agreement”).
- (b) Terms and conditions of the Common Facilities Agreement dated as of May 6, 1981, between The Montana Power Company, a Montana corporation, Puget Sound Power and Light Company, a Washington corporation, The Washington Water Power Company, a Washington corporation, Portland General Electric Company, an Oregon corporation, and Pacific Power and Light Company, an Oregon corporation, as amended by Amendment No. 1 dated January 21, 1992 (“Common Facilities Agreement”).
- (c) [Any additional exceptions, including updated list from Schedule B, Section 2 – Exceptions from the PSE title commitment.]<sup>3</sup>

So long as the Project (as defined in the Ownership and Operating Agreement) or the Common Facilities (as defined in the Common Facilities Agreement) or any part thereof as originally constructed, reconstructed or added to is used or useful for the generation of electrical power and energy, or to the end of the period permitted by applicable law, whichever occurs first, Grantee, by acceptance of this deed, waives its right to partition whether by partition in kind or sale and division of the proceeds thereof, and agrees that it will not resort to any action at law or in equity to partition and further waives the benefit of all laws that may now or hereafter authorize such partition of the properties comprising Colstrip Units 3 and 4 or the Common Facilities. It is agreed that this covenant shall be deemed to run with the land.

As to Parcels 13, 14A, 14C, ISA and 15C of Schedule III Exhibit A Part I, all improvements thereon, including without limitation improvements permanently attached to the real property, have been and shall remain personal property, severed from the real property as provided in deed dated April 1, 1983, recorded May 2, 1983 in Book 79, page 648 and made a part hereof. Grantee by acceptance of this Deed accepts the severance of the improvements from the real property and acknowledges that this Deed does not convey title to the improvements.

For purposes of this Deed the following terms are defined:

“Colstrip Units 1 and 2” shall mean the two 333 MW (gross capacity) coal-fired steam electric generating units located in Colstrip, Montana, and referred to herein as “Colstrip Unit 1” and “Colstrip Unit 2” respectively.

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<sup>3</sup> Note to Draft: To be updated between signing and closing, excluding any mortgages, liens and encumbrances to be released by Seller prior to or following closing.

“Colstrip Units 3 and 4” shall mean the two 805 MW (gross capacity) coal-fired steam electric generating units located in Colstrip, Montana, and referred to herein as “Colstrip Unit 3” and “Colstrip Unit 4” respectively.

“Common Facilities Real Property” shall mean the easements and real property used in common by Colstrip Units 1 and 2 and Colstrip Units 3 and 4 and covered by the Common Facilities Agreement.

**EXHIBIT C**

**THE KLUVER PROPERTY**

Township 1 North, Range 42 East, MPM

Section 9: All

**EXHIBIT J**  
**FORM OF WAIVER OF RIGHT OF FIRST REFUSAL**

[Date]

[Owner's Name and Address]

Re: Rights of First Refusal pursuant to the Ownership and Operation Agreement, dated May 6, 1981, as amended by Amendment No. 1 dated October 11, 1991, Amendment No. 2 dated July 13, 1998, Amendment No. 3 entered into in 2004, and Amendment No. 4 entered into in 2008, between Buyer, Seller, Portland General Electric Company, the Washington Water Power Company (now Avista) and Pacific Power & Light Company (now PacifiCorp)

Ladies and Gentlemen:

Any capitalized term not defined in this letter shall have the definition set forth in the Ownership and Operation Agreement.

Puget Sound Energy, Inc. ("*PSE*"), a Washington public utility corporation, has entered into a binding Colstrip Unit 4 Purchase and Sale Agreement, dated December 9, 2019 (the "*Purchase Agreement*"), pursuant to which it has agreed to sell to NorthWestern Corporation, a Delaware corporation ("*Buyer*") and Buyer has agreed to buy PSE's 25% Project Share in Colstrip Unit 4 for a price of \$1.00 (the "*Transaction*"). An execution copy of the Purchase Agreement is enclosed herewith.

Section 24 of the Ownership and Operation Agreement requires PSE to offer its Project Share to the other Project Users "at the amount of, and on terms not less advantageous than, those of a bona fide offer from a buyer able and willing to purchase such Owner's or Project User's interest." The portion of such interest to be offered to each Project User must be equal to the proportionate interest of each Project User in the Project after excluding the interest being offered. Accordingly, PSE hereby formally offers to you the right to purchase your proportionate share of its Project Share. The Ownership and Operation Agreement requires that such offer be held open for a period of 90 days. Further, if at the end of the 90-day period, any Project User shall have failed to accept such offer, the proportionate interest offered to such Project User shall be offered on a pro rata basis to the other Project Users, who shall have a further period of 7 days to accept the same. The process shall be repeated until all Project Users then being offered an interest shall have failed to accept such offer.

Should you choose to exercise your right of first refusal, you must submit, and be fully prepared and capable of executing and consummating, a purchase agreement that contains terms no less advantageous than the terms and conditions set forth in the attached Purchase Agreement.

Should you decline to exercise your right of first refusal, PSE respectfully requests that you expressly waive your right of first refusal and/or right of first offer under Section 24 of the Ownership and Operation Agreement with respect to the Transaction in order to expedite PSE's closing of the Transaction with the Buyer. If you are willing to waive such right, please

countersign a copy of this letter below under “WAIVER” and return it to the undersigned as soon as possible. PSE has made the same request of all other Project Users.

If you do not affirmatively exercise your right to purchase your proportionate share of PSE’s Project Share within 90 days of the date of this letter, your rights pursuant to Section 24 of the Ownership and Operation Agreement with respect to the Transaction will be deemed to be waived.

Thank you for your prompt consideration of this matter.

Very truly yours,

PUGET SOUND ENERGY, INC.

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Enclosures



**WAIVER**

The undersigned hereby agrees to waive its right of first refusal and/or right of first offer under Section 24 of the Ownership and Operation Agreement in connection with the Transaction described above.

[OWNER'S NAME]

Date: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

[ATTACHMENT: EXECUTED COPY OF PURCHASE AND SALE AGREEMENT]

## DISCLOSURE SCHEDULE

This disclosure schedule (this “Disclosure Schedule”) is delivered in connection with that certain Colstrip Unit 4 Purchase and Sale Agreement, dated as of December 9, 2019 (the “Agreement”), by and between NORTHWESTERN CORPORATION, a Delaware corporation (“Buyer”) and PUGET SOUND ENERGY, INC., a Washington public utility corporation (the “Seller”). Capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Agreement.

Any fact or condition disclosed in any section or paragraph of this Disclosure Schedule shall qualify as disclosures pursuant to any other sections or paragraphs under the Agreement where such disclosure is reasonably apparent on the face of such disclosures, whether or not repeated under any section number where such disclosure might be deemed appropriate.

Matters reflected in this Disclosure Schedule are not necessarily limited to matters required by the Agreement to be reflected herein. Such additional matters are set forth for informational purposes and do not necessarily include other matters of a similar informational nature. Any disclosure of a fact or circumstance shall not establish, or constitute an admission of, the materiality of such fact or such circumstance or such fact’s or circumstance’s consequence or relevance to materiality, to a Material Adverse Effect. The information contained herein is disclosed solely for the purposes of the Agreement, and no information contained herein shall be deemed to be an admission by any party hereto to any third party of any matter whatsoever, including any violation of applicable Law or breach of any agreement.

In accordance with Section 11.3 of the Agreement, this Disclosure Schedule is deemed to be part of the entire agreement of the parties with respect to the subject matter of the Agreement. Any item of information disclosed in this Disclosure Schedule shall be subject to the terms of the Confidentiality Agreement.

Headings and numbers (other than numerical references to sections and subsections of the Agreement) have been inserted in some of the sections of this Disclosure Schedule for convenience of reference only, and such headings or numbers (other than numerical references to sections and subsections of the Agreement) shall not have the effect of amending or changing the express description of the section of this Disclosure Schedule as set forth in the Agreement.

## Schedule 1.1

### Water Rights

Seller's interest in the water rights with respect to Colstrip Unit 4, including those subject to the following Water Right Numbers:

WRKEY	WR NUMBER
166947-2	42KJ W094423 00
190930-2	42A 108297 00
190949-2	42A 108308 00
190961-2	42A 108317 00
231813-2	42A 146426 00
255643-1	42A 173935 00
255644-1	42A 173937 00
255645-1	42A 173938 00
255646-1	42A 173939 00
255647-1	42A 173940 00
255648-2	2A 17394100
255648-2	42A 17394100
255649-2	42A 173943 00
255650-2	42A 173944 00
255651-2	42A 173945 00
255652-1	42A 173946 00
255653-2	42A 173947 00
311888-1	42A 173948 00
326585-1	42A 48616 00
152039-1	42A 83584 00

335309-1	42KJ 108793 00
110786-1	42KJ 58886 00
166954-2	42KJ 94428 00

**Schedule 2.1(a)**

**Real Property<sup>1</sup>**

***An undivided twenty-five percent (25%) interest as Tenant in Common in and to the real property described in Schedule I below.***

**SCHEDULE I**  
**UNIT 4 GENERATION**

- Parcel 13 That portion of Sections 34 and 35 in Township 2 North, Range 41 East, PMM, described as Parcel 3 Amended of Certificate of Survey No. 85124 filed December 30, 1998 for record in the office of the Clerk and Recorder of Rosebud County, Montana as document No. 85124.
- Parcel 14 Intentionally deleted and replaced by Parcels 14A, 14B and 14C.<sup>2</sup>
- Parcel 14A That portion of the E1/2NE1/4 of Section 34 and W1/2NW1/4 of Section 35 in Township 2 North, Range 41 East, described as Tract 1 of Colstrip Unit 3 and 4 Cooling Towers Minor Subdivision being a subdivision of Parcel 2 of Certificate of Survey No. 34153 as amended by Certificate of Survey No. 85789, which Minor Subdivision was filed in the office of the Clerk and Recorder of Rosebud County, Montana on June 5, 2000 under Document No. 88170.
- Parcel 14B Intentionally deleted.
- Parcel 14C That portion of the E1/2NE1/4 of Section 34 and W1/2NW1/4 of Section 35 in Township 2 North, Range 41 East, described as Tract 3 of Colstrip Unit 3 and 4 Cooling Towers Minor Subdivision being a subdivision of Parcel 2 of Certificate of Survey No. 34153 as amended by Certificate of Survey No. 85789, which Minor Subdivision was filed in the office of the Clerk and Recorder of Rosebud County, Montana on June 5, 2000 under Document No. 88170.
- Parcel 15 Intentionally deleted and replaced by Parcels 15A, 15B, and 15C.
- Parcel 15A That portion of the S1/2NE1/4 and N1/2SE1/4 of Section 34 in Township 2 North, Range 41 East, described as Tract 1 of Colstrip Unit 3 and 4 Generation Sites Minor Subdivision being a subdivision of Parcel 4 of Certificate of Survey No. 29931 Amended, filed for record as Document No. 37265, which Minor Subdivision was

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<sup>1</sup> **Note:** The parties acknowledge that the real property is intended to include interests in all real property which is a part of Colstrip 4 Interests, and they will cooperate in good faith to update the this schedule prior to closing to ensure all those interests are included in the closing documents and the related schedules.

<sup>2</sup> **Note:** The replacement of Parcels 14 and 15 with 14A, 14B, 14C and 15A, 15B and 15C, respectively, is to be reviewed by Seller between signing and closing.

filed in the office of the Clerk and Recorder of Rosebud County, Montana on June 5, 2000 under Document No. 88169.

Parcel 15B Intentionally deleted.

Parcel 15C That portion of the S1/2NE1/4 and N1/2SE1/4 of Section 34 in Township 2 North, Range 41 East, described as Tract 3 of Colstrip Unit 3 and 4 Generation Sites Minor Subdivision being a subdivision of Parcel 4 of Certificate of Survey No. 29931 Amended, filed for record as Document No. 37265, which Minor Subdivision was filed in the office of the Clerk and Recorder of Rosebud County, Montana on June 5, 2000 under Document No. 88169.

Parcel 16 That portion of Section 3 in Township 1 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 58701 filed October 29, 1987 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 58701.

Parcel 17 Township 1 North, Range 41 East, P.M.M., Rosebud County, Montana

Section 2: W1/2 of Lot 2, Lots 3 and 4, and the S1/2N1/2

Descriptions are from a deed in settlement of a condemnation action given by Burlington Northern Railroad Company to the Montana Power Company, a Montana corporation, Pacific Power & Light Company, a Maine corporation, Portland General Electric Company, an Oregon corporation, The Washington Water Power Company, a Washington Corporation, and Puget Colstrip Construction Company, a Washington corporation, dated January 25, 1983, recorded in Book 79 Deeds, page 588, records of Rosebud County, Montana.

Parcel 17A Township 2 North, Range 41 East, P.M.M.

Section 35: Those portions of the S1/2 being two separate tracts herein referred to as Parcel 1 and Parcel 2 described as follows:

Parcel 1 beginning at the common corner of Sections 34 and 35, T2N, R41E Sections 2 and 3, T1N, R41E, which is the true point of beginning; thence N 02° 06' 11" W along the common line between Sections 34 and 35 a distance of 632.34 feet; thence N 41° 52' 20" E a distance of 2,126.31 feet; thence S 65° 04' 46" E a distance of 1,493.70 feet; thence S 05° 36' 54" E a distance of 1,581.65 feet to the common lines between Sections 2 and 35; thence S 89° 44' 06" W a distance of 260.76 feet along the common line between Section 2 and Section 35 to the quarter section corner common to Sections 2 and 35; thence S 89° 46' 14" W a distance of 2,644.79 feet along the common line between Section 2 and 35 to the true point of beginning.

Parcel 2 beginning at the common corner of Sections 35 and 36, T2N, R41E and Sections 1 and 2, T1N, R41E; thence S 89° 44' 06" W along the common Line of Sections 2 and 35 a distance of 723.39 feet to a point on the Southwesterly

boundary of the Burlington Railroad right-of-way, which point is the true point of beginning; thence S 89° 44' 06" W along the common line of Sections 2 and 35 a distance of 599.14 feet; thence N 02° 22' 02" W a distance of 1,640.32 feet to a point on the southwesterly boundary of the Burlington Northern Railroad right-of-way; thence S 22° 10' 32" E along the southwesterly boundary of the Burlington Northern Railroad right-of-way to the point of beginning.

Descriptions are from a deed in settlement of a condemnation action given by Burlington Northern Railroad Company to The Montana Power Company, a Montana corporation, Pacific Power & Light Company, a Maine corporation, Portland General Electric Company, an Oregon corporation, The Washington Water Power Company, a Washington corporation, and Puget Colstrip Construction Company, a Washington corporation, dated January 25, 1983, recorded in Book 79 Deeds, page 588, records of Rosebud County, Montana.

Parcel 17B Township 1 North, Range 41 East, P.M.M., Rosebud County, Montana

Section 3: That portion of Lot 1 and the SE1/4NE1/4 beginning at the common corner of said Sections 34 and 35, T2N, R41E and Sections 2 and 3, T1N, R41E, which is the true point of beginning; thence S 89° 43' 02" W along the common lines between Sections 34 and 3 a distance of 776.23 feet; thence S 01° 31' 17" W a distance of 2,782.94 feet to the east-west mid-section line of Section 3; thence N 89° 57' 01" E along the mid-section line a distance of 864.60 feet to the quarter section corner common to Sections 2 and 3; thence N 00° 17' 53" W along the common line between Sections 2 and 3 a distance of 2,785.08 feet to the true point of beginning.

Descriptions are from a deed in settlement of a condemnation action given by Burlington Northern Railroad Company to The Montana Power Company, a Montana corporation, Pacific Power & Light, a Maine corporation, Portland General Electric Company, an Oregon corporation, The Washington Water Power Company, a Washington corporation, dated January 25, 1983, recorded in Book 79 Deeds, page 593, records of Rosebud County, Montana.

Parcel 18 Township 2 North, Range 42 East, P.M.M., Rosebud County, Montana

Section 31: S1/2  
Section 32: S1/2

Township 1 North, Range 42 East, P.M.M., Rosebud County, Montana

Section 5: All  
Section 6: Lots 1, 2, 3, 4, 5, and 6, SE1/4, S1/2NE1/4, E1/2SW1/4, SE1/4NW1/4  
(Recording Reference: Warranty Deed recorded September 21, 1981 in Book 78 Deeds, page 606).

Parcel 18A Township 1 North, Range 42 East, P.M.M., Rosebud County, Montana



Section 7: NE1/4NW1/4, N1/2NE1/4  
Section 8: N1/2 NW1/4

Parcel 19 Easements and rights-of-way more particularly described in documents recorded in the office of the Clerk and Recorder of Rosebud County, Montana under the following book and page numbers, which documents are incorporated herein by this reference and made a part hereof:

Book 79 Deeds	Page 270
Book 79 Deeds	Page 3
Book 79 Deeds	Page 688
Book 81 Deeds	Page 648
Book 79 Deeds	Page 599
Book 79 Deeds	Page 582
Book 85 Deeds	Page 60

*An undivided 12.5% of the real property described in Schedule II below.*

**SCHEDULE II**  
**UNITS 3 & 4 OTHER**

Parcel 20 That portion of Section 28 in Township 2 North, Range 41 East, PMM, described as Tract 1A-A of Certificate of Survey No. 88360 filed July 17, 2000, for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 88360.

Parcel 21 Intentionally deleted.

Parcel 22 That portion of Section 21 in Township 2 North, Range 41 East, PMM, described as Tract 1A-1 of Amended Tract 1A of Amended Tract 1 of Certificate of Survey No. 27879 filed October 19, 1982 for record in the Clerk and Recorder of Rosebud County, Montana as Document No. 37085.

Parcel 23 That portion of Section 33 in Township 2 North, Range 41 East, PMM, described as Tract 1 Amended of Certificate of Survey No. 85920, filed May 4, 1999 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 85920, excepting therefrom:

- (a) Tract 2 of Certificate of Survey No. 44126
- (b) Castle Rock Lake Subdivision First Filing Document No. 37500
- (c) Castle Rock Lake Subdivision Second Filing Document No. 37501
- (d) Castle Rock Lake Subdivision Third Filing Document No. 37502
- (e) Cimarron Subdivision First Filing Document No. 37503

(f) Plat of Amended Lots 19 and 20, Block 5 Cimarron Subdivision First Filing Document No. 86070.

(g) Amended Plat of Cimarron Subdivision Second Filing Document No. 39051

(h) Cimarron Subdivision Third Filing Document No. 37505

- Parcel 24 That portion of Sections 21 and 22 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44906 filed August 4, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44906.
- Parcel 25 That portion of Section 22 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44909 filed August 14, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44909.
- Parcel 26 That portion of Section 21 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44910 filed August 14, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44910.
- Parcel 27 That portion of Section 22 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44911 filed August 14, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44911.
- Parcel 28 That portion of Section 22 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44912 filed August 14, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44912.
- Parcel 29 That portion of Section 22 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44907 filed August 14, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44907.
- Parcel 30 That portion of Section 22 in Township 2 North, Range 41 East, PMM, described as Tract 1 of Certificate of Survey No. 44908 filed August 14, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 44908.
- Parcel 31 That portion of Section 27 in Township 2 North, Range 41 East, PMM, described as Tract 1A-1, Tract 1A-2, and Tract 1A-3 of Amended Tract 1A of Amended Tract 1 of Certificate of Survey No. 27874 filed December 1, 1982 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document

No. 37510, subject to Dedication of Tract 1A-3 (Pinebutte Drive) as a public roadway.

Parcel 32 Township 2 North, Range 42 East P.M.M., Rosebud County, Montana

Section 31: N1/2

Section 32: N1/2

Section 30: S1/2SE1/4, S1/2SE1/4SW1/4

Township 1 North, Range 42 East, P.M.M., Rosebud County, Montana

Section 4: SW1/4

Parcel 33 Lot 12, Block 1, and Lots 6, 7, 10, 11, 12, 17 and 19, Block 3, of The Amended Plat of BIG TIMBER SUBDIVISION, Corrected Plat of Eastside Townsite Expansion, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 29033.

Lots 1C and 1J, Block 6, Lots 3E, 3H, 3L, Block 7, Lots 2C, 2D, 5, and 6, Block 8, and Lots 2F, 3E, 3G, 4A, and 4B, Block 9, of The Plat of BIG TIMBER SUBDIVISION, Amended Plat of Eastside Townsite Expansion, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 29032.

Lots 1, 2, 3, 4, 5, 6, 7 and 8, of Block 8, Lots 1, 2, 5, 7, 9, 10, 11, 12, 13, 14, 15, 16 and 18, of Block 9, Lots 1 and 5, of Block 11, Lots 1, 2, 3, 6 and 11, Block 4, and Lots 1, 2, 4, 5 and 6, Block 5, of The Amended Plat of STILLWATER SUBDIVISION, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 29031.

Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14, Block 1, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23, Block 2, Lots 1, 2, 3, 4 and 5, Block 3, Lots 7, 8, 12 and 13, Block 5, Lots 3, 7, 8, 9, 12, 13, 14 and 15, Block 6, Lot 20, Block 7, Lots 5 and 11, Block 8, and Lot 5, Block 11, of The Amended Plat of SWEETGRASS SUBDIVISION, First Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 40609.

Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13, Block 1, Lots 1, 2, 3, 4, 6, 7, and 8, Block 2, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19 and 20, Block 3, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30 and 31, Block 6, and Lots 4, 5, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22 and 23, Block 7, of the Amended Plat of STILLWATER SUBDIVISION, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 40611.

Lots 4 and 18, Block 3, Lot 12 Block 4, Lots 3 and 4, Block 6, of CIMARRON SUBDIVISION, Second Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 37504.

Lots 6, 7, 10 and 31, Block 4, of CASTLE ROCK LAKE SUBDIVISION, Second Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 37501.

Lots 32, 33 and 34, Block 4, of CASTLE ROCK LAKE SUBDIVISION, Third Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 37502.

Tracts 5, 8, 11, 33, 34, 35, 36, 37, 38, 39, 40, 41, 43, 44, 45, 47, 48, 49, of SWEETGRASS ACREAGE TRACTS SUBDIVISION. This Subdivision Plat Amends a portion of Amended Plat of Sweetgrass Subdivision, First Filing, Sweetgrass Subdivision, Second Filing, and a portion of Amended Plat of Sweetgrass Subdivision, Third Filing, Rosebud County Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 44417.

Lots 12, 19, 20, 21 and 24, Block 3, and Lot 16, Block 4, of CIMARRON SUBDIVISION, Second Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 37504.

Lots 32, 33, 34, 35 and 36, Block 2, Lots 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32A, 32B, 32C, 32D, 32E, 32F, 32G, 32H, 32I, 32J, 32K, 32L, 32M, 32N, 32O, 32P, 32R, 32S, 32T, 32U, 32V, W, X, Y, Block 5, and Lots 1A, B, C, D, 1E, F, G, H, 1I, J, K, L, 1M, 32Q and 32Z, Block 7, Block 4, of CIMARRON SUBDIVISION, First Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County.

Lot 1B, Block 8, and Lots 1B, 2, and 3, Block 9, of CIMARRON SUBDIVISION, Third Filing, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 37505.

Lots 2A, 2B and 2C, Block 11, of the Second Amended Plat of Block 11 of STILLWATER SUBDIVISION, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 73210.

Lots 1A, 1B, 1C, 1D, 1E and 1F, Block 1 and Lots 1A, 1B, 1C and 1D, Block 2 of CASTLEROCK LAKE SUBDIVISION, First Filing, Rosebud County, Montana,

according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 37500.

Lot 2 in Block 43 and Lots 1 and 2 in Block 46 of the CORRECTED PLAT OF THE AMENDED PLAT OF BLOCKS 43 AND 46 OF COLSTRIP TOWNSITE, Rosebud County, Montana, according to the official plat thereof on file and of record in the office of the Clerk and Recorder of said County, under Document No. 28708.

Parcel 34 Intentionally deleted

***An undivided 12.5% of the Colstrip Units 3 and 4 interest in the Common Facilities real property as allocated by the Common Facilities Agreement in the real property described in Schedule III below.***

**SCHEDULE III**  
**COMMON FACILITIES - ALL UNITS**

Parcel 35 That portion of Sections 34 and 35 in Township 2 North, Range 41 East, PMM, described as Parcel B Certificate of Survey No. 34152 filed January 8, 1981 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 34152.

Parcel 36 That portion of Sections 27 and 34 in Township 2 North, Range 41 East, PMM, described as Parcel C of Certificate of Survey No. 34153 filed January 8, 1981 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 34153.

Parcel 37 That portion of Section 35 in Township 2 North, Range 41 East & Section 2 in Township 1 North, Range 41 East, PMM, described as Tract H-1, Tract H-2, Tract H-3 of Certificate of Survey No. 34995 filed March 25, 1982 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 34995.

Parcel 38 That portion of Section 3 in Township 1 North, Range 41 East, PMM, described as Parcel G of Certificate of Survey No. 34996 filed March 25, 1982 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 34996.

Parcel 39 That portion of Section 34 in Township 2 North, Range 41 East, PMM, described as Parcel A-1 Amended of Certificate of Survey No. 85561, filed March 17, 1999 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 85561, excluding therefrom a tract of land described as Parcel A-1-B of Certificate of Survey 85561.

Parcel 40 That portion of Sections 28 and 33 in Township 2 North, Range 41 East, PMM, described as Parcel F-1 Amended and Parcel F-2 Amended of Certificate of Survey

No. 85920 filed May 4, 1999 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 85920.

- Parcel 41 That portion of Section 34 in Township 2 North, Range 41 East, PMM, described as Parcel D-1 and Parcel D-2 of Certificate of Survey No. 42210 filed January 10, 1984 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 42210.
- Parcel 42 That portion of Section 34 in Township 2 North, Range 41 East, PMM, described as Tract 1-A-1, Tract 1-A-2 and Tract 1-A-3 of Certificate of Survey No. 54257 amending Certificate of Survey No. 27875 (Tract 1), Certificate of Survey No. 27878, Certificate of Survey No. 34994 and Dedication of Tracts 1-A-2, 1-B-2, 1-B and 1-D, filed July 30, 1986 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 54257, subject to dedication of Tract 1-A-2 (Willow Avenue) as a public road.
- Parcel 43 That portion of Section 24 in Township 6 North, Range 39 East, PMM, described as Tract A and Tract C of Certificate of Survey No. 6100 filed February 13, 1974 for record in the office of the Clerk and Recorder of Rosebud County, Montana as Document No. 6100.
- Parcel 44 That parcel commencing at the section corner common Sections Thirteen (13), Fourteen (14), Twenty-three (23) and Twenty-four (24), Township Six (6) North, of Range Thirty-nine (39) East, M.P.M., Rosebud County, Montana, running thence northerly along the section line common to Sections Fourteen (14) and Thirteen (13) to the Yellowstone River; running thence southeasterly along the Yellowstone River to a point where the south boundary line of Section Thirteen (13) meets the Yellowstone River; thence westerly along the south boundary line of the said Section Thirteen (13) to the point of beginning, containing in all approximately 17 acres as described in deed dated December 7, 1973, recorded December 12, 1973 in Book 73, Page 127 and confirmed in Judgment and Decree dated March 21, 1975 by The District Court of the Sixteenth Judicial District, in and for the County of Rosebud, recorded March 21, 1975 in Book 19 Orders and Decree, page 996, records of the County Clerk and Recorder of Rosebud County, Montana.
- Parcel 45 Easements and rights-of-way more particularly described in documents recorded in the office of the Clerk and Recorder of Rosebud County, Montana, under the following Book and Page numbers; which documents are incorporated herein by this reference and made a part hereof:

Book 77 Deeds, page 29  
Book 75 Deeds, page 306  
Book 73 Deeds, page 430  
Book 73 Deeds, page 466  
Book 74 Deeds, page 245  
Book 78 Deeds, page 782

Book 78 Deeds, page 838  
Book 74 Deeds, page 169  
Book 74 Deeds, page 110  
Book 74 Deeds, page 70  
Book 77 Deeds, page 941  
Book 78 Deeds, page 134  
Book 79 Deeds, page 238  
Book 74 Deeds, page 14  
Book 74 Deeds, page 65  
Book 74 Deeds, page 112  
Book 79 Deeds, page 240  
Book 74 Deeds, page 62  
Book 74 Deeds, page 67  
Book 74 Deeds, page 242  
Book 73 Deeds, page 891  
Book 73 Deeds, page 893  
Book 73 Deeds, page 284  
Book 78 Deeds, page 131  
Book 32 Misc., page 476

*An undivided 12.5% of the real property described in Schedule IV below.*

**SCHEULDE IV**  
**COLSTRIP COMM SERV, LLC - PROPERTY**

Township 1 North, Range 41 East, M.P.M

Section 1: Lots 1 (43.40), 2(43.40), N/2SE/4, S/2NE/4, SE/4NW/4, less and except the existing Railroad Right-of-way being the Northern Pacific Railway Company's Cow Creek Extension of its Rosebud Branch line right-of-way.

Township 1 North, Range 42 East, M.P.M

Section 6: Lot 7 (40.55), less and except 2.66 acres of the Burlington Northern Railroad Right-of-way.

Section 7: Lots 1 (40.34), 2 (40.29), SE/4NW/4, NE/4SW/4, N/2SE/4, S/2NE/4, less and except Tract 1 as described in Easement Deed No. 33671-E dated October 11, 1973, recorded in Book 73 Deeds; Page 143 on December 20, 1973, Rosebud County, Montana, and less and except that portion of the Burlington Northern Right-of-way located in Lots 1 and 2.

Section 8: NE/4, S/2NW/4, S/2, less and except 35.93 Ao of the Burlington Northern Railroad Right-of-way, and less and except Tract 1 as described in

Easement Deed No. 33671-E dated October 11, 1973, recorded in Book 73 Deeds, Page 143 on December 20, 1973, Rosebud County, Montana.

Section 17: E/2, lying north and east of the north and east boundary line of Tract 1 as described in Easement Deed No. 33671-E dated October 11, 1973, recorded in Book 73 Deeds, Page 143 on December 20, 1973, Rosebud County, Montana and lying north and west of the Cow Creek Road as now established in the E/2E/2 and as recorded in the County Road Book, Rosebud County, Montana.

*An undivided 12.5% of the easements described in Schedule V below.*

***SCHEDULE V***  
***Easements***

[List of easements]<sup>3</sup>

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<sup>3</sup> Note: To be provided by Seller between signing and closing.



## **Schedule 2.1(b)**

### **Common Facilities Interest and Associated Assets**

An undivided twelve and one-half percent (12.5%) interest as Tenant in Common in those certain Common Facilities described in Exhibit A to that certain Common Facilities Agreement dated as of May 6, 1981 by and between The Montana Power Company (predecessor in interest to Buyer), Puget Sound Power & Light Company (now known as Puget Sound Energy, Inc.), Puget Colstrip Construction Company, The Washington Water Power Company (now known as Avista Corporation), Portland General Electric Company, Pacific Power & Light Company (now known as PacifiCorp), and Basin Electric Power Cooperative, as the same has been amended by that certain Amendment No. 1 to the Common Facilities Agreement dated as of January 21, 1992; together with all replacements, accessions, improvements and repairs thereof.

The Common Facilities are located on the property described in Schedule III of Schedule 2.1(a) hereto as Parcels 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, and 45.

## Schedule 2.1(c)

### Material Contracts

1. Ownership and Operation Agreement.
2. Common Facilities Agreement by and between The Montana Power Company (now NorthWestern Corporation), Puget Sound Power & Light Company and Puget Colstrip Construction Company (now Puget Sound Energy, Inc.), The Washington Water Power Company (now Avista Corporation), Portland General Electric Company, Pacific Power & Light Company (now PacifiCorp) and Basin Electric Power Cooperative dated as of May 6, 1981.
3. Comm Serv Agreement<sup>4</sup>
4. Colstrip Project Transmission Agreement (as amended) by and among NorthWestern Corporation, Puget Sound Energy, Inc., Avista Corporation, Portland General Electric Company and PacifiCorp dated as of September 27, 2013 (the “Transmission Agreement”).
5. Long Term Service Agreement between Avista Corporation, NorthWestern Energy, Talen Montana, LLC, PacifiCorp, Portland General Electric Company and Puget Sound Energy, Inc. (“Pumping Station Agreement”).
6. Amended and Restated Coal Supply Agreement by and among Avista Corporation, NorthWestern Corporation, PacifiCorp, Portland General Electric Company, Talen Montana, LLC, Puget Sound Energy, Inc., on the one hand and Westmoreland Rosebud Mining, LLC dated as of August 24, 1998, as amended by that certain 2019 First Amendment to Amended and Restated Coal Supply Agreement dated as of December 5, 2019 (“Coal Supply Agreement”).

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<sup>4</sup> Note: Description to be provided prior to Closing.

#### Schedule 4.4

1. Fortieth Supplemental Indenture dated as of September 1, 1954, supplemental to and modifying First Mortgage dated as of June 2, 1924, defining the rights of the holders of Puget Sound Energy, Inc.'s Electric Utility First Mortgage Bonds, as amended, supplemented and modified by the supplemental indentures entered into thereafter (the "Electric Mortgage")
2. Indenture of First Mortgage dated as of April 1, 1957, defining the rights of the holders of Puget Sound Energy, Inc.'s Gas Utility First Mortgage Bonds, as amended, supplemented and modified by the supplemental indentures entered into thereafter (the "Gas Mortgage")
3. Puget Sound Energy, Inc. issued pollution control bonds in May 2013, which are secured by Senior Notes, which are in turn secured by bonds issued under the Electric Mortgage.

**Schedule 4.5**

**No Violation or Breach**

None.

## Schedule 4.6

### Consents

1. The Ownership and Operation Agreement requires Seller to offer its Project Share (as defined in the Ownership and Operation Agreement) to the other Project Users prior to consummation of the transactions contemplated by the Agreement.
2. The Transmission Agreement requires Seller to offer its interest in the Colstrip Project Transmission System (as defined in the Transmission Agreement) to the other Transmission Owners (as defined in the Transmission Agreement) prior to consummation of the transactions contemplated by the Colstrip Transmission System Purchase and Sale Agreement executed simultaneously with the Agreement.
3. The Pumping Station Agreement requires prior written notice in connection with assignment.
4. Comm Serve Agreement<sup>5</sup>

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<sup>5</sup> Note: To be confirmed whether consent is required.

**Schedule 4.7**  
**Material Contracts**

None.

**Schedule 7.1**

**Conduct of Business Pending Closing**

None.

## **Schedule 8.5**

### **Other Losses Allocated Based on Pre-Closing Date Project Shares**

Any operating costs incurred for work performed before the Closing Date, but not billed to the Owners by the Operator until after the Closing Date.



**Schedule 8.6**

**Losses Allocated Based on Post-Closing Date Project Shares**

None.

9 **PREFILED DIRECT TESTIMONY**

10 **OF BLEAU J. LAFAVE**

11 **ON BEHALF OF NORTHWESTERN ENERGY**

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1	Pacific Northwest Power Supply Adequacy Assessment	
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3	Western Flexibility Assessment	Exhibit BJL-4*
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5	of Power Loads and Resources	Exhibit BJL-5
6	Long-Term Assessment of Load-Resource Balance	
7	in the Pacific Northwest	Exhibit BJL-6*
8	NPV of Each Portfolio	Exhibit BJL-7
9	Avoided Cost of Energy from CU4 Addition	Exhibit BJL-8

10 \* Exhibits provided on CD and uploaded to PSC website (EDDI)

11

12

**Witness Information**

13 **Q. Please provide your name, employer, and title.**

14 **A.** My name is Bleau J. LaFave and I am the Director of Long-Term  
15 Resources at NorthWestern Energy (“NorthWestern”).

16

17 **Q. Please provide a description of your relevant employment**  
18 **experience and other professional qualifications.**

19 **A.** I have over 25 years of experience with NorthWestern. I have been in my  
20 current position since 2012. In my current position, I am responsible for  
21 overseeing the long-term supply growth strategies for NorthWestern,  
22 including large project development and acquisitions.

23

24 I originally joined NorthWestern as a Project Engineer. Since joining  
25 NorthWestern, I have served in many operational and administrative

1 functions addressing matters such as operations management,  
2 procurement, logistics, contracts, fleet, facilities, utility engineering, project  
3 development, supply development, planning, acquisitions, and customer  
4 service. I have a Bachelor of Science in Mechanical Engineering.

5

6 **Purpose and Summary of Testimony**

7 **Q. What is the purpose of your testimony in this docket?**

8 **A.** My testimony explains that NorthWestern’s request for the Montana Public  
9 Service Commission (“Commission”) to approve NorthWestern’s  
10 acquisition of an additional interest in Colstrip Unit 4 (“CU4”) (“Capacity  
11 Acquisition”) is consistent with the need for capacity expressed in  
12 NorthWestern’s 2019 Electricity Supply Resource Procurement Plan  
13 (“2019 Plan”) and is the least cost resource to fill that need. I describe the  
14 process NorthWestern followed in conducting an evaluation of adding the  
15 Capacity Acquisition to the supply portfolio and I describe the results of  
16 that evaluation.

17

18 **Q. Please summarize your testimony.**

19 **A.** The Capacity Acquisition is a flexible and peaking capacity resource that  
20 the 2019 Plan identified NorthWestern’s portfolio needs to reliably serve  
21 load. The Capacity Acquisition is the least cost resource through the end  
22 of 2025. If the Commission approves the Capacity Acquisition, instead of  
23 requiring NorthWestern to rely on the market, NorthWestern’s customers

1 will benefit by \$51.6 to \$66.7 million through the end of 2025. Taking on  
2 the risk of relying on the market is unreasonable; thus NorthWestern must  
3 add capacity resources. Compared to adding reciprocal internal  
4 combustion engine (“RICE”) units or renewables, the Capacity Acquisition  
5 is the least cost resource over a 20-year planning horizon by as much as  
6 \$120 million. As identified in the 2019 Plan, the cost to customers of  
7 alternate resources, including batteries and renewables, would exceed the  
8 cost of the RICE units.

9  
10 Analysis shows the savings to customers from the Capacity Acquisition  
11 are present, even considering the new coal supply prices in the 2020 Coal  
12 Supply Agreement and the operations and maintenance expenses  
13 (“O&M”) and capital expenditures (“Capex”) associated with  
14 NorthWestern’s greater ownership interest in CU4.

15

16 **Consistency with the 2019 Plan**

17 **Q. What resource needs did NorthWestern identify in its 2019 Plan?**

18 **A.** The 2019 Plan considered customer needs in the form of capacity and  
19 energy. The 2019 Plan showed a significant shortage of and need for  
20 capacity in the portfolio.

21

22 **Q. What is capacity?**

1 **A.** Capacity is the ability of a resource to provide energy when it is needed to  
2 serve load. There are two types of capacity: peaking capacity and flexible  
3 capacity. Although NorthWestern may generate more energy than it  
4 needs on an annual basis, much of the energy comes at times when it is  
5 not needed to serve load, and it is not available at other times when  
6 needed to serve load. This occurs especially in peak load conditions  
7 during extreme weather events.

8

9 **Q. What is the significance of duration when addressing capacity?**

10 **A.** The duration capability of a capacity resource is the length of time a  
11 specific resource can maintain a stable and reliable amount of output.  
12 The duration capability must be considered to ensure that resources can  
13 meet the longer term capacity deficits.

14

15 **Q. What is peaking capacity?**

16 **A.** Peaking capacity is capacity from a resource that can reliably deliver  
17 energy when NorthWestern's loads are the highest.

18

19 **Q. What is resource adequacy?**

20 **A.** Resource adequacy describes a condition when there are enough owned  
21 and contracted resources in a portfolio to reliably serve load. As defined  
22 in the 2019 Plan, resource adequacy is a portfolio that contains enough  
23 reliable capacity to serve the peak supply load plus an additional 16% of

1 capacity needed for the planning reserve margin as defined by the  
2 Western Electricity Coordinating Council (“WECC”).

3

4 **Q. How did the 2019 Plan determine a 16% reserve?**

5 **A.** The 2019 Plan assumes the WECC-determined reserve requirement of  
6 16%.

7

8 **Q. What is loss of load probability?**

9 **A.** Loss of load probability (“LOLP”) is a modeling framework in which the  
10 availability of generation resources is compared against potential system  
11 load across a broad range of possible conditions. It has been established  
12 as the industry standard used by WECC.

13

14 **Q. How much peaking capacity does NorthWestern need?**

15 **A.** The 2019 Plan identifies a current need for 650 megawatts (“MW”) of  
16 capacity, either contracted or owned, for NorthWestern to be resource  
17 adequate (NorthWestern peak plus 16% reserve margin). By 2025, this  
18 need will increase to 725 MW.

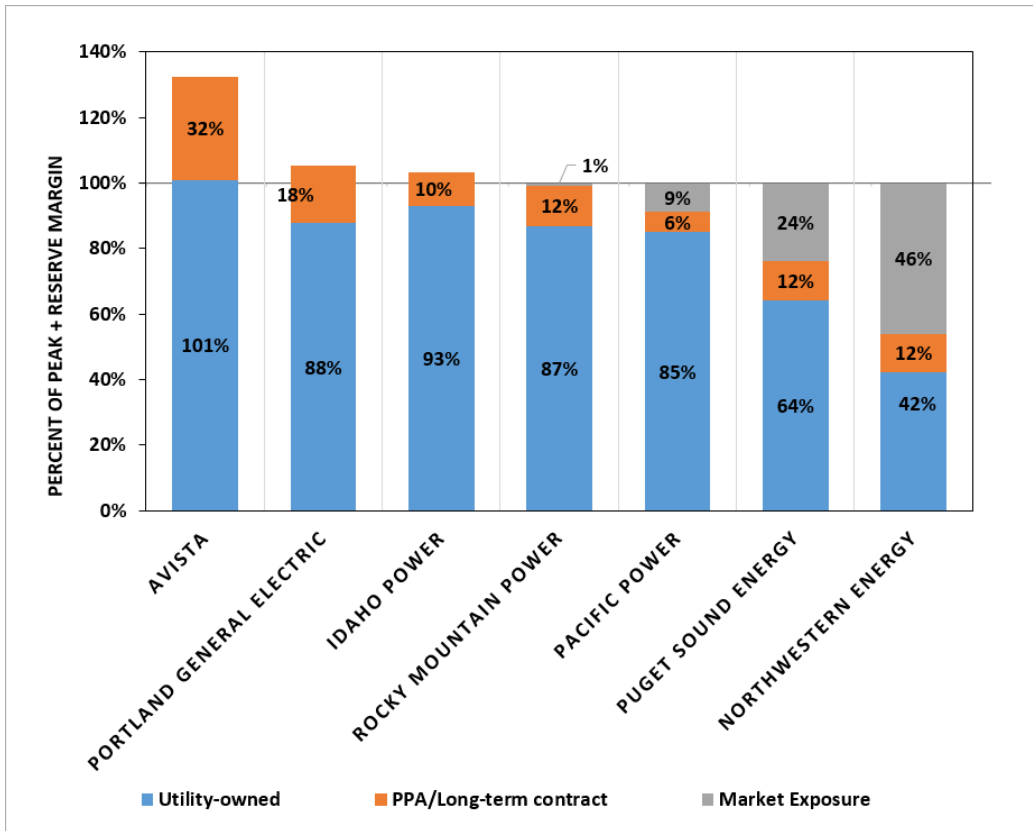
19

20 **Q. How does NorthWestern’s resource adequacy compare to other  
21 regional utilities?**

22 **A.** In the 2019 Plan in Chapter 2 – Figure 2-1 shown below, NorthWestern  
23 has the lowest percentage of resources to serve load in the region. As

1 other companies plan retirements and levelize their portfolios,  
 2 NorthWestern must find resources to fulfill its obligations to reliably serve  
 3 its load.

**Figure 2-1. Capacity Position as a Percentage of Peak Load + Planning Reserve Margin**



4 **Q. What is flexible capacity?**

5 **A.** Flexible capacity is capacity from a resource that can ramp up or down  
 6 quickly to balance changes in load and intermittent generation, or react to  
 7 market price changes. Note that a flexible capacity resource can  
 8 contribute to the peaking capacity need, but not all peaking capacity  
 9 resources are able to provide flexible capacity.

10



1 **Q. How much flexible capacity does NorthWestern need?**

2 **A.** Flexible capacity assists in load balancing, renewables integration, and  
3 peaking capacity. The amount of flexible capacity needed depends on the  
4 variability of load, the amount of intermittent generation in the portfolio,  
5 and the volatility of the market. In order for NorthWestern to participate in  
6 the Energy Imbalance Market (“EIM”) starting April 1, 2021, NorthWestern  
7 must provide each hour enough resources to serve the load and enough  
8 flexible capacity to account for potential changes in load and intermittent  
9 generation while maintaining the requirements of the Balancing Authority  
10 Area. As identified by the 2019 Plan, NorthWestern currently uses all of  
11 its flexible capacity portfolio to balance the system. With the addition of  
12 intermittent Qualifying Facility (“QF”) wind generation such as South Peak  
13 and the anticipated addition of the Black Bear and Grizzly projects,  
14 NorthWestern will have even higher demands for flexible capacity. As  
15 renewable generation increases in the region and in Montana, flexible  
16 resources will provide integration services and market value to  
17 NorthWestern customers while ensuring reliability, grid stability, and peak  
18 load service.

19  
20 **Q. How much energy does NorthWestern need?**

21 **A.** The 2019 Plan identifies that, although NorthWestern’s annual energy  
22 generation closely matched load in 2018, the energy was not available  
23 when it was needed to serve load. Not enough energy was delivered

1 during high load hours and too much energy was delivered during low load  
2 hours resulting in a significant amount of market purchases and market  
3 sales. Unfortunately, not having enough energy during heavy load hours  
4 exposes NorthWestern customers to high market pricing and, even worse,  
5 reliability concerns. Excess energy during low load hours also increases  
6 market risks and system integrity issues.

7

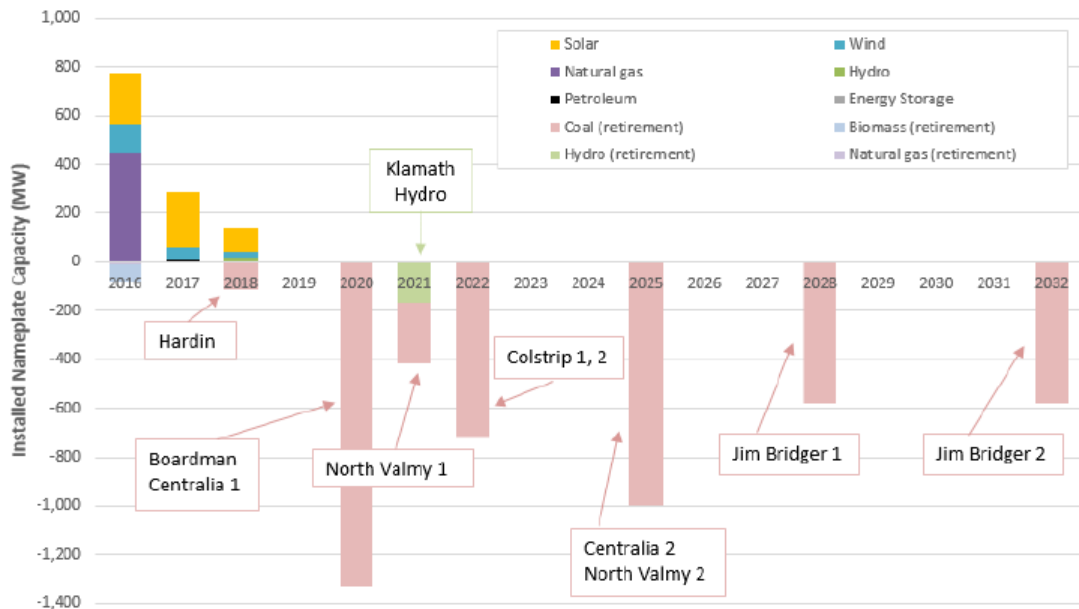
8 **Q. Are the effects of NorthWestern’s capacity deficit exacerbated by**  
9 **recent events?**

10 **A.** Yes. With the closure of the 153-MW J.E. Corette plant in 2015, the 116-  
11 MW Hardin Generation Station being off line since 2018, and the closures  
12 of the 614-MW Colstrip 1 and 2 plants last month, Montana is quickly  
13 moving from being an exporter of energy to an importer of energy.  
14 Montana’s energy users, including NorthWestern, will no longer be able to  
15 rely on the generation formerly produced within the state to provide energy  
16 during high load hours in order to reliably serve load.

17

18 Regionally, as illustrated in the graphs below, the Northwest Power and  
19 Conservation Council’s (“NWPPCC”) Seventh Power Plan – Draft Mid-Term  
20 Assessment identified additional coal retirements that will significantly  
21 lower the available capacity in the region.

Figure 6 - 1: Additions and retirements (including announcements) since the Seventh Plan



\* Uncertainty remains regarding the future of Hardin; While Idaho Power is ending its participation in North Valmy 1 in 2019, according to NV Energy it will remain in operation until end of year 2021

Table 6 - 5: Announced Planned Coal Retirements in the Pacific Northwest\*

Plant	Retirement Date	Capacity & Operating Year	Location	Ownership
J.E. Corette	2015	173 MW (1968)	MT	PPL Montana
Hardin	2018	116 MW (2006)	MT	Rocky Mountain Power <sup>1</sup>
North Valmy 1	2021 <sup>2</sup>	254 MW (1981)	NV	Idaho Power,
North Valmy 2	2025	268 MW (1985)		Sierra Pacific Power (50/50)
Boardman	2020	600 MW (1980)	OR	Portland General Electric, Idaho Power (90/10)
Centralia 1	2020	670 MW (1971)	WA	TransAlta
Centralia 2	2025	670 MW (1971)		
Colstrip 1	2022	360 MW (1975)	MT	Puget Sound Energy, Talen Energy (50/50)
Colstrip 2		360 MW (1976)		
Jim Bridger 1	2028	578 MW (1974)	WY	PacifiCorp (2/3) <sup>4</sup> , Idaho Power (1/3)
Jim Bridger 2 <sup>3</sup>	2032	578 MW (1975)		
<b>Regional Utility Total</b>		<b>1,899 MW</b>		
<b>Regional Total (incl. IPPs)</b>		<b>3,772 MW</b>		
<sup>1</sup> Not related to PacifiCorp				
<sup>2</sup> Idaho Power will end its participation in 2019, NV Energy to retire unit end of year 2021 per 2019 IRP				
<sup>3</sup> Per PacifiCorp's 2017 IRP Update				
<sup>4</sup> Regional total includes only PacifiCorp's load to the region (38%)				

\* For detailed project information, please see the Council's [generating resources project database](#)

- 1 In its 2015 Electricity Supply Resource Procurement Plan, NorthWestern
- 2 identified the state and regional capacity concern and the lack of resource
- 3 adequacy of NorthWestern's portfolio. Since then, multiple regional

1 planning studies have concluded that planned retirements will create a  
2 shortfall in capacity. These studies, listed below, and attached as exhibits,  
3 include conclusions such as:

4 **Resource Adequacy in the Pacific Northwest (Exhibit BJL-1):**

- 5 • “2018 System does not meet 1-in-10 reliability standard.” (p. 25)
- 6 • “2030 System does not meet 1-in-10 reliability standard.” (p. 29)
- 7 • “2030 System does not meet Standard for Annual LOLP.” (p. 29)

8 **Future Northwest Capacity Shortages (Exhibit BJL-2):**

- 9 • Pacific Northwest (“PNW”) now faces a potential 8 Gigawatt  
10 capacity deficit by 2030. (p. 1)
- 11 • LOLP will grow to 48% by 2030 without capacity construction. (p. 1)
- 12 • Energy growth and hydro restrictions in the PNW no longer provide  
13 enough regional capacity. (p. 8)

14 **Pacific Northwest Power Supply Adequacy Assessment for 2024**

15 **(Exhibit BJL-3):**

- 16 • By 2021, the Northwest power supply becomes inadequate with an  
17 estimated LOLP of 7.5%. (p. 5)
- 18 • By 2024, with the planned retirements of an additional 127 MW of  
19 coal plant capacity, the LOLP grows to 8.2%. (p. 5)
- 20 • By 2026, with another 804 MW of announced coal plant capacity  
21 retiring, the LOLP grows to 17%. (p. 5)

22

1           **Western Flexibility Assessment (Exhibit BJL-4):**

- 2           • In the near term, flexibility challenges exist and the system will  
3           benefit, operationally, from certain investments and enhanced  
4           market coordination. (p. 7)
- 5           • The need to implement flexibility strategies across the West  
6           increases over time. (p. 7)
- 7           • Resource adequacy is an important component of flexibility  
8           analysis. A system that is deficient will have exaggerated flexibility  
9           needs. (p. 9)

10           **Northwest Regional Forecast of Power Loads and Resources (Exhibit  
11           BJL-5):**

- 12           • Loss of coal-fired power plants over the next decade will contribute  
13           to the challenges of maintaining an adequate, reliable power  
14           supply. (p. 5)
- 15           • Nearly 2,100 MW will be retired by 2022 with another 1,500 MW by  
16           2029. (p. 5)
- 17           • Current planned construction of new wind and other renewable  
18           resources cannot be expected to fully offset the anticipated loss of  
19           generation from coal-fired power plant retirements. (p. 5)

20           **Long-Term Assessment of Load-Resource Balance in the Pacific  
21           Northwest (Exhibit BJL-6):**

- 22           • Evaluated study results from PNUCC, Bonneville Power  
23           Administration, and NWPCCC exemplify capacity needs. (p. 12)

- Under current assumptions, new capacity is required by 2021 in all studies, sooner by some. (p. 16)

All of the studies referred to above identify significant concerns with the resource adequacy in the Northwest. Additionally, PacifiCorp's recent announcement of an earlier retirement of Jim Bridger 1 coal plant in 2023 caused the Northwest Power and Conservation Council ("NWPPCC") to increase its estimate of the regional LOLP for 2026 from 17% to 26%. This is a significant risk for a utility that is not resource adequate, like NorthWestern.

**Q. What actions will NorthWestern take to address these needs?**

**A.** NorthWestern explained in its 2019 Plan that continuing to assume the market will always be able to provide customers with sufficient electricity at affordable prices is a reckless approach that could have severe reliability and cost consequences. Specifically,

Reductions in regional and in-state coal generation are limiting the ability of Montana to import and export energy, and growth in customer energy demand across the Pacific Northwest means the energy available from the market will be less certain at key times and prices will be more volatile. NorthWestern Energy has been reducing our customers' exposure to the market by developing a portfolio that includes hydro, natural gas, coal, wind, and solar generation. However, in order to manage the increasing risk to our customers and continue providing them with reliable energy, NorthWestern Energy must work quickly to reduce our customers' exposure to power markets, especially for certain types of power products.

1 2019 Plan, p. 1-1. Consequently, in addition to proposing the Capacity  
2 Acquisition, NorthWestern has begun making arrangements to acquire  
3 other peaking capacity resources as soon as possible. NorthWestern's  
4 strategy includes three steps: 1) seek short-term capacity to bridge the  
5 gap until it can acquire long-term capacity; 2) conduct a Request for  
6 Proposals ("RFP") process for up to 400 MW of capacity; and 3) conduct  
7 additional competitive solicitations with the goal of achieving a 16%  
8 resource adequacy margin by 2025. Even with additional capacity in the  
9 portfolio, NorthWestern will economically dispatch using the market when  
10 prices are lower than generation costs.

11

12 **Q. Is the Capacity Acquisition consistent with the 2019 Plan?**

13 **A.** Yes. As discussed above, the 2019 Plan identified a current need of 650  
14 MW for peaking and flexible capacity. In Chapter 13, the resource  
15 acquisition strategy of owned and contracted resources included  
16 competitive solicitations and opportunity resources. The additional 185  
17 MW of CU4 is an opportunity resource that provides for both peak and  
18 flexible capacity needs.

19

20 **Q. How much of the 650 MW of peaking capacity need does the**  
21 **Capacity Acquisition address?**

22 **A.** Peaking capacity for a dispatchable resource is calculated based on the  
23 amount of energy that is likely to be available during a peak event or high

1 load event. The amount of peaking capacity for a dispatchable resource  
2 with a long duration is calculated by subtracting the forced outage rate  
3 from one and multiplying the result by the nameplate capacity. The forced  
4 outage rates for Colstrip over the past 10 years (2010 through 2019) and  
5 the past 29 years are 8.38% and 8.41%, respectively. Therefore, the  
6 peaking capacity is about 91.5% to 92.5% for the additional 185 MW of  
7 CU4 or about 170 MW.

8

9 **Q. How much flexible capacity does the Capacity Acquisition provide?**

10 **A.** During the nearly five-year term of NorthWestern's Power Purchase  
11 Agreement ("PPA") to sell 90 of the 185 MW to Puget Sound Energy, Inc.  
12 ("Puget"), 95 MW would be able to be moved within the hour to serve load  
13 and renewable integration. After that PPA expires, 135 MW of the 185  
14 MW will be available for flexible generation and provide the ability to ramp  
15 up and down to balance load and intermittent generation. All 185 MW will  
16 be available for peaking capacity during the entire time of the operation.

17

18 **Q. Is there a length of time that the peak capacity must be available to**  
19 **confidently provide reliability?**

20 **A.** Yes. As a long standing practice, the industry, including the North  
21 American Electric Reliability Corporation ("NERC"), has defined resource  
22 adequacy as providing service with outages related to a shortage of  
23 generating resources as occurring no more than 1 day in 10 years. This



1 criteria is often interpreted to mean 24 hours in 10 years, 2.4 hours per  
2 year, or 99.97% reliability.

3

4 **Q. Does NorthWestern's portfolio satisfy this criteria?**

5 **A.** No. In order to calculate NorthWestern's specific need concerning this  
6 requirement, NorthWestern evaluated the last 10 years of load versus its  
7 existing portfolio.

- 8 • Using the 755 MW of existing resources NorthWestern has under its  
9 control identified in the 2019 Plan to serve peaking load, NorthWestern  
10 subtracted the 755 MW of generation from its historical hourly load.
- 11 • Considering the remaining unserved load as an event, NorthWestern  
12 calculated the number of events and the duration of each event.
- 13 • Then, NorthWestern added a proxy of 50 MW of reliable capacity and  
14 recalculated the number and duration of the events.
- 15 • The process was repeated until there were enough proxy resources to  
16 serve NorthWestern's peak load.

17

18 The table below includes the 170 MW of reliable capacity from the  
19 Capacity Acquisition as the first tier.

20

21

Table 1. Distribution of Duration of Deficits, 2009 - 2019

Current Capacity (MW)	Additional Capacity (MW)	Total Capacity (MW)	Average Occurrences Annually	Length of Deficit Period (hours)				
				5 <sup>th</sup> Percentile	50 <sup>th</sup> Percentile (Mean)	95 <sup>th</sup> Percentile	99.97 <sup>th</sup> Percentile	Max
755	420	1175	1.3	1.0	2.1	4.4	5.0	5.0
755	370	1125	7.0	1.0	2.6	6.0	9.0	9.0
755	320	1075	22.0	1.0	3.5	7.0	9.9	10.0
755	270	1025	47.1	1.0	4.4	10.0	16.0	16.0
755	220	975	88.8	1.0	5.0	15.0	17.0	17.0
755	170	925	159.1	1.0	5.5	15.0	19.5	20.0
755	0	755	367	1.0	11.6	17.0	163.8	211.0

1 The table identifies the Current Capacity and the Additional Capacity and  
 2 sums the total capacity used in evaluating the duration of capacity deficit  
 3 for each row. The results identify the occurrences and the duration of the  
 4 shortages associated with the 5<sup>th</sup>, 50<sup>th</sup>, 95<sup>th</sup>, 99.97<sup>th</sup>, and Max Percentile  
 5 system reliability. The 99.97<sup>th</sup> Percentile represents the 1 day in 10 year  
 6 criteria. As shown in the graph, the 99.97<sup>th</sup> Percentile ranges from a  
 7 duration need of 163.8 hours with the Current portfolio to 5 hours for the  
 8 top 50-MW tier.

9

10 **Q. How does adding capacity help NorthWestern achieve the resource**  
 11 **adequacy criteria for reliability?**

12 **A.** Without considering the duration of the load event compared to the  
 13 available portfolio, adding resources that would not be able to meet the  
 14 duration of the longer deficits means NorthWestern would have outages  
 15 longer than acceptable under the 1 day in 10 years standard.

16

17 Even with the portfolio designed to meet peak demand, the portfolio would  
 18 still risk not meeting the reliability requirement. Additional resources,  
 19 contracted or owned, would still be required to address NorthWestern

1 portfolio unit outages, unreliability of the probability assessment for  
2 intermittent resources, and additional load growth, which is currently set at  
3 16% above historic peak load.

4

5 **Q. How does NorthWestern’s portfolio differ from portfolios that are**  
6 **closer to resource adequacy (full portfolios)?**

7 **A.** As portrayed in the table above, the closer a portfolio gets to being  
8 resource adequate, the greater its ability to rely on shorter-duration  
9 resources to meet its peak needs. Since NorthWestern’s portfolio is  
10 significantly short of resource adequacy, it currently needs additional  
11 resources to ensure reliable service over longer durations. Once its  
12 portfolio is resource adequate, NorthWestern will be able to evaluate  
13 shorter-duration resources to meet peak needs.

14

15 **Q. Does the Capacity Acquisition fill this longer-duration need?**

16 **A.** Yes. CU4 can be dispatched when needed at full capacity for very long  
17 durations. This asset contributes to the reliability of NorthWestern’s  
18 portfolio because it has a fuel supply that is not constrained by weather or  
19 temperature.

20

21 **Evaluation Process**

22 **Q. Please describe the process NorthWestern used to evaluate whether**  
23 **the Capacity Acquisition is the lowest cost resource.**

1 **A.** NorthWestern evaluated the Capacity Acquisition using three different  
2 processes: 1) comparing the Current Portfolio to the Current +185  
3 Portfolio; 2) comparing the Adjusted Base Portfolio to the Adjusted Base  
4 Portfolio + 185; and 3) calculating the avoided cost of the Capacity  
5 Acquisition.

6

7 **Q. What is a portfolio?**

8 **A.** A portfolio consists of generation resources, contracted or owned,  
9 available to NorthWestern to serve its load.

10

11 **Q. Please define each portfolio.**

12 **A.** The Current Portfolio consists of the existing and expected resources in  
13 NorthWestern's portfolio and assumes that NorthWestern will rely on  
14 market purchases to fulfill any capacity shortfall.

15

16 The Current + 185 Portfolio adds the 185 MW from the Capacity  
17 Acquisition to the Current Portfolio and assumes that NorthWestern will  
18 rely on market purchases to fulfill any capacity shortfall.

19

20 The Base Portfolio is the least cost portfolio, which includes the RICE  
21 units from the 2019 Plan. The Base Portfolio assumes resource adequacy  
22 by 2025. The Adjusted Base Portfolio is the Base Portfolio with updated  
23 price forecasts and the addition of RICE units starting in 2024 instead of

1 2022. The Adjusted Base Portfolio also included natural gas delivery  
2 costs. The Adjusted Base Portfolio assumes resource adequacy by 2026.

3  
4 The Adjusted Base + 185 Portfolio adds the 185 MW from the Capacity  
5 Acquisition to the Current Portfolio and reduces the number of RICE units  
6 added in 2024 corresponding to the amount of reliable capacity provided.

7  
8 Although the Current Portfolio and the Current +185 Portfolio do not meet  
9 the standards for resource adequacy or satisfy the requirements for  
10 NorthWestern to participate in the EIM or join a regional transmission  
11 organization (“RTO”), the comparison gives an indication of the estimated  
12 change in costs and benefits to customers.

13  
14 **Q. Did NorthWestern make corrections to the Base Portfolio in the 2019**  
15 **Plan?**

16 **A.** Yes. NorthWestern identified and corrected two input errors that existed  
17 in the modeling for the 2019 Plan. The first correction was to any  
18 impacted new natural gas additions. The natural gas costs modeled in the  
19 2019 Plan did not include the natural gas delivery costs (i.e., the cost of  
20 moving gas across NorthWestern’s system to deliver it to the generator)  
21 for new resources only. This cost was correctly included for  
22 NorthWestern’s existing gas resources; the omission only affected the  
23 modeled costs of new resources. The value of the omitted delivery charge

1 is about \$0.56/mmBtu, which equates to approximately \$4 to \$5 per MWh.  
2 The second correction was associated with the coal delivery costs for  
3 Colstrip. These mine costs were double-counted in the 2019 Plan. The  
4 costs were corrected to reflect the current pricing and structure.

5  
6 **Q. Would these corrections have changed the selection of the least cost**  
7 **portfolio in the 2019 Plan?**

8 **A.** No. NorthWestern reran the Ascend Analytics, LLC (“Ascend”) software  
9 program called Automatic Resource Selection (“ARS”) with the  
10 corrections. The ARS again selected RICE units as the candidate  
11 resources.

12  
13 **Q. Did NorthWestern change any inputs or constraints in the ARS**  
14 **model?**

15 **A.** Yes. NorthWestern removed the 10% energy constraint. The constraint  
16 limited the amount of energy produced by the portfolio in excess of the  
17 load requirements. Due to the addition of two 80-MW QF resources to  
18 NorthWestern’s portfolio, NorthWestern’s Current Portfolio violated the  
19 ARS with this constraint. With the constraint removed, ARS again  
20 selected the RICE units.

21  
22 NorthWestern also removed combined cycle natural gas resources as a  
23 candidate resource. The information for this resource is was out of date,

1 and the resource characteristics do not fit NorthWestern’s portfolio. The  
2 pricing for the technology was for a much larger unit, and the minimum  
3 dispatch requirement provides too much energy in all hours to  
4 NorthWestern’s portfolio.

5

6 **Comparison to the Current Portfolio**

7 **Q. Please describe the process NorthWestern used to compare the**  
8 **Current Portfolio to the Current + 185 Portfolio.**

9 **A.** NorthWestern compared the net present value (“NPV”) of the two  
10 portfolios. The NPV analysis of each portfolio is included in Exhibit B JL-7.

11

12 **Q. What resources are included in the Current Portfolio?**

13 **A.** The Current Portfolio includes all active contracts and owned resources as  
14 well as the following new QFs: MT Sun, Meadowlark, Black Bear Wind,  
15 and Grizzly Wind. The table below lists all of the generation assets input  
16 into the model as part of the Current Portfolio.

		Nameplate Capacity (MW)	Dependable Capacity (MW)	
Thermal	Colstrip	222	206.5	
	DGGS	150	142.5	
	Basin Creek	52	49.4	
	CELP	42 *	32.6	
	YELP	65 *	48.4	
Hydro	Thompson Falls	94	43.0	
	Madison	8	6.0	
	Hauser	17	14.0	
	Holter	52	32.0	
	Black Eagle	21	12.0	
	Rainbow	64	33.7	
	Cochrane	62	25.0	
	Ryan	68	40.0	
	Morony	49	24.0	
	Mystic	12	5.0	
	Turnbull	13	0.0	
	Tiber	8	**	
	Small Hydro	16	4.5	
	Wind	Judith Gap	135	8.2
		Spion Kop	40	1.2
Gordon Butte		10	0.4	
Musselshell I		10	0.2	
Musselshell II		10	0.3	
Fairfield Wind		10	0.1	
Two Dot Wind Farm		11	0.1	
Greenfield		25	2.2	
Big Timber		25	1.3	
Stillwater		80	4.0	
South Peak		80	4.0	
71 Ranch		3	0.1	
DA Wind		3	0.1	
Oversight		3	0.1	
Grizzly Wind		80	1.5	
Black Bear Wind		80	1.5	
Small Wind		13	0.0	
Solar		Green Meadow Solar	3	0.3
		South Mills Solar	3	0.3
		River Bend Solar	2	0.2
	Great Divide Solar	3	0.3	
	Magpie Solar	3	0.3	
	Black Eagle Solar	3	0.3	
	MTSUN	80	4.9	
	Meadowlark Solar	20	0.0	
Total Supply	1749	750.5		

1 **Q. How did NorthWestern calculate the NPV for the Current Portfolio?**

2 **A.** NorthWestern used Ascend’s PowerSimm™ model to calculate the market  
3 sales, market purchases, ancillary costs, variable generation costs, PPA  
4 costs, and the risk premium (as defined in the 2019 Plan) for the portfolio.  
5 NorthWestern also calculated the annual revenue requirement for the  
6 existing generation portfolio. The NPV was then calculated both for the  
7 period through the end of 2025 and the period through the 20-year  
8 planning cycle.

9



1 **Q. How did NorthWestern calculate the NPV for the Current +185**  
2 **Portfolio?**

3 **A.** NorthWestern started with the Current Portfolio and added the 185 MW  
4 Capacity Acquisition. NorthWestern also calculated the annual revenue  
5 requirement for the existing generation portfolio and the annual revenue  
6 requirement for 185 MW. A sub-hourly or flexible credit, consistent with  
7 the 2019 Plan, was added to the new resources. The NPV was then  
8 calculated both for the period through the end of 2025 and the period  
9 through the 20-year planning cycle.

10

11 **Q. What were the results of comparing the NPV of the Current Portfolio**  
12 **to the Current + 185 Portfolio plus through 2025?**

13 **A.** The comparison showed that the Current + 185 Portfolio provided  
14 estimated savings to customers of \$51,624,272 through the end of 2025.  
15 The bulk of the savings came from lower market purchases, lower  
16 ancillary service costs, and revenue from the PPA with Puget. The PPA is  
17 estimated to produce a NPV revenue of \$124.2 million. With a NPV  
18 revenue requirement of \$39.3 million and variable costs of \$67.1 million,  
19 the net revenue is about \$18.4 million.

20

21 **Q. What were the results of comparing the NPV of the Current Portfolio**  
22 **and the Current + 185 Portfolio through the 20-year planning period**  
23 **ending in 2039?**

1 **A.** The model shows an estimated cost to customers of \$15,390,922 through  
2 the end of 2039.

3

4 **Q.** **Why does the 20-year analysis show an increased cost instead of a**  
5 **savings?**

6 **A.** The increased costs over the 20-year term assume a significant drop in  
7 market prices and an increase in capital investment. The drop in market  
8 prices is due to NorthWestern's use of a declining heat rate in the 2019  
9 Plan. The Commission has rejected the use of the declining heat rate in  
10 recent cases involving QFs. Parties have argued that while there may be  
11 a drop in prices, it will not be as significant as NorthWestern suggests in  
12 the 2019 Plan.

13

14 The increase in capital investment reflects NorthWestern's need to add  
15 capacity to its portfolio. While relying on the market does not require  
16 capital investment, market reliance will not provide reliability and will not  
17 allow for NorthWestern to participate in the EIM or an RTO. Alternative  
18 investments in capital, as shown in the NPV analysis below, will cost  
19 customers more.

20

21 With a significant benefit in the early years and marginal benefits in the  
22 later years, regulatory changes, policy changes, and future opportunities  
23 would allow for future operational changes to control costs.

1 Comparison to the 2019 Plan Base Portfolio

2 **Q. Please describe the process NorthWestern used to determine that**  
3 **the Base Portfolio was the least cost portfolio.**

4 **A.** In developing the 2019 Plan, NorthWestern evaluated multiple portfolios  
5 using the most recent cost information provided through public  
6 information, Community Renewable Energy Project RFPs, the 2017 RFPs,  
7 and the engineering firm HDR.

- 8 • First, NorthWestern used ARS to select the most economic resource  
9 adequate portfolio. In the Base Portfolio, ARS selected RICE units to  
10 meet resource adequacy over the 20-year planning horizon.
- 11 • NorthWestern then substituted individual alternate resources to provide  
12 multiple portfolio options. NorthWestern ran ARS again forcing in each  
13 alternate resource.
- 14 • Each portfolio was required to meet resource adequacy by the end of  
15 2025.
- 16 • For each portfolio, NorthWestern used PowerSimm to calculate the  
17 market sales, market purchases, ancillary costs, variable generation  
18 costs, PPA costs, and the risk premium for the portfolio. NorthWestern  
19 used an Ascend sub-hourly model to calculate the sub-hourly credit  
20 named the flexible credit by the 2019 Plan. NorthWestern also  
21 calculated the annual revenue requirement for the existing generation  
22 portfolio and the annual revenue requirement for any future additions  
23 identified in the Base Portfolio. The NPV was then calculated through

1 the 20-year planning cycle. The NPV calculations confirmed the Base  
2 Portfolio, which included RICE units, as the least cost portfolio in the  
3 2019 Plan.

4  
5 **Q. How did NorthWestern calculate the NPV for the Base Portfolio?**

6 **A.** NorthWestern used PowerSimm to model the generation of the renewable  
7 resources in the Base Portfolio, load, market prices, and the operation of  
8 dispatchable resources. PowerSimm calculated the hourly dispatch of  
9 NorthWestern's supply portfolio by performing 100 simulations for every  
10 hour of the 20-year planning period providing variable costs and revenues  
11 of the Base Portfolio. NorthWestern also calculated the annual revenue  
12 requirement, fixed costs of the existing portfolio, and any future additions  
13 by year. NorthWestern then calculated the sub-hourly or flexible credit  
14 Sub Hourly Credit for new resources. The NPV was then calculated from  
15 the costs and revenues from the fixed costs, variable costs, and flexible  
16 credit.

17  
18 **Q. How were the sub-hourly or flexible credits calculated for additional  
19 resources?**

20 **A.** The general method is to simulate the dispatch of the resource twice.  
21 First, the resource is dispatched to an hourly price. Second, the resource  
22 is optimally dispatched to the hourly and real-time prices. The difference  
23 between the two simulations is the sub-hourly or flexible credit that can be

1 added to the results of an hourly dispatch model and represents the value  
2 of the flexibility of the resource.

3  
4 In determining the sub-hourly or flexible credits for flexible resources, the  
5 2018 hourly and five-minute prices for the EIM Decker node were used.  
6 Resources were dispatched to one year of prices with imperfect foresight.  
7 The imperfect foresight was modeled by adding random noise to the  
8 actual prices to simulate forecasted prices used for the dispatch decisions.  
9 In comparing the scenarios with imperfect foresight to the scenarios with  
10 perfect foresight, there was an approximately a 6% reduction in net  
11 revenue.

12  
13 Sub-hourly or flexible credits are highly dependent on the real-time price  
14 volatility which drives price spikes. The 2018 simulations were scaled up  
15 for future years according to Ascend's forecast for price volatility. During  
16 the planning process, sub-hourly or flexible credits were computed with  
17 perfect foresight and were based on a 20-year simulation for hourly and  
18 real-time prices. The result of using imperfect foresight reduced the value  
19 for each resource based on its flexibility.

20  
21 The table below shows the sub-hourly results for selected resources.  
22 Note that the 95 MW coal resource sub-hourly credit was based on a  
23 ramping capability of 6 MW per five-minute interval.

Year	18 MW ICE	9 MW ICE	95 MW Coal
2020	\$542,139	\$270,268	\$210,811
2021	\$621,773	\$309,968	\$241,777
2022	\$701,550	\$349,738	\$272,798
2023	\$781,326	\$389,508	\$303,819
2024	\$860,960	\$429,208	\$334,785
2025	\$940,737	\$468,978	\$365,806
2026	\$988,773	\$492,925	\$384,485
2027	\$1,036,950	\$516,942	\$403,219
2028	\$1,084,986	\$540,889	\$421,898
2029	\$1,133,163	\$564,907	\$440,631
2030	\$1,181,199	\$588,854	\$459,310
2031	\$1,229,377	\$612,871	\$478,044
2032	\$1,277,412	\$636,818	\$496,723
2033	\$1,325,448	\$660,765	\$515,401
2034	\$1,373,626	\$684,783	\$534,135
2035	\$1,421,662	\$708,729	\$552,814
2036	\$1,469,764	\$732,709	\$571,519
2037	\$1,517,852	\$756,682	\$590,218
2038	\$1,565,940	\$780,656	\$608,917
2039	\$1,614,029	\$804,629	\$627,616

1 **Q. Did the 2019 Plan indicate that the High Natural Gas Prices Portfolio**  
2 **was the least cost portfolio?**

3 **A.** Yes. The Figure 10-4 on page 10-23 of the 2019 Plan showed the High  
4 Natural Gas Portfolio as the least cost portfolio. The High Natural Gas  
5 Cost Portfolio is the same as the Base Portfolio with one exception. In the  
6 High Gas Cost Portfolio, the natural gas forecast was to be increased to  
7 check the sensitivity of increasing gas costs. An incorrect natural gas  
8 forecast was used for this simulation. Since this is the only change  
9 between the portfolios, the NPV for the Base Portfolio would result in a  
10 lower NPV than the High Gas Cost Portfolio. This error has been  
11 identified in comments and will be corrected.

12

1 **Q. Is a No Carbon Additions Portfolio less expensive than the Base**  
 2 **Portfolio?**

3 **A.** No. The 2019 Plan identifies the total cost of each type of renewable  
 4 resource including a No Carbon Additions Portfolio. ARS selected the No  
 5 Carbon Additions Portfolio by constraining the use of new carbon  
 6 resources. This portfolio was significantly more expensive than any  
 7 alternative. The table below lists the equivalent amount of reliable  
 8 capacity and the estimated capital cost of each resource type. For  
 9 reference, the 185-MW Capacity Acquisition provides for 170 MW of  
 10 reliable capacity.

Accredited Capacity Need	170 MW		Capacity costs from 2019 RPP Table 7-7 (Table 7-6 for DGGs)			
<u>Resources: Eastern MT Unless Noted</u>	<u>MW</u>	<u>2020 \$/kW</u>	<u>Capacity</u>	<u>Nameplate</u>		<u>Investment Costs</u>
			<u>Factor</u>	<u>Requirement</u>	<u>Investment Cost</u>	<u>24 Hours</u>
Wind Energy	105	\$ 1,410	5%	3400	\$ 4,794,000,000	
Solar PV - Single Axis Tracking	105	\$ 1,330	0%			
PHES - Closed Loop (9 Hour)	525	\$ 2,350	97%	175	\$ 411,855,670	
CAES - Diabatic (8 Hour)	105	\$ 1,900	97%	175	\$ 332,989,691	
BESS - Lithium Ion (4 Hour)	26.3	\$ 1,660	97%	175	\$ 290,927,835	\$ 1,745,567,010
BESS - Vanadium Flow (4 Hour)	26.3	\$ 1,700	97%	175	\$ 297,938,144	\$ 1,787,628,866

11 **Q. How did NorthWestern use the 2019 Plan modeling to determine**  
 12 **whether the Capacity Acquisition would be a least cost resource?**

13 **A.** NorthWestern first updated the input calculations of the Base Portfolio  
 14 from the 2019 Plan and made the resource timing adjustments establish  
 15 the Adjusted Base Portfolio<sup>1</sup> and calculated the NPV. Then,

---

<sup>1</sup> The Adjusted Base Portfolio is the Base Portfolio with updated price forecasts and the addition of RICE units in 2024 instead of 2022. The Adjusted Base Portfolio also included natural gas delivery costs.

1 NorthWestern calculated the NPV of the Adjusted Base Portfolio + 185  
2 Portfolio.<sup>2</sup>

3 NorthWestern then compared the NPV of the Adjusted Base Portfolio to  
4 the NPV of the Adjusted Base + 185 Portfolio.

5

6 **Q. What were the results of comparing the NPV of the Adjusted Base**  
7 **Portfolio to the NPV of the Adjusted Base Portfolio + 185 through**  
8 **2025?**

9 **A.** Estimated savings to customers of \$66,714,393 through the end of 2025  
10 would be achieved by replacing the RICE units with the Capacity  
11 Acquisition.

12

13 **Q. What were the results of comparing the NPV of the Adjusted Base**  
14 **Portfolio to the NPV of the Adjusted Base Portfolio + 185 through the**  
15 **20-Year planning period ending in 2039?**

16 **A.** The model shows an estimated savings to customers of \$120,004,900  
17 through the end of 2039 by adding the Capacity Acquisition to the Base  
18 Portfolio. By paying one dollar for the 185 MW, NorthWestern would be

---

<sup>2</sup> The Adjusted Base + 185 Portfolio is the Adjusted Base Portfolio with updated price forecasts and the addition of RICE units in 2024 instead of 2022. The Adjusted Base + 185 Portfolio also included natural gas delivery costs and the addition of the 185 MW from the Capacity Acquisition and the corresponding reduction in RICE units in 2024.



1 able to offset future investments while providing flexibility, reliability, and  
2 market protections three years earlier than planned.

3

4

### **Simulated Avoided Cost**

5 **Q. Did NorthWestern calculate the avoided cost for the Capacity**  
6 **Acquisition?**

7 **A.** Yes, although an avoided cost calculation does not provide a meaningful  
8 analysis to inform a decision on adding a resource to a utility's portfolio,  
9 NorthWestern provides this calculation to the Commission as an indication  
10 of the avoided cost value of this resource using an avoided cost  
11 methodology.

12

13 **Q. What is the avoided cost of energy?**

14 **A.** Similar to QF proceedings, NorthWestern calculated the avoided cost of  
15 energy using its marginal cost to serve load in each hour. This is the  
16 same methodology NorthWestern presented in the Black Bear Wind,  
17 Grizzly Wind, second Caithness Beaver Creek, Teton, Pondera, and  
18 Wheatland wind dockets to calculate the value of energy. The calculation  
19 resulted in a 20-year levelized avoided cost for energy of \$28.62 per  
20 MWh. Notably, this avoided cost calculation does not reflect the value of  
21 the entire Capacity Acquisition, since it does not include the revenue  
22 generated from the PPA portion of the transaction.

23 **Q. What is the avoided cost of capacity?**

1 **A.** Similar to QF proceedings, NorthWestern used the costs of a 50-MW  
2 aeroderivative combustion turbine (“AERO”) unit located at the Dave  
3 Gates Generating Station (“DGGS”) as a proxy for the least-cost  
4 candidate resource that it could acquire to provide capacity. The  
5 characteristics of the DGGS location that affect the costs of acquiring this  
6 proxy resource, including cost upgrades required for fuel (natural gas)  
7 infrastructure, as well as for interconnection facilities and any required  
8 network upgrades for interconnection and transmission service, are  
9 included in the calculation of the costs of the proxy (avoidable) capacity  
10 unit. Exhibit B JL-8 contains the calculation of these costs. The levelized  
11 avoided capacity cost equals \$178,199 per MW-year (\$30,194,312  
12 annually). The equivalent AERO results in a 20-Year NPV avoided cost of  
13 \$326,310,941.

14  
15 **Q. How do the avoided costs compare to the costs of the Capacity**  
16 **Acquisition?**

17 **A.** The avoided costs are higher. The avoided cost of energy at \$28.62 per  
18 MWh is higher than the forecasted/estimated 20-year Capacity Acquisition  
19 production costs of \$26.71 per MWh. In addition, the annual avoided cost  
20 of capacity of \$30,194,312 (20 Year NPV avoided cost of \$326,310,941)  
21 exceeds the estimated annual revenue requirement of \$223,368,024 by  
22 about \$100,000,000 per year. The Capacity Acquisition also will not incur

1 additional costs such as interconnection, network service, and ancillary  
2 service costs that were not already included in the model.

3

4

#### **Modeling Inputs**

5 **Q. Please describe the inputs NorthWestern used for the modeling of**  
6 **the variable energy costs and revenues in its evaluation processes.**

7 **A.** The inputs entered into PowerSimm were historical weather; historical  
8 load; historical commodity prices for electricity and natural gas; historical  
9 hourly and forecasted monthly peak and total renewable generation;  
10 thermal generation attributes; projected load growth; and projected  
11 commodity prices for natural gas, electricity, and coal. These inputs are  
12 described in more detail below.

13

14 **Q. What PowerSimm inputs did NorthWestern use for load?**

15 **A.** The inputs for NorthWestern's load are historical hourly load and  
16 forecasted monthly load and peak demand values for its Montana electric  
17 supply customers. The historical hourly load determines the load shape to  
18 match forecasted monthly load and peak demand values throughout the  
19 simulation process. NorthWestern forecasts its monthly load by escalating  
20 the historical demand profile by projected future growth.

21

22 **Q. What PowerSimm inputs did NorthWestern use for renewable**  
23 **generation?**

1 **A.** Renewable generation units include the solar, wind, and hydroelectric  
2 resources that: 1) have filed a petition with the Commission, received an  
3 order from the Commission, and have notified NorthWestern of their intent  
4 to complete the project; 2) have contracted with NorthWestern; or 3) are  
5 owned by NorthWestern. Each renewable asset is defined by its actual  
6 historical or calculated hourly production profile, its monthly peak, and its  
7 total generation forecast. The hourly generation provides a correlation  
8 with weather that shapes the hourly production profile throughout the  
9 simulation. The monthly energy forecasts are the average of the historical  
10 monthly generation totals and are used in PowerSimm to scale the intra-  
11 hourly shapes for each month.

12  
13 **Q. What PowerSimm inputs did NorthWestern use for thermal  
14 generation?**

15 **A.** The thermal generation units included in this calculation are the thermal  
16 generation resources that are in NorthWestern's supply portfolio:  
17 NorthWestern's share of Colstrip (which includes its share of CU4 and per  
18 a reciprocal sharing agreement, a share of Colstrip Unit 3), DGGs, and  
19 Basin Creek. The unique operating characteristics and costs of each of  
20 these thermal resources are reflected in the parameters that are specified  
21 in PowerSimm and thereby allow the model to accurately dispatch or use  
22 such resources to provide energy or other services (e.g., ancillary

1 services). These parameters include startup costs, ramp rates, outage  
2 history, heat rates, emissions, and fuel delivery costs.

3  
4 Colstrip Energy Limited Partnership (“CELP”) and Yellowstone Energy  
5 Limited Partnership (“YELP”) are non-dispatchable thermal generation  
6 assets also included in NorthWestern’s portfolio.

7

8 **Q. How are the forward curves for commodity prices created?**

9 **A.** Starting with the first quarter of 2019, NorthWestern improved the methodology  
10 used to create forward curves for the purpose of calculating avoided costs for  
11 QFs. The revised method uses pricing and liquidity data from the current and  
12 previous quarter to mitigate the seasonal extremes of forward market prices and  
13 trading interest. Similar to the approved QF-1 compliance filing method for  
14 updating prices (Docket No. 2016.05.039), a 15-trading day average of market  
15 quotes is used for each quarter to avoid inadvertently picking a trading day with  
16 abnormally high or low pricing. Furthermore, to avoid limiting prices to On-Peak  
17 periods only, NorthWestern used pricing from the current and previous quarter.  
18 NorthWestern updates these forward price curves in a similar manner every  
19 quarter and has presented avoided cost calculations using forward curves  
20 created with this methodology in Commission dockets for Grizzly Wind, LLC  
21 (2019.02.008), Black Bear Wind, LLC (2019.02.009), Caithness Beaver Creek,  
22 LLC (2019.06.034), and the QF-1 Tariff Update Application (2019.09.059).

23

1 In this docket, forward curves were developed in the third quarter of 2019 by  
2 using an average of the available Intercontinental Exchange (“ICE”) forward  
3 market quotes from April 1 – April 22, 2019 and July 1 – July 22, 2019.

4  
5 For natural gas prices, this average set of forecast values was used  
6 through April 2024, the point at which some of the market quote strips  
7 ended. Starting in May 2024, natural gas prices are escalated through the  
8 planning horizon using Energy Information Administration’s (“EIA”) 2019  
9 Annual Energy Outlook (“AEO”) escalation rates.

10

11 For electricity prices, the average forecast values were used through the  
12 liquid period of the market. This period was determined by looking at ICE  
13 futures trading reports for the Mid-Columbia trading hub On-Peak and Off-  
14 Peak for April 22, 2019 and July 22, 2019. As soon as values for both  
15 Open Interest and Total Volume decreased to 0 MW for either report date  
16 for either On-Peak or Off-Peak futures, the market was deemed to be  
17 illiquid. This occurred in January 2026.

18

19 For the forward power curves, starting in January 2026, Ascend applied its  
20 implied market heat rate to the natural gas forward curve discussed above  
21 to create the remainder of the forward power curve through the planning  
22 horizon. Ascend developed this implied market heat rate in 2018, and

1 NorthWestern adopted its use for power price forward curve development  
2 for its 2019 Plan and QF avoided cost modeling.

3

4 **Q. What types of risks are reflected in the PowerSimm modeling?**

5 **A.** PowerSimm models the risks associated with volatility in prices,  
6 renewable generation, hydroelectric generation, load, and forced outages.  
7 These risks do not include speculation of risk, including but not limited to,  
8 increased legal requirements, unexpected environmental conditions, or  
9 unplanned outages.

10

11 **Summary**

12 **Q. Please summarize the results of the analyses.**

13 **A.** The Capacity Acquisition is very beneficial in the short term as compared  
14 to the market and is the least cost alternate resource. The modeling  
15 results are consistent with the 2019 Plan and provide the type of resource  
16 capable of fulfilling the capacity needs identified in the 2019 Plan. The  
17 Capacity Acquisition will benefit customers by providing a portfolio that  
18 increases reliability, reduces costs, and protects customers from high  
19 market prices.

20

21 The table below is a summary of the NPV modeling comparing the  
22 Capacity Addition to the Current Portfolio and the Adjusted Base portfolios  
23 described in my testimony. The green column represents the difference

1 between the Capacity Addition and the other portfolios. As seen in the  
 2 comparison columns highlighted in green below, the 185-MW Capacity  
 3 Acquisition, as compared to the “do nothing” Current Portfolio which relies  
 4 on the market, results in a \$51,636,499 benefit to customers in the first  
 5 five years. While the same column shows a cost to customers over the  
 6 20-year term, this cost is unrealistic, since a “do nothing” portfolio is not a  
 7 reasonable option.

8  
 9 Additionally, the Adjusted Base + 185 Portfolio results in a \$66.7 million  
 10 benefit to customers in five years and a \$120 million benefit to customers  
 11 in 20 years. This means that the Capacity Acquisition is substantially  
 12 more beneficial to customers than the RICE units modeled in the 2019  
 13 Plan.

2020 to 2025	Current+185	Current	Curr.+185 vs Curr.	Adjusted Base+185	Adjusted Base	Adj. Base+185 vs Adj. Base
Existing Res. Rev Req	\$1,419,228,852	\$1,419,228,852	\$0	\$1,419,228,852	\$1,419,228,852	FALSE
New Res. Rev Req	\$73,566,010	\$0	\$73,566,010	\$209,302,712	\$198,137,956	\$11,164,756
Variable Costs	\$148,819,228	\$272,764,585	(\$123,945,357)	\$78,312,093	\$154,005,554	(\$75,693,461)
Contract Costs	\$724,341,830	\$724,341,830	\$0	\$717,750,109	\$717,750,109	\$0
Risk Premium	\$48,677,829	\$49,934,981	(\$1,257,152)	\$45,458,656	\$47,644,343	(\$2,185,688)
<b>Cost (Benefit)</b>	<b>\$2,414,633,749</b>	<b>\$2,466,270,248</b>	<b>(\$51,636,499)</b>	<b>\$2,470,052,422</b>	<b>\$2,536,766,815</b>	<b>(\$66,714,393)</b>
2020 to 2039	Current+185	Current	Curr.+185 vs Curr.	Adjusted Base+185	Adjusted Base	Adj. Base+185 vs Adj. Base
Existing Res. Rev Req	\$3,162,755,339	\$3,162,755,339	\$0	\$3,162,755,339	\$3,162,755,339	\$0
New Res. Rev Req	\$223,368,024	\$0	\$223,368,024	\$1,400,837,302	\$1,510,134,248	(\$109,296,946)
Variable Costs	\$578,973,816	\$762,263,033	(\$183,289,218)	\$8,895,182	\$14,507,637	(\$5,612,455)
Contract Costs	\$1,157,381,761	\$1,157,381,761	\$0	\$1,157,393,459	\$1,157,393,459	\$0
Risk Premium	\$102,370,531	\$126,977,754	(\$24,607,223)	\$86,455,322	\$91,590,820	(\$5,135,499)
<b>Cost (Benefit)</b>	<b>\$5,224,849,471</b>	<b>\$5,209,377,887</b>	<b>\$15,471,583</b>	<b>\$5,816,336,603</b>	<b>\$5,936,381,503</b>	<b>(\$120,044,900)</b>

14 **Q. Does this conclude your testimony?**

15 **A. Yes, it does.**



May 1, 2019  
(revised version)

## **FUTURE NORTHWEST CAPACITY SHORTAGES<sup>1</sup>**

**By Randy Hardy and Larry Kitchen**

### **I. Recent Events Affecting the Mid-Term Pacific Northwest (PNW) Capacity Outlook**

Several developments which have occurred, or become apparent, in the last few months will have significant impacts on the PNW resource capacity outlook in the 2020-2030 timeframe. Such recent developments are described below. To provide some context for this issue, a short history of PNW capacity development is included as Appendix A.

#### **A. E3 Study on PNW Resource Adequacy**

E3, the consulting/analytical firm which has studied numerous West Coast power issues over the last several years, completed a comprehensive analysis of PNW capacity issues in January 2019. Among that study's conclusions was that, due to load growth and announced coal plant retirements, the PNW faces a potential eight-gigawatt (GW) capacity deficit by 2030 unless new dispatchable capacity is constructed. Absent such construction, the regional loss of load probability (LOLP) will grow to 48 percent by that date (five percent LOLP is the normal reliability standard used by WECC utilities). The Northwest Power Planning Council in its draft mid-term assessment of its Seventh Power Plan has also noted the PNW faces resource adequacy issues absent new construction.

#### **B. Washington (WA) State Zero Carbon Legislation**

In addition to the PNW capacity deficits projected by E3 absent new construction, the WA state legislature has enacted legislation mandating that WA utilities achieve zero fossil fuels in their resource base by 2045. This legislation is modelled after California's zero carbon legislation passed in 2018. Its major near/mid-term provisions include a directive that no WA utility is supplied by coal by 2025. This provision will impact Puget Sound Energy (PSE), Avista and PacifiCorp (PAC), all of whom own shares of Colstrip 3 and 4, possibly causing those plants to close in 2025 rather than their current planned retirement in 2035.

Next, by 2030, all WA utilities must be 80 percent carbon free in terms of the power resources used to supply their load. This provision will not only require substantial renewable acquisition by PSE and others over the next ten years, but will also mean that those utilities, after 2030, will only be able to use their existing gas-fired resources for reliability emergencies (as opposed to economy energy transactions or normal load service).

Finally, the loss of Colstrip 3 and 4 will add another 1.5 GW to E3's projected 8 GW capacity deficit in 2030.

---

<sup>1</sup> The views in this paper are strictly our own, and do not necessarily reflect those of our clients.

### **C. No New Gas Sentiment**

Besides these developments, the current political climate in both WA and Oregon (OR) is strongly against development of any new gas-fired resources (e.g., combustion or combined cycle turbines – CTs/CCTs) to fill the projected 8 GW PNW capacity deficit. Not surprisingly, this posture in the PNW closely parallels the no new gas/retire existing gas sentiment which has existed in CA in recent years.

## **II. Consequences of These Developments**

Taken together, these actions, along with already projected PNW coal plant retirements, will create a substantially different set of resource acquisition and operating procedures in the Northwest.

### **A. Renewables Only**

From 2020 on, the most likely energy resources which can be acquired in the PNW will be wind and solar. In WA such resources will need to bring each utility's non-carbon emitting resource portfolio to 80 percent of load by 2030. Operationally, coal resources can still be used until 2025 and CTs/CCTs until 2030 (with limited use after 2030), but the WA renewables mandate will be a significant challenge for PSE and other in-state investor owned utilities (IOUs) to meet. Oregon's present 50 percent RPS and pending cap and trade system will provide similar renewable dominant incentives but with more flexibility than WA mandates.

### **B. Capacity Needs – Batteries/Pumped Storage (PS)**

As a result of these dynamics, the most likely capacity resources PNW entities will be able to develop are batteries and PS. There may be some limited carbon-free capacity from existing hydro providers (e.g., BPA, Seattle City Light, Powerex) but it is likely to be limited in both quantity and duration. With only batteries and PS available (in lieu of CTs), and an 8 GW projected capacity deficit by 2030, capacity acquisitions will be different and significantly more challenging than during the last 20 plus years. In addition, battery/PS resources will be needed, not just to meet cold snap winter reliability needs, but also to provide most of the renewable resource firming requirements as the region approaches 2030. The contrasts between these two types of capacity resources are notable: batteries can be installed quickly at points near load centers or other optimal locations; batteries, however, in aggregate are still quite expensive (e.g., probably two to three times cost of a CT) and have yet to have their performance characteristics (e.g., four-hour discharge cycle, 20-year life) tested at magnitudes needed to effectively help utilities manage the grid (e.g., greater than 50 MW capacity). While costs are decreasing and performance data will eventually be forthcoming, utilities will be taking significant operational risks that are inherent with any new technology (at least on the scale required here).

On the other hand, PS is a proven technology which has successfully operated in utility systems around the world for decades. It is capital intensive and has long lead times to become

operational, but performance characteristics and costs for individual projects are well known. In addition, there are several PS sites, both in the PNW and CA, which are potentially viable.

Given the magnitude of the PNW's 2030 capacity deficit, it is likely that both substantial battery and PS installations will be needed. Other potential capacity resources that might be viable include small modular nuclear resources, cogeneration, biomass resources and demand side management, depending on future technical developments and availability.

### **C. Impact on California (CA)**

The magnitude of future PNW capacity requirements will also likely decrease capacity and energy available for export to CAISO/CA entities between 2020-2030. Specifically, significant PNW surplus capacity and energy has been readily available to CA since 2002, and, since the capacity has typically been embedded in energy deliveries, it has essentially been free to CA purchasers. Given the PNW's changing resource mix, such imported capacity will likely decrease substantially, unless the CAISO provides sufficient financial payments and associated market structure changes for existing surplus capacity to continue flowing south.

### **D. Low Water**

Another major uncertainty which further complicates this situation is the variation in generation in the PNW due to water availability. Low water conditions typically occur every five (25<sup>th</sup> percentile) to ten (10<sup>th</sup> percentile) years depending on severity. Severe PNW drought conditions such as 2001 removed 3500 to 7000 MW of supply during the months of January through August from the average year West Coast power supply. If we were to experience such low water in, for example, 2024-25, it would dramatically add to both energy and capacity problems in CA and the PNW with possibly severe reliability consequences.

### **E. Recent Scarcity Events – Wake-Up Call**

During July through September 2018, the Peak net load of the CAISO was 7% lower (46,000 to 50,000) than the peak load in 2017. Nevertheless, system marginal energy prices in the day-ahead market reached record highs on July 24, 2018, peaking at almost \$980/MWh in hour ending 20. The frequency of high day-ahead prices increased significantly during the third quarter, largely concentrated between July 23 and August 10, driven by extreme temperatures across the western region and limited natural gas availability.

On March 1, 2019, the Midc index price for day ahead bilateral trades exceeded \$900/MWh for heavy load hour energy and \$160/MMbtu for natural gas. These prices were driven by a number of factors including cold temperatures, a pro-longed cold period prior to March 1 resulting in depletion of hydro generation and natural gas in storage, an inability of Los Angeles Department of Water and Power (LADWP) gas resources to support exports on the DC Intertie due to various system constraints, and limitations in supplies of Canadian natural gas impacting the ability of some U.S. natural gas generation to operate.

These high prices, and the capacity shortage that they reflected, occurred despite nearly all the soon-to-be retired PNW coal plants operating at maximum capacity. This occurrence should serve as a wake-up call to PNW entities.

### **III. Possible Actions to Alleviate Capacity Shortfalls**

Policy should address the problems likely to be caused by the changing PNW resource mix unless developing integrated resource plans (IRPs) direct the construction of more CTs/CCTs, which seems impossible given current West Coast political sentiment. Policy development needs to conscientiously assess the role of ratepayers taking risk through resources selected in IRPs and independent power producers (IPPs) taking risk based on their assessment of the competence of government plans. Some potential policies include:

#### **A. Ensure Robust Day Ahead Resource Sufficiency in the CAISO Expansion of its Day Ahead Market (EDAM) to EIM Entities**

CAISO plans to launch EDAM in the near future. If successful, it would require resource sufficiency (as opposed to resource adequacy) demonstrations from all EDAM participants. The resource sufficiency metrics would be designed to ensure each EIM Entity has developed or purchased enough capacity to meet its own load without relying on neighboring EIM Entities beyond agreed estimates of resource sharing.

#### **B. Acquisition of Batteries/Pumped Storage**

As mentioned earlier, batteries or PS appear to be the only new capacity resources currently able to be procured by West Coast utilities, either for reliability needs or renewables firming, in the foreseeable future. Both resources have their strengths and weaknesses, but WECC utilities will need to test their performance viability post-2020. Developing products that pay resources for offering ramping capability will assist in the construction of such resources.

#### **C. Review Fossil Fuel Era Planning and Operating Metrics**

The changing PNW resource mix calls into question a number of habits that have become common wisdom over the last 15 years. Many PNW utilities have relied on short term 96 hour per week energy purchases from the bilateral wholesale market. These purchases were enabled by the ability to produce energy on demand from fossil fuel capacity resources and the surplus energy from hydroelectric resources. The 3-4.5 GW of retiring coal plants (and possibly the additional 5 GW of capacity due to 2020-2030 load growth) will likely be replaced/served in IRPs with energy limited capacity, not capacity capable of baseload or heavy load hour operation. IRPs will need to develop assessments of the necessary energy duration of the capacity needed for resource adequacy and should not rely on the metrics of the fossil fuel era.

Development of wide area markets was predicated on the diversity inherent from planning reserve margins for individual utilities based on the development of fossil fuel resources for capacity. Policy makers should be cautious in relying on further diversity benefits from wide area markets to cover upcoming capacity shortfalls. Assuming that energy limited

resources will be available on the hour that capacity is needed requires additional study and will inject additional risk into the system during the upcoming rapid transition period. While the planning reserve margins of individual utilities may have been inefficient, they also covered the unplanned events that occur beyond the 95% thresholds commonly used for long term planning. These individual planning margins captured the diversity among utilities by reliance on short term capacity purchases for resource planning in the areas with surplus generation.

#### **D. Explore Development of PNW Resource Adequacy Agreement**

Resource adequacy is a policy construct designed to ensure enough generation or demand side resources have been developed or procured to meet day ahead resource sufficiency and real time load and reserve requirements in a given area. All the resource adequacy programs developed in North America (other than plans of individual entities) have been developed by organized wholesale power markets run by independent system operators or regional transmission organizations. Absent the creation of an organized wholesale market for energy and reserves in a given area, development of a resource adequacy program for a given area requires the voluntary agreement of the utilities and other load serving entities in such area or an agreement of the States served in such area on a common set of metrics to measure resource adequacy and an enforcement mechanism. Given the complexity of the metrics involved in such an agreement, an organization would be needed to design and administer such program and such agreement would need to address the governance of such organization.

The PNW has attempted to develop an organized wholesale market several times over the last 25 years and has failed to reach agreement. The rapid transition of the PNW electric industry may provide the impetus to reach agreement on metrics for ensuring the reliability of PNW electricity markets.

#### **E. Possible Transmission (Tx) Solutions**

As these capacity driven trends emerge, it is possible that a variety of tx solutions will also develop. For example, PNW utilities (in addition to PAC and Idaho Power) may decide to participate in PAC's Gateway West tx project. Such participation could enable PNW utilities both to acquire Wyoming wind (with its complementary load shape and higher capacity factor to Columbia Gorge wind) to meet their RPS goals and even access Wyoming/Utah thermal capacity for reliability emergencies. Somewhat similar dynamics might also exist for tx access to Montana wind.

### **IV. Or Not**

#### **A. Pray for Rain and Mild Weather**

Murphy's law predicts that the next low water year in the PNW will arrive in 2025 as peak coal plant retirement occurs and the PNW IRPs defer decisions on construction of new resources waiting for the next cost reduction in carbon free capacity.

## Appendix A

### **Short History of PNW Capacity Resource Development**

#### **I. Development of the Federal Columbia River Power System (FCRPS)**

Following initial development of hydroelectric generation on local rivers by PNW utilities, the Federal government began development of the Columbia River in the 1930s with the construction of Bonneville and Grand Coulee dams. Development of the Columbia River involved a reshaping of the natural hydrograph to better match the pattern of electric loads in the PNW. The hydroelectric system that developed only has the capability to store about a third of the annual runoff. Due to the large difference in hydroelectric power production between wet and dry years, it was economic to install turbines in the dams with capability far in excess of dry year energy production – installed turbine nameplate ratings are roughly three times dry year average energy production. The Bonneville Power Administration (BPA) was established to develop the transmission and market the power produced by the hydroelectric system,

The FCRPS as developed was able to move energy production to periods where it was most needed or most valuable. The system was planned and operated for a 42 ½ month period where energy was shaped not only day to day and month to month but over a 42 ½ month period based on the driest 42 ½ month period in the historical record. This planning construct allowed BPA to “borrow” as much as 1500MW from expected water availability in future years to serve loads in the current year.

#### **II. Development of the Columbia River Treaty (Treaty)**

In the early 1960's, the United States and Canada negotiated a Treaty regarding flood control and development of storage reservoirs on the Columbia River. Among many aspects of the Treaty was a requirement to agree on a set of metrics measuring dry year assured hydroelectric production and a sharing of the increased production resulting from new storage reservoirs in Canada. As the Treaty approaches the end of its 60-year initial minimum term, the United States and Canada are now engaged in a process examining renegotiation of the Treaty including the metrics for determining benefits of the Treaty and how those benefits should be shared.

Development of the Treaty created a surplus of hydroelectric generation in the mid-60s that provided the impetus for development of the Pacific Northwest-Pacific Southwest Intertie transmission facilities (Intertie). These transmission facilities allowed PNW utilities to trade surplus PNW summer capacity needed by California utilities for surplus California winter capacity and energy needed by PNW utilities (i.e. seasonal exchanges).

#### **III. Development of the Hydro-Thermal Power Program**

Continued growth of electric loads in the PNW during the 1960s led to development of the Hydro-Thermal Power program. Under this joint initiative of PNW utilities, the FCRPS would continue the installation of additional turbines at existing FCRPS dams while the utilities would

construct coal and nuclear plants to meet growing energy loads in the PNW. Many of the coal plants scheduled for retirement were a result of this program.

#### **IV. Impacts of the Fish Measures on Energy Metrics**

Congress passed the Pacific Northwest Electric Power Planning and Conservation Act (Regional Act) in 1980 establishing the Northwest Power Planning Council (Council) tasked with creating a long-term regional resource plan and a fish and wildlife program. The fish and wildlife program and biological opinions established under the Endangered Species Act have resulted in changes to the operations of the FCRPS. These changes in operations reversed a portion of the change in the hydrograph caused by development of the FCRPS. The metrics used for dry year energy planning changed from a 42 ½ month period to an eight-month period. This change in metrics eliminated the ability to borrow from expected water availability in future years to serve the load in the current year and measured energy availability on an annual basis instead of a monthly basis. In response, planners assumed that surplus energy from PNW and California thermal plants could be purchased and stored or purchased as necessary to serve a portion of electric loads in the summer and winter of a dry year. These changes in operations to mitigate impacts on salmon have also reduced the FCRPS capability to move energy production in shorter timeframes.

#### **V. Northwest Power Plan**

Resource plans of the Council have primarily relied on several thousand MWs of conservation as described by the Regional Act to serve Pacific Northwest load growth over the last 40 years. The current power plan relies on conservation and increased development of demand response to serve PNW loads with the potential for a modest amount of natural gas resource development in the early 2020s. This plan was developed prior to the current legislative initiatives around carbon in the current Washington and Oregon legislatures.

#### **VI. Loss of Industrial Electric Load**

Another factor impacting the need for capacity in the PNW has been the change in industrial loads over the last 30 years. The PNW has seen a significant reduction of the PNW aluminum industry resulting in the loss of several thousand MWs of electric load. Global competition in pulp and paper, steel, and other industries has also resulted in the closing of industrial facilities that once used several thousand MWs of electricity in the PNW.

#### **VII. Impact of the California Independent System Operator (CAISO) and the California Air Resources Board (CARB) on Seasonal Exchanges**

Development of an organized market in California and the creation of the CAISO as well as the implementation of carbon cap and trade legislation by CARB has impacted the long-term marketing of surplus capacity over the Intertie.

Federal legislation passed prior to construction of the Intertie ensured that PNW energy in a dry year was reserved for use by PNW energy loads. This legislation enabled both short-term exchanges and long-term exchanges of energy that allowed the PNW to provide surplus capacity

to serve peak loads in California if the California entity committed to return the energy in a specified timeframe.

Creation of the CAISO created a new method of charging California loads for transmission on a per use basis instead of a fixed annual fee. The California cap and trade legislation includes a requirement to pay CARB a fee for each amount of energy generated by a fossil fuel resource and exported from California.

The current market prices for capacity will not support either long term or short-term exchanges of energy due to the impact of these two fees or charges.

### **VIII. Planning for Capacity**

Most utility systems have historically planned to ensure they have generation capacity available to serve a few peak hours during the year leaving significant amounts of surplus energy during other periods. As the FCRPS faced reduced flexibility, BPA has reduced the amount of surplus capacity it sold long term and focused more of its sales in day to day and monthly markets. These PNW utilities, losing access to long-term surplus capacity sales from BPA, made the switch to capacity planning, however, many of them still rely on wholesale market purchases from other utilities in their planning.

BPA has primarily planned to ensure there was enough energy during a dry year. BPA has relied on planned amounts of purchases of wholesale energy during dry years instead of developing additional resources.

Development of renewable resources has created a new component of uncertainty in the system in addition to uncertainty in loads, resource outages, and availability of water. The metrics of planning for this uncertainty are still being developed.

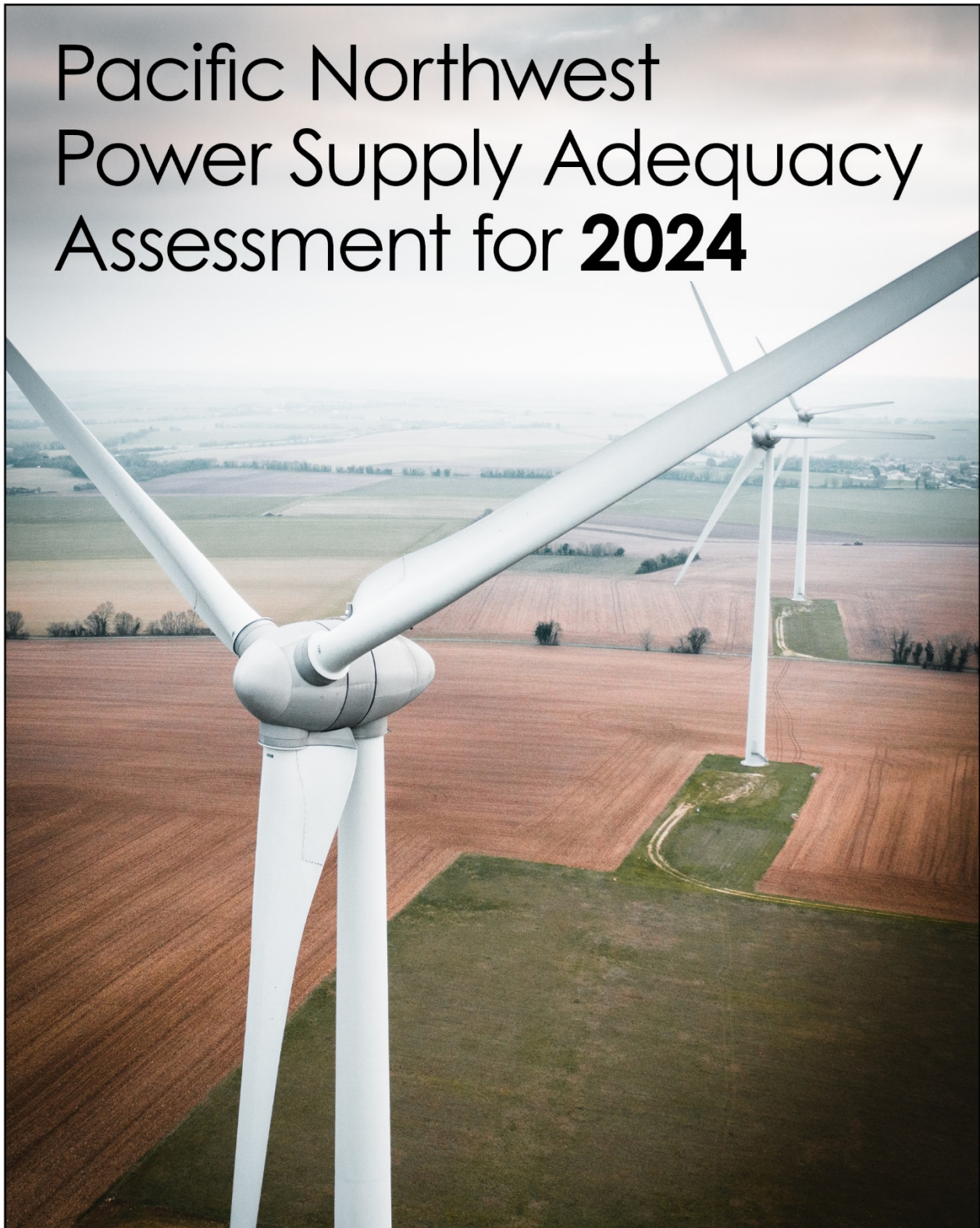
### **IX. Implications of this History**

The first three items of this history – development of the FCRPS, negotiation of the Columbia River Treaty and implementation of the Hydro-Thermal program – are key to understanding why capacity was never an issue in PNW power planning until now. **Because the PNW initially developed a hydro baseload system with hydro generators sized at three times the critical period Columbia River runoff, the region always had sufficient capacity to handle winter peaks.**

Subsequent developments, such as loss of aluminum load and PNW conservation efforts, basically enabled the region to continue to meet growing loads with only modest generating resource additions (primarily combustion/combined cycle turbines) until today. While fish mitigation measures lessened this capacity cushion, the real “crunch” did not come until this year, when a combination of substantial renewable resource acquisitions, scheduled retirement of existing coal plants and a political environment which probably prevents construction of new gas-fired resources will likely create substantial capacity shortfalls for the first time in the region’s 80-year electric power history.



# Pacific Northwest Power Supply Adequacy Assessment for **2024**



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October 31, 2019  
Document 2019-11

 Northwest **Power** and  
**Conservation** Council

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# FORWARD

This document summarizes the Northwest Power and Conservation Council's assessment of the regional power supply's adequacy for the 2024 operating year (October 2023 through September 2024). In 2011, the Council adopted the annual loss-of-load probability (LOLP) as the measure for adequacy and set its maximum threshold at 5 percent. For the power supply to be deemed adequate, the likelihood (LOLP) of a shortfall (not necessarily an outage) occurring anytime in the year being examined cannot exceed 5 percent.

The Council, with aid from the Resource Adequacy Advisory Committee (RAAC), updated its resource and load data, examined all appropriate operating assumptions and ran the Council's adequacy model (GENESYS) to produce the results shown in the charts and tables in this report. Other adequacy metrics that measure the size of potential shortages, how often they occur and how long they last are also reported because they provide valuable information to planners as they consider resource expansion strategies.

In 2018, Power Systems Research, Inc. was contracted to redevelop the GENESYS model to add more granularity to its simulation of the power supply. Since the redeveloped model is still being vetted, its preliminary results are not reported in this assessment. However, the new model will be used for future adequacy assessments and to aid in the development of the Council's 2021 power plan.

In addition, the Council has initiated a process to review its current adequacy standard. Council staff and RAAC members will be reviewing the viability of the current metric (LOLP) and threshold (5 percent). This review will consider similar efforts going on in other parts of the United States, namely the IEEE Resource Adequacy Working Group (RAWG), the North American Electric Reliability Corporation's (NERC) Probabilistic Assessment Working Group (PAWG) and the Northwest Power Pool's (NWPP) resource adequacy review. Once the redeveloped GENESYS model has been fully vetted, the Council will consider options for amending its adequacy standard.

## EXECUTIVE SUMMARY

In 2011, the Northwest Power and Conservation Council adopted a resource adequacy standard to provide an early warning should resource development fail to keep pace with demand growth. The standard defines the regional power supply to be adequate when the likelihood of a shortfall or Loss-of-Load Probability (LOLP) is no more than 5 percent. Every year, the Council assesses resource adequacy five years into the future to give utilities time to acquire new resources, if needed.

**By 2021**, the Northwest power supply becomes inadequate, with an estimated LOLP of 7.5 percent, primarily due to the announced retirement of 1,619 megawatts of coal-fired generating capacity. Besides existing resources, the assessment only includes planned resources that are sited and licensed, and targeted future energy efficiency savings.

**By 2024**, with the planned retirement of an additional 127 megawatts of coal plant capacity, the LOLP grows to 8.2 percent. Load growth over the next five years is almost entirely met by targeted energy efficiency savings, with a net annual load growth of about 0.3 percent. Potential shortfall events in 2024 are more likely to occur during winter and are expected to last longer and have higher peak-hour shortfalls than summer events.

These results could change significantly if future load growth and/or market conditions change. For example, under a high load growth scenario (3 percent above medium) with a lower market supply (1,000 megawatts less), the 2024 LOLP grows to 21 percent. Under a low growth scenario (3 percent below medium) with a higher market supply (1,000 megawatts more), the LOLP drops to 2 percent. But the likelihood of a very low or very high load growth rate over the next five years is small.

**By 2026**, with another 804 megawatts of announced coal plant capacity retiring, the LOLP grows to 17 percent. And, with the planned retirement of an additional 1,060 megawatts of coal plant capacity by 2032, the region will be facing a very large resource gap to fill. However, these assessments do not include utilities' replacement plans.

The Council's next power plan is scheduled to be completed by 2021, giving the region time to develop an appropriate replacement strategy that will account for state-level legislation affecting future resource choices, climate change, and increasing renewable generation.

It should be emphasized that these results reflect the adequacy of the aggregate regional power supply. Individual utilities within the Pacific Northwest are facing a wide range of future resource needs and are preparing for those needs in their integrated resource plans.

## Addendum

In October of 2019, PacifiCorp proposed moving up the retirement dates for several of its coal plants. The Jim Bridger 1 coal plant (530 megawatts), originally scheduled to be

retired by 2028, is now under consideration to be retired by the end of 2023. The Jim Bridger 2 coal plant (530 megawatts), originally scheduled to be retired by 2032, is now under consideration to be retired by the end of 2028. Also, PacifiCorp is proposing divesting from the Colstrip 3 (518 megawatts) and Colstrip 4 (681 megawatts) coal plants by the end of 2027.

The earlier retirement of the Jim Bridger 1 coal plant increases the 2024 reference case LOLP from 8.2 percent to 12.8 percent and increases the 2026 LOLP from 17 percent to 26 percent. Between 2026 and 2028, the region could potentially lose an additional 1,729 megawatts of capacity if the Jim Bridger 2 and the Colstrip 3 and 4 coal plants are retired. The Council will keep abreast of any changes to resource availability or to regional demand and will continue to monitor the adequacy of the regional power supply during the development of its next power plan.

## THE COUNCIL'S RESOURCE ADEQUACY STANDARD

In 2011, the Northwest Power and Conservation Council adopted a regional adequacy standard to “provide an early warning should resource development fail to keep pace with demand growth.” The standard defines an adequate power supply to be one in which the likelihood of a power supply shortfall is less than or equal to 5 percent.

The Council assesses adequacy using a stochastic analysis to compute the likelihood of a supply shortfall. It performs a chronological hourly simulation of the region's power supply over many different future combinations of stream flows, temperatures, wind and solar generation patterns and forced generator outages. Besides targeted energy efficiency savings, existing generating resources are included, along with sited and licensed plants that are expected to be operational in the study year. The simulation also assumes a fixed amount of out-of-region market supply and explicitly models the economic dispatch of in-region merchant resources.

If the supply is deemed inadequate, the Council estimates how much additional capacity is required to bring the likelihood of a power supply shortfall (commonly referred to as the loss-of-load probability or LOLP) back down to 5 percent. However, this analysis is not intended to provide a resource expansion strategy because it assesses only one of the Council's criteria for developing a power plan. The Council's mandate is to develop a resource strategy that provides an adequate, efficient, economic and reliable power supply. There is no guarantee that a power supply that satisfies the adequacy standard will also be the most economical or efficient. Thus, the adequacy standard should be thought of as simply an early warning to test for sufficient resource development. A comprehensive resource strategy for the region is provided in the Council's power plan.

Because the GENESYS model cannot possibly take into account all contingency actions that utilities have at their disposal to avert an actual loss of service, an LOLP greater than 5 percent should not be interpreted to mean that actual curtailments will

occur. Rather, it means that the likelihood of utilities having to take extraordinary and generally costly measures to provide continuous service exceeds the Council's tolerance for such events. Some utility emergency actions are captured in the LOLP assessment through a post-processing program that simulates the use of what the Council has termed "standby resources."

Standby resources are demand-side actions and small generators that are not explicitly modeled in the adequacy analysis. They are mainly composed of demand response measures, load curtailment agreements, small thermal resources and pumped storage at Banks Lake.

Demand response measures are expected to be used to help lower peak-hour demand during extreme conditions (e.g. high summer temperatures or low winter temperatures). These resources primarily provide peaking capacity and have a very limited amount of energy (i.e. once their available energy is used up, they can no longer be dispatched). The effects of demand response measures that have already been implemented in the past are assumed to be reflected in the Council's load forecast. New demand response measures that have no operating history and are, therefore, not accounted for in the load forecast are classified as part of the set of standby resources.

Load curtailment actions, which would be contractually available to utilities to help reduce peak hour load, and small generating resources may also provide some energy assistance. However, they are not intended to be used often. High usage of these resources is a good indicator that the underlying supply is inadequate. The energy and capacity capabilities of these non-modeled resources are aggregated along with the demand response measures mentioned above to define the total capability of standby resources. A post-processing program uses these capabilities along with the simulated curtailment record to calculate the resultant LOLP and other adequacy metrics for the year being examined.

## Evolution of Adequacy Assessments

The Council recognizes that the power system of today is very different from that of 1980, when the Council was created by Congress. For example, significant increases in variable energy resources, such as solar and wind, have added a greater band of uncertainty surrounding system operation. This and other changes to the power supply have created the need to more precisely simulate hourly operations. Toward this end, the Council has redeveloped its adequacy model (GENESYS) to significantly improve hourly hydroelectric simulation, to add a better representation of unit commitment and balancing reserve allocation and to add other enhancements to more precisely mimic real-life operations. A beta version of the redeveloped GENESYS has been completed and is currently being vetting with the aid of regional stakeholders. However, because the new GENESYS has not yet been fully vetted, preliminary results using the new model are not presented in this report.

In addition, the Council is reviewing work done by the North American Reliability Corporation (NERC) to standardize metrics used to assess power supply adequacy.

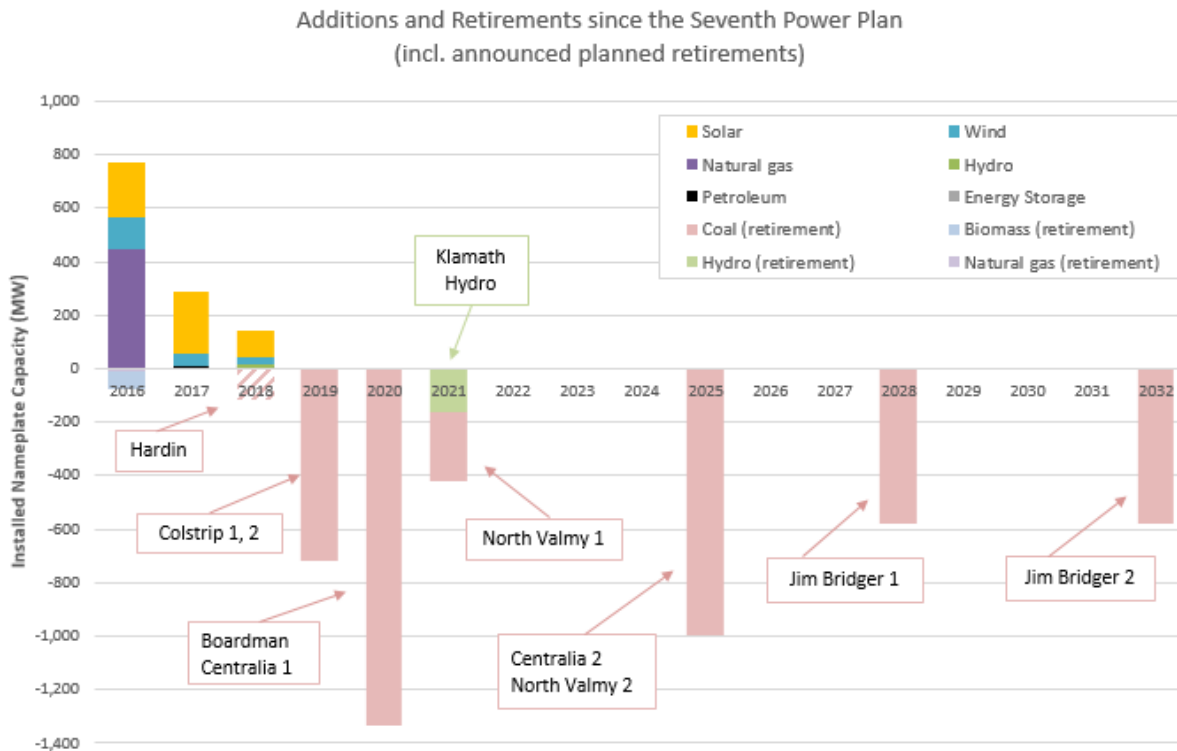
Council staff have participated in these efforts and are staying current with trends around the country and internationally. Once the redeveloped GENESYS model has been fully vetted, the Council will initiate a review its current adequacy standard and, if appropriate, amend the standard to provide a better measure of power supply adequacy.

## 2024 RESOURCE ADEQUACY ASSESSMENT

To ensure that utilities have enough time to acquire new resources, if needed, the Council assesses the region’s power supply adequacy five years out – for this report the 2024 operating year. However, because of announced retirements of additional major generating resources, this assessment also examines adequacy for 2021 and for 2026. Figure 1 identifies the timing and amounts of announced resource additions and retirements through 2032.

The Pacific Northwest’s power supply is expected to be adequate through 2020. However, with the announced retirements of Hardin, Colstrip 1 and 2, Boardman and Centralia 1 coal plants (1,619 MW of nameplate capacity), the system will no longer meet the Council’s adequacy standard in 2021. The loss-of-load probability (LOLP) for that year is estimated to be 7.5 percent. By 2024, with the additional retirement of the North Valmy 1 coal plant (127 megawatts) the LOLP rises to 8.2 percent. By 2026, with an additional loss of 804 megawatts of coal-fired capacity (North Valmy 2 and Centralia 2), the LOLP grows to 17 percent.

Figure 1: Resource Additions and Retirements



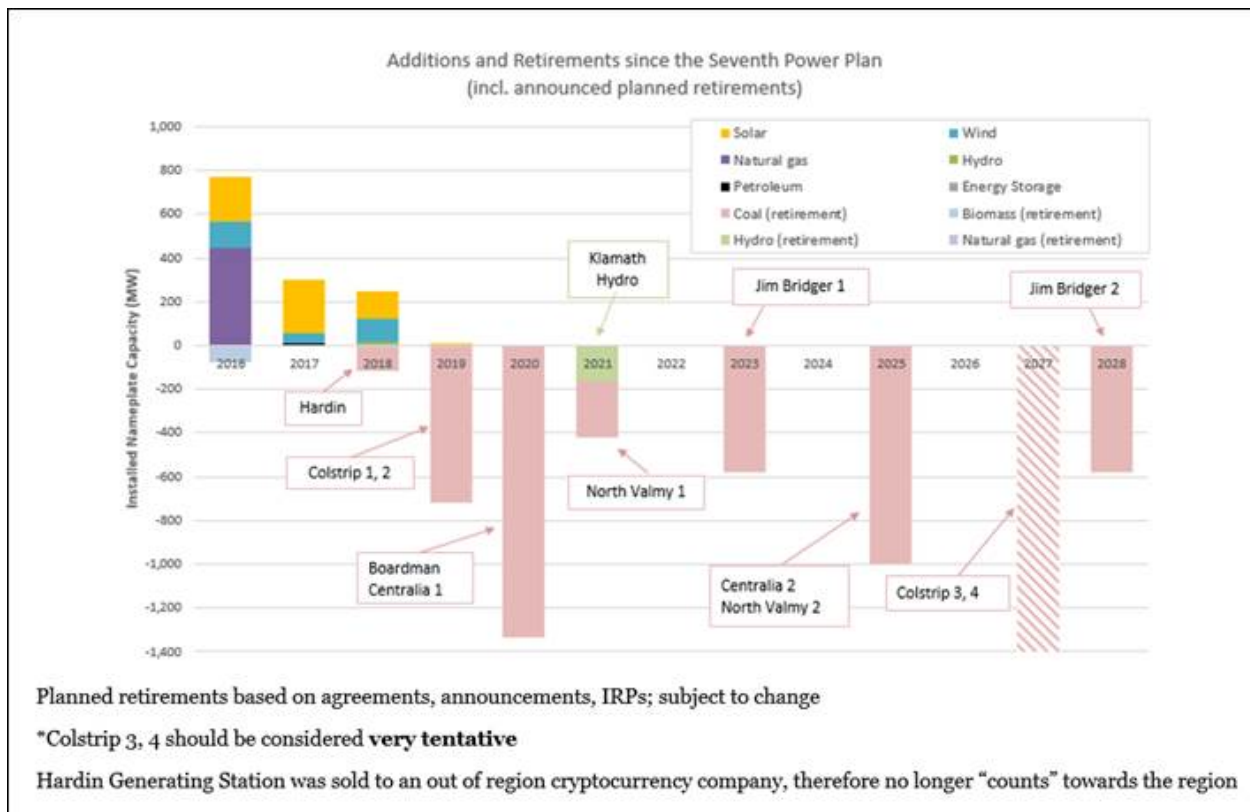


## 2024 Assessment Update

In October of 2019, PacifiCorp proposed moving up the retirement dates for several of its coal plants. The Jim Bridger 1 coal plant (530 megawatts), originally scheduled to be retired by 2028, is now under consideration to be retired by the end of 2023. The Jim Bridger 2 coal plant (530 megawatts), originally scheduled to be retired by 2032, is now under consideration to be retired by the end of 2028. Also, PacifiCorp is proposing divesting from the Colstrip 3 (518 megawatts) and Colstrip 4 (681 megawatts) coal plants by the end of 2027. These earlier retirement dates are illustrated in Figure 2.

The earlier retirement of the Jim Bridger 1 coal plant increases the 2024 reference case LOLP from 8.2 percent to 12.8 percent and increases the 2026 LOLP from 17 percent to 26 percent. Between 2026 and 2028, the region could lose an additional 1,729 megawatts of capacity with the potential retirements of the Jim Bridger 2 and the Colstrip 3 and 4 coal plants.

Figure 2: Updated Resource Retirements



Regardless of the analytical tool used to assess power supply adequacy, it is safe to say that the region will be facing a huge resource gap over the next decade. Between now and 2028, announced coal plant retirements add up to as much as 4,800 megawatts of generating capacity (see Figure 2) – nearly enough capacity to serve five cities the size of Seattle. In addition, the region’s winter peak-hour load is expected to increase by about 1,000 megawatts over the same period (0.3 percent per year after

accounting for expected energy efficiency savings). However, even though these numbers are daunting, it should be noted that the adequacy assessment does not include planned utility resources (unless they are sited and licensed) – and utilities are currently developing their integrated resource plans. Also, the power supply is not currently on the cusp of being inadequate – it could lose about 800 megawatts of dispatchable capacity before it crosses the 5 percent LOLP threshold. However, with nearly all western states passing clean-air and/or renewable portfolio standard legislation, choices for future replacement resources are becoming more limited. These are the challenges facing the Council as it works to develop a cost-effective and robust resource strategy for the 2021 power plan.

## SENSITIVITY ANALYSIS

Given the late announcement and remaining uncertainty surrounding some of the proposed retirement dates in Figure 2, the analysis and results presented in this adequacy assessment are based on the original retirement dates shown in Figure 1.

Two future uncertainties not modeled explicitly in GENESYS are long-term (economic) load growth and variability in the out-of-region market supply.<sup>1</sup> Long-term load uncertainty for this analysis covers a 3-percent range around the mean. The out-of-region market is limited to only include California surplus generation. Thus, variation in the market supply is influenced only by future resource development (and retirements) in California and by the ability to transfer surplus energy from California into the Northwest. For the sensitivity analysis, the range of market availability went from a low of 1,500 megawatts to a high of 3,500 megawatts from October through March.<sup>2</sup>

Table 1 summarizes the results of market variation and load growth uncertainty on the LOLP values for 2024. In the extreme case, with high load growth and low import availability, the loss of load probability is over 21 percent. At the other extreme, with low load growth and higher import availability, the loss of load probability drops to about 2 percent. The cells in Table 1 are color coded to indicate the power supply's adequacy, with red cells indicating an inadequate supply (LOLP values greater than 5 percent) and green cells indicating that the power supply meets the Council's standard. It should be noted that the likelihood of futures with high or low load growth is much lower than the expected growth, in fact, the low and high loads used for this sensitivity analysis fall into the 15<sup>th</sup> and 85<sup>th</sup> probability percentiles – meaning that there is a 15 percent chance that loads in 2024 will be equal to or lower than the low case and there is a 15 percent chance that the loads will be equal to or higher than the high case.

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<sup>1</sup> Another potential random variable not currently modeled is the availability of transmission (outages and maintenance).

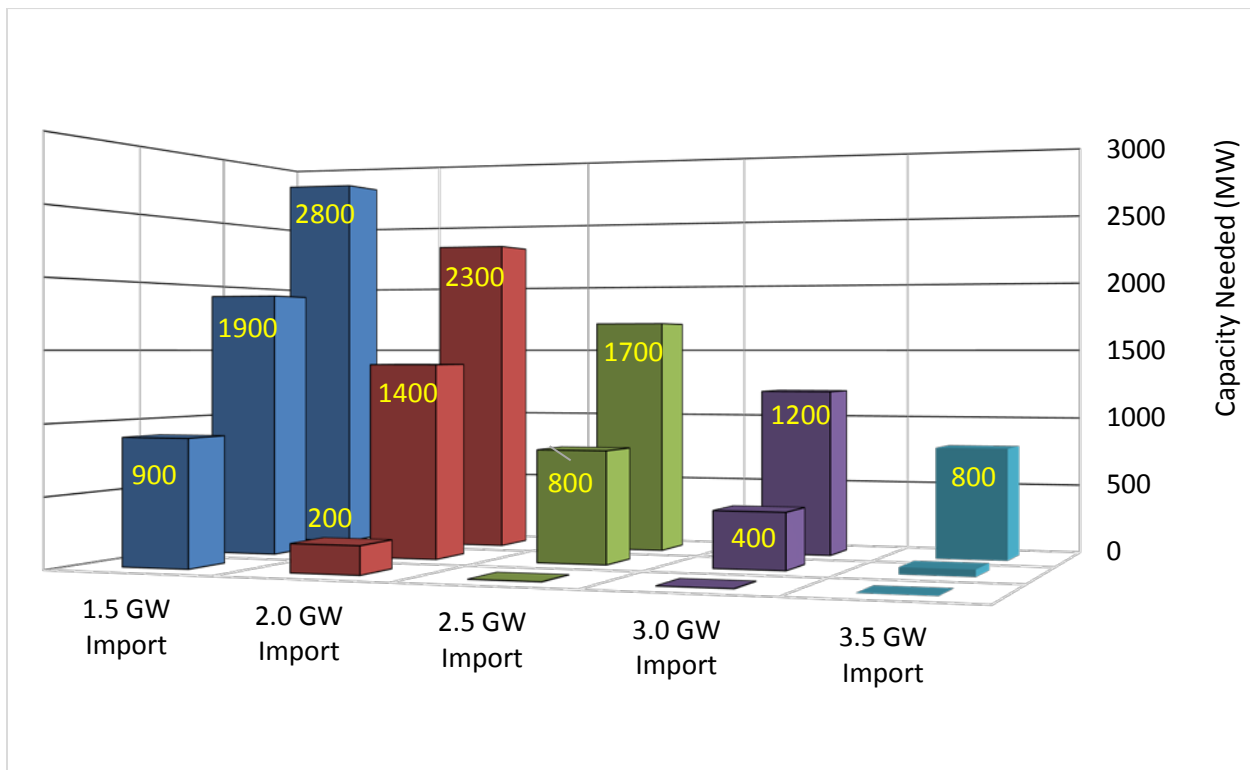
<sup>2</sup> The Council also modeled a separate out-of-region market, namely a purchase-ahead market, which is available all year but allows imports only during non-peak hours and only if a shortfall is expected in the following day or week.

Table 1: 2024 Loss of Load Probability (LOLP in %)

Import (MW)	1500	2000	2500	3000	3500
High Load (3% higher)	21.1	18.0	16.0	14.4	12.0
Medium Load	12.5	10.2	8.2	6.9	5.2
Low Load (3% lower)	7.0	5.2	4.0	3.1	2.0

Figure 3 shows the estimated amount of additional capacity<sup>3</sup> needed to maintain adequacy for each sensitivity case scenario (i.e. to get the LOLP down to the Council’s 5 percent standard). In the extreme case, the region would need to acquire about 2,800 megawatts of capacity to maintain an adequate supply. At the other extreme, with low load growth and higher import availability, no additional capacity is required for adequacy needs. It should be noted that the actual amount of new capacity needed to maintain adequacy is highly sensitive to acquired resource type.

Figure 3: 2024 Estimated Capacity Needed to Maintain Adequacy (MW)



<sup>3</sup> Additional capacity needed to maintain adequacy is estimated using combustion turbines as the surrogate acquisition resources.

## MONTHLY ANALYSIS

As discovered during the development of the Council's Seventh Power Plan, it is imperative to assess monthly adequacy values in order to better inform resource planners in the Northwest. This is important because some resources such as demand response and certain energy efficiency measures are only seasonally available (e.g. in winter or in summer only). In order to develop the most cost-effective and robust resource strategy, the seasonality of future resource needs must be identified.

Figure 4 below highlights the monthly LOLP values for the 2024 operating year,<sup>4</sup> which indicate that the regional power supply is still mostly a winter needy system. It should be noted that this analysis assumed no out-of-region spot market availability from April through September, 1,250 megawatts in October and 2,500 megawatts from November through March.

But this pattern of seasonal resource needs is expected to change. Future load growth forecasts (e.g. with increasing air conditioning penetration rates), in combination with lower and more constrained hydroelectric summer generation, project futures with greater and greater summer needs. This trend is exacerbated when forecasted changes in future climate are considered. Under all climate change scenarios, regional power needs are expected to lessen in winter (with lower loads due to higher forecasted temperatures and higher hydroelectric generation due to higher expected river flows). On the other hand, power needs are expected to grow in summer (with higher loads due to higher forecasted temperatures and lower hydroelectric generation with expected lower river flows).

Figure 5 shows the seasonality of shortfall events, with the bulk of events (73 percent) occurring during winter (November through February) and the remainder during summer (July through September). The seasonal pattern of shortfall events in Figure 5 is very similar to the seasonal pattern for monthly LOLP values shown in Figure 4. However, the patterns in these two figures are not an exact match because of the way that monthly LOLP is calculated. A month with multiple events counts the same as a month with a single event for the LOLP calculation, whereas the pattern in Figure 5 counts every event for every month.

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<sup>4</sup> It should be noted that the sum of monthly LOLP values will always be equal to or greater than the annual LOLP value because of the way in which the Council has defined its standard. The annual LOLP counts simulations with at least one curtailment event regardless of when it occurs. A simulation with multiple events in the same year, say one in January and one in August, would be counted the same as a simulation with only a January event or only an August event.

Figure 4: 2024 LOLP by Month

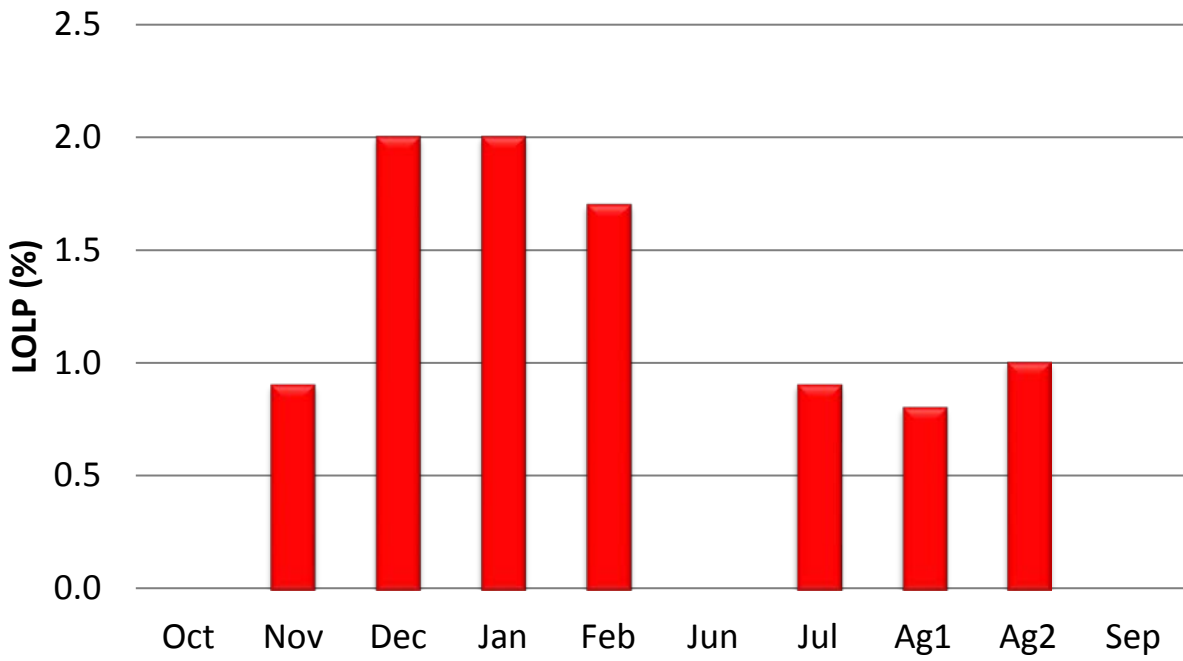
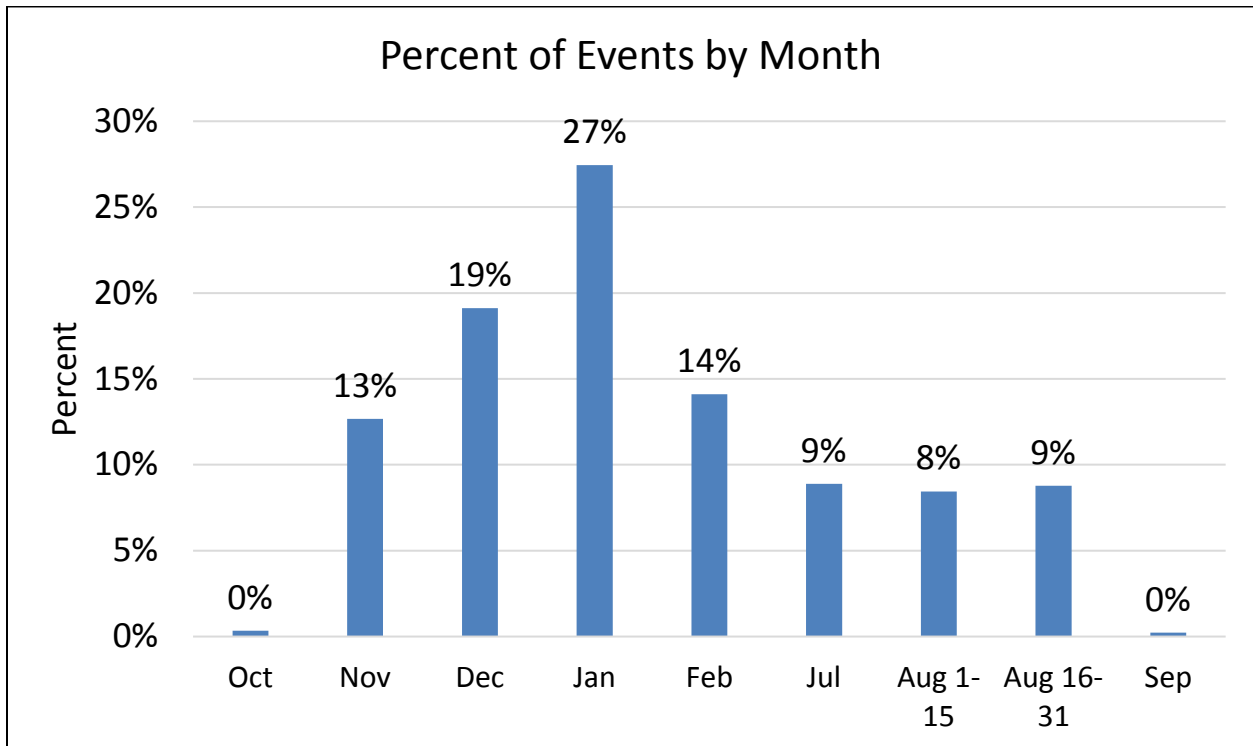


Figure 5: Percent of Events per Month



All shortfall events are not the same. Figure 6 shows average event duration by month. As evident in that figure, winter events tend to last much longer than summer events, with an average duration of about 23 hours (not counting October). The average summer event duration is about 6 hours (not counting September). One reason for the longer duration events in winter is that winter shortfalls tend to be driven by longer periods of extremely cold temperatures. Summer heat waves generally do not last as long as severe arctic winter cold snaps. Another reason for the longer duration winter events is that (at least for the time being) peak winter loads are much higher than summer peak loads. As presented later, the average winter peak-hour load for 2024 is about 34,500 megawatts compared to 28,800 megawatts for the average summer peak-hour load.

Figure 6: Average Event Duration by Month

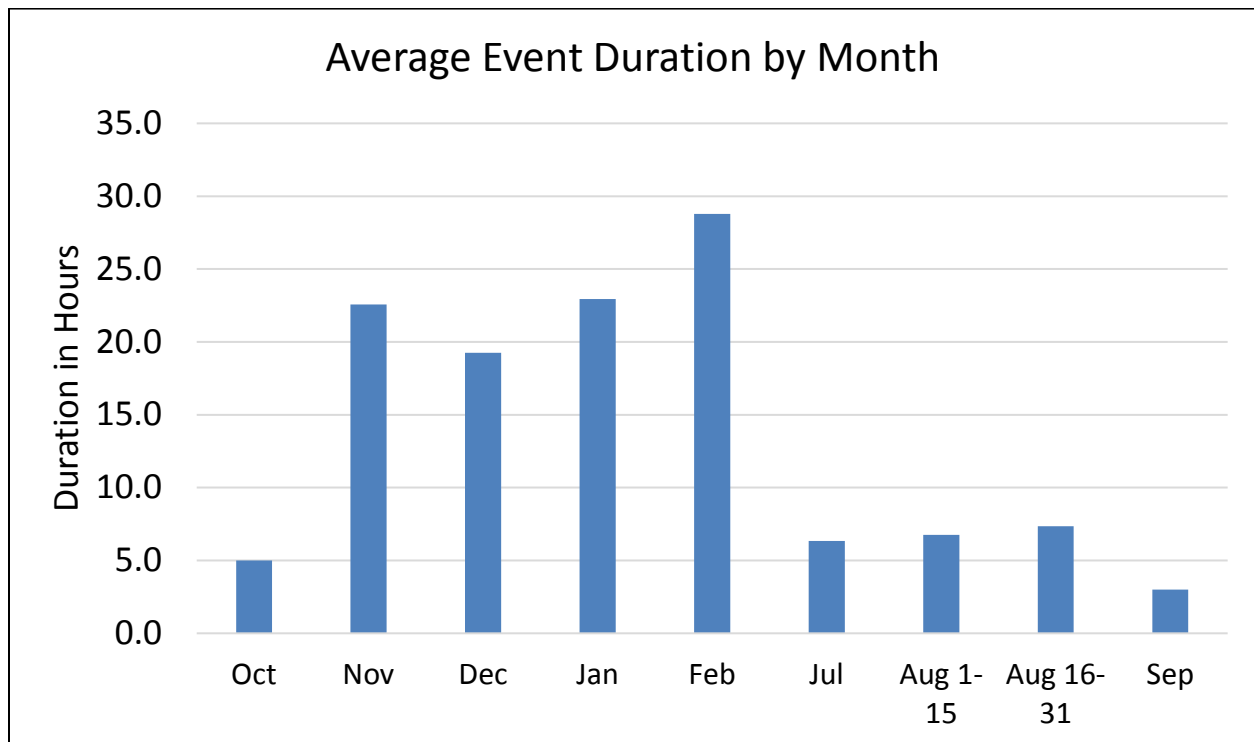


Figure 7 shows the average event magnitude (total megawatt-hours of unserved energy) by month. This figure shows a very sharp distinction between winter and summer events. The average winter event magnitude is about 43,300 megawatt-hours compared to the 3,300 megawatt-hour average summer event magnitude. One reason for this is that winter events last longer but also, as illustrated in Figure 8, winter shortfalls miss peak-hour loads by a wider margin. The average winter peak-hour shortfall is about 1,750 megawatt-hours compared to about 500 megawatt-hours for the average summer peak-hour shortfall.

Figure 7: Average Event Magnitude by Month

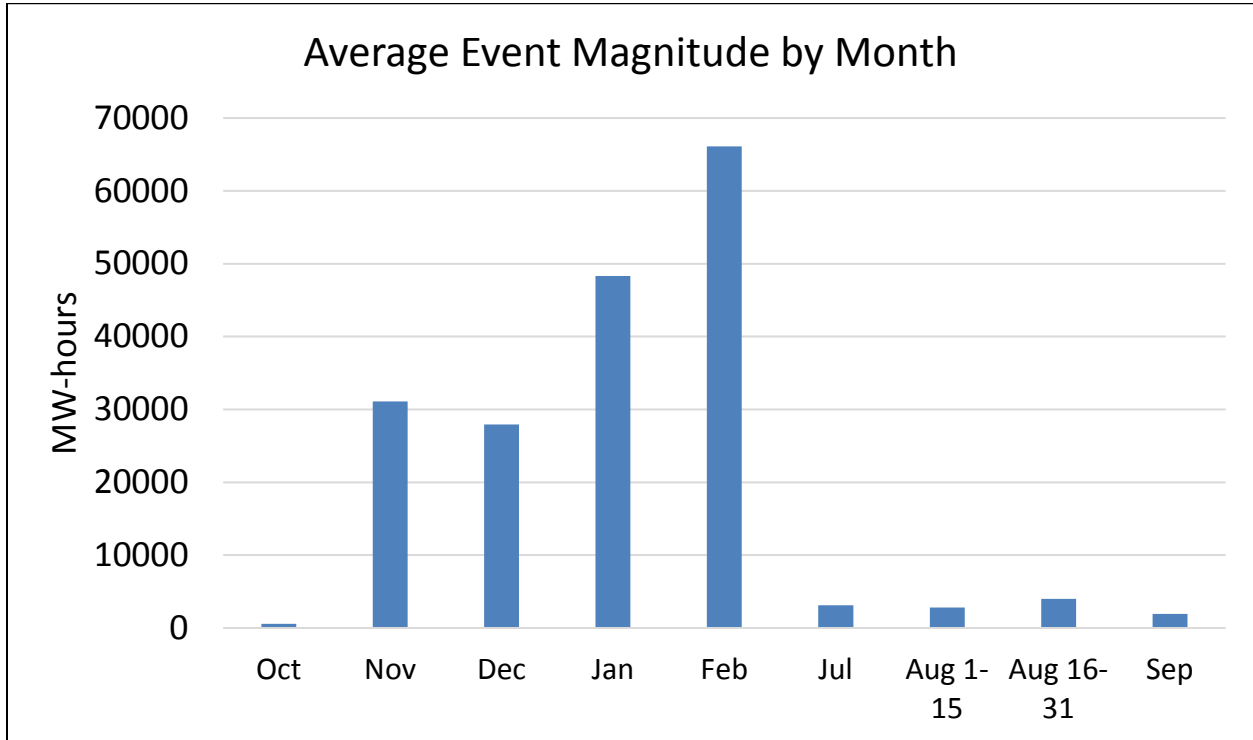
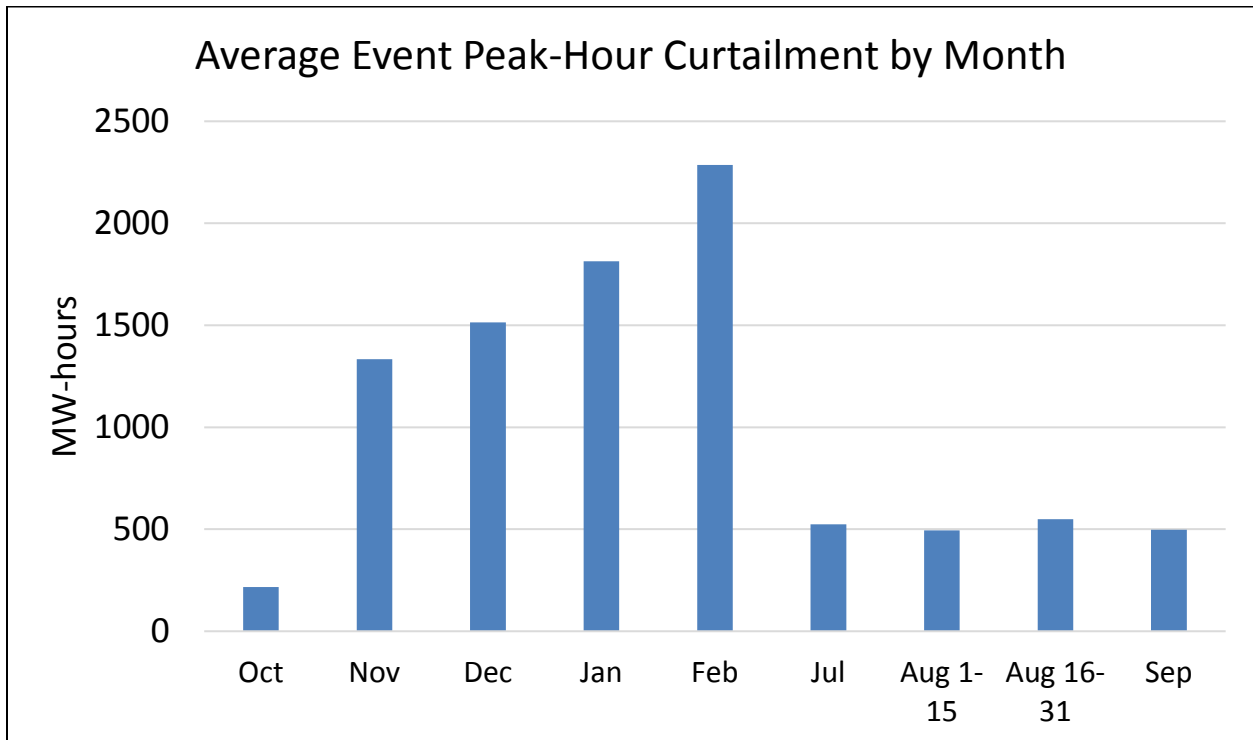


Figure 8: Average Peak-Hour Curtailment per Month



## CURTAILMENT STATISTICS

Curtailment statistics can often provide valuable insight into the behavior of the power system. Table 2 below summarizes several key statistics from the simulated curtailment record for 2024. All adequacy studies were run with 5,520 simulations (which include all combinations of the historical 80-year water record with the historical hourly 69-year temperature record). The red-colored row in Table 2 highlights the Council’s current measure for adequacy, namely a 5-percent maximum for annual LOLP. The green-colored rows highlight metrics currently proposed by the North American Reliability Corporation (NERC) for reporting. However, NERC does not specify a threshold for its proposed metrics (i.e. an adequacy standard). A more detailed description of the proposed NERC metrics is provided later in this report.

Out of the 5,520 simulated years, 425 years had at least one shortfall event, thus the annual LOLP is 452 divided by 5,520 or 8.2 percent. Based on this statistic, the region is expected to face a shortfall year once every 12 years or so. There was a total of 900 separate shortfall events. A shortfall event is a set of contiguous hours when resources fail to serve all loads. There are twice as many shortfall events as there are shortfall years, which means that, on average, when the region faces a shortfall year, it will typically experience two separate shortfall events during that year. This is not unreasonable because, as will be shown later, conditions that typically lead to shortfalls are low river runoff and/or extreme temperature events. Low river runoff conditions tend to lead to multiple periods of shortfall, especially when paired with extremely low or high temperatures (e.g. cold snaps or heat waves).

Table 2: 2024 Curtailment Statistics

Statistic	Value	Units
Number of simulations	5,520	Number
Simulations with a curtailment	452	Number
Loss of load probability (LOLP)	8.2	Percent
Number of curtailment events	900	Number
Loss of load events (LOLEV)	0.16	Events/year
Average time between shortfall years	12	years
Average event peak-hour curtailment	1,400	MW
Average event magnitude	32,700	MW-hours
Average event duration	19	hours
Conditional value at risk (CVaR) peak	2,623	MW
Conditional value at risk (CVaR) energy	104,470	MW-hours
Expected un-served energy (EUE)	5,338	MW-hours
Expected curtailed hours per year (LOLH)	3.0	Hours

The average duration for a shortfall event is 19 hours, which is a little longer than the 16 WECC-defined on-peak hours of the day. In fact, as will be shown later, most shortfall events last exactly 16 hours. This is because the regional hydroelectric system is operated, as much as is allowed under non-power constraints, to even out projected



shorter-term shortfalls that might occur over the 2 to 6-hour period of highest load. It is much easier to resolve a 16-hour relatively small resource shortfall than a 2 to 6-hour extremely large resource gap. The average peak-hour shortfall is about 1,400 megawatts, which for perspective is a little less than Seattle City Light's average winter peak-hour load (about 1,800 megawatts).

An interesting result from Table 2 is the value for the Loss-of-Load-Events (LOLEV) metric. This metric measures the frequency of shortfall events and is the most relevant metric to compare to the historic 1-day-in-10-year loss-of-load-expectation "standard" that has been utilized for over 70 years. If the "1-in-10" refers to 1-event-in-10 years, then the implied adequacy threshold for LOLEV should be no more than 0.1 events/year. Not surprisingly, the 2024 reference case LOLEV of 0.16 events/year exceeds the implied 0.1 events/per year standard. With an LOLEV of 0.16, the region is expected to face, on average, a shortfall event once every 6 years. But, by adding enough capacity to bring the 2024 LOLP down to the 5 percent level, the LOLEV drops to 0.1 events/year. This means that when the regional power supply meets the 5 percent LOLP standard, its corresponding LOLEV value is consistent with a 1-event-in-10-year threshold. However, statistics can often lead to misleading results. A more accurate interpretation of these statistics is that when the LOLP is exactly 5 percent, on average, the region is expected to face a shortfall year once every 20 years and will expect to see 2 shortfall events during that year.

Figure 9 below shows the likelihood of having multiple shortfall events in a single year. Of the 452 simulations (out of 5,520) that had at least one shortfall, a little more than half only had one event and a quarter of them had two events. Simulations with more events are rare – only six percent had five or more events. Years with such a high number of shortfall events are typically those with very low runoff volume and extremely cold or hot temperature days. For example, simulating the 2024 power supply under 1929 runoff conditions (one of the driest years on record) and 1950 winter temperatures (coldest on record) yielded eight shortfall events during January and February.

Figure 10 displays the event duration histogram, which shows the number of events per specified duration. The x-axis represents event duration and the y-axis shows the number of events with that duration. What stands out is that the most common event duration is 16 hours. This is not unexpected because, by design, the hydroelectric system is operated (i.e. filled or drafted), whenever possible, to spread the anticipated unserved energy across all 16 peak hours of the day. This produces a relatively flat amount of hourly unserved energy, which is easier to rectify than a shorter duration, higher magnitude and non-uniform shortfall.

Figure 9: Probability of Multiple Events per Year

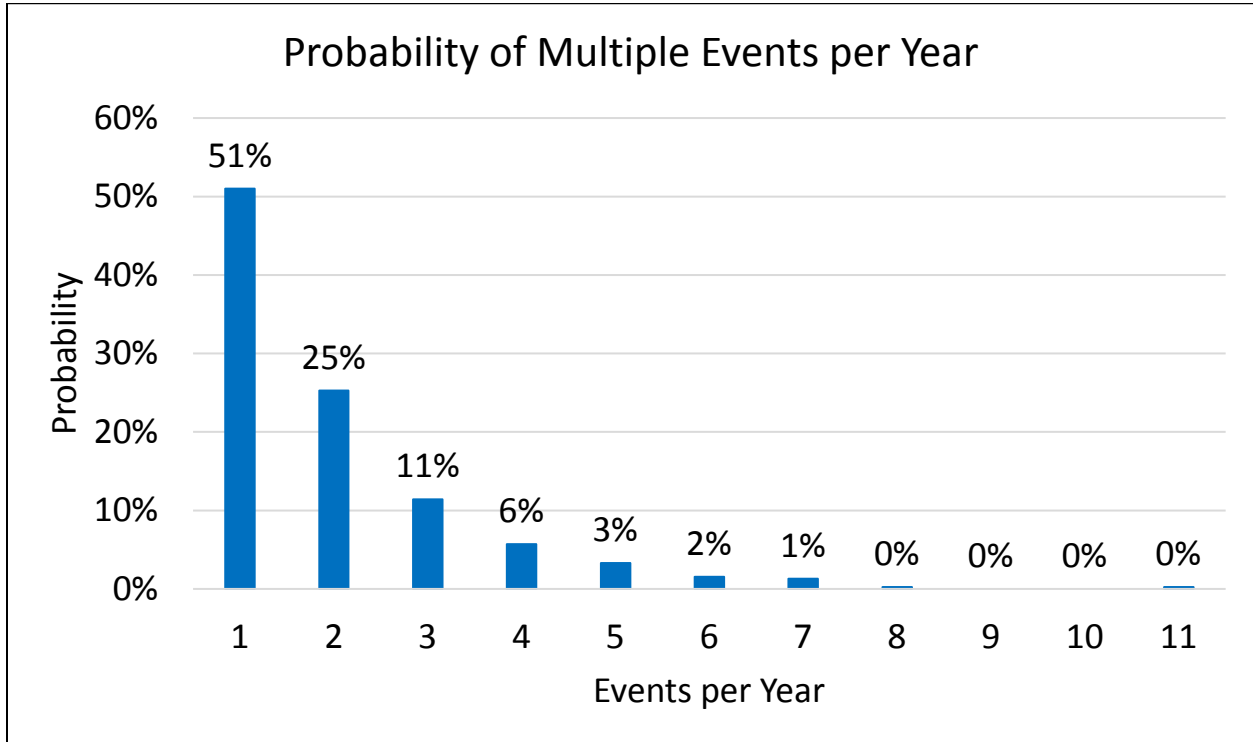
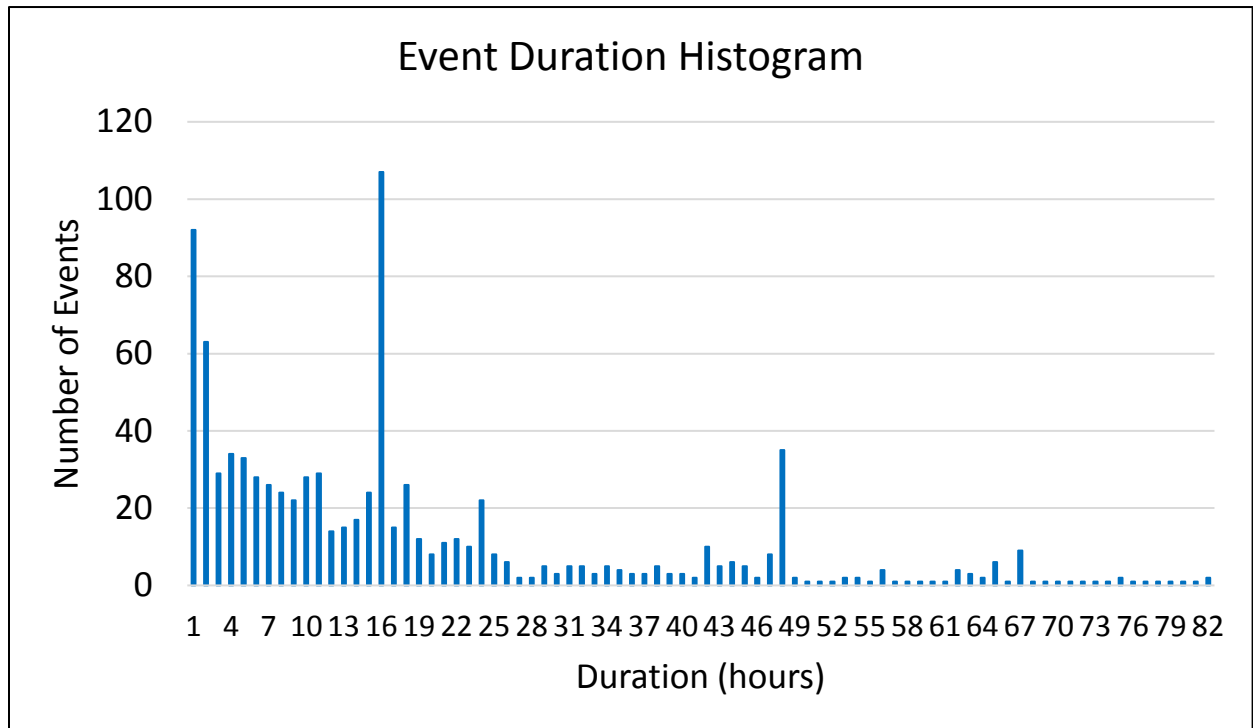
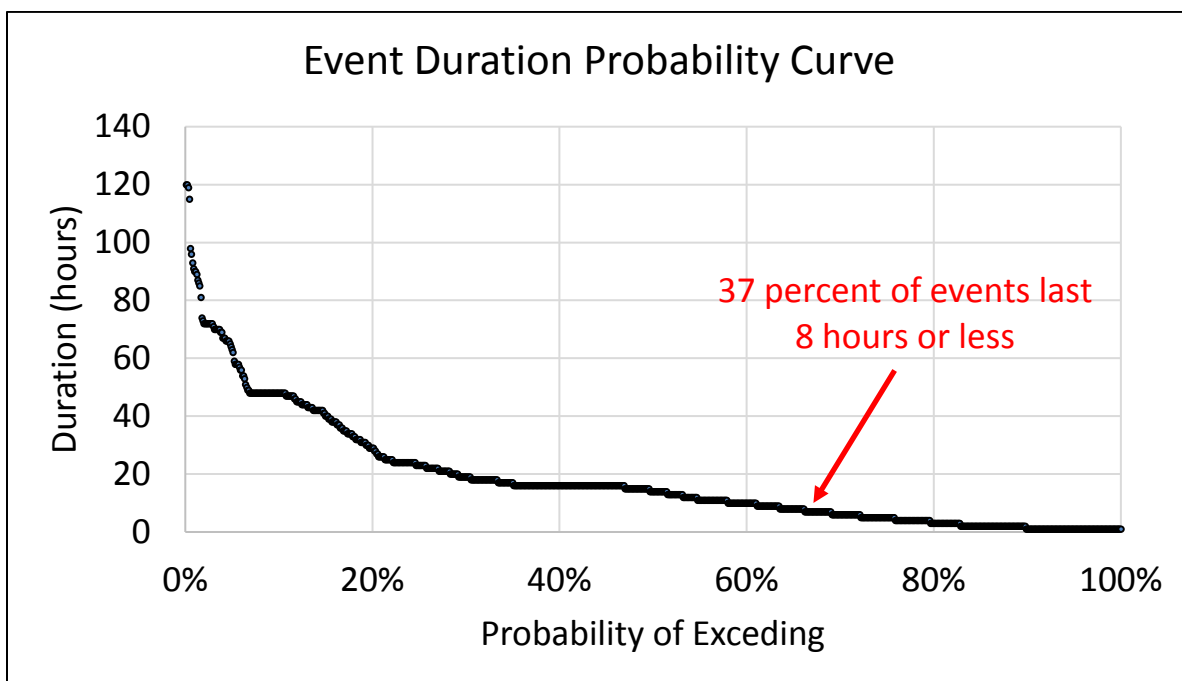


Figure 10: Event Duration Histogram



From Figure 11 below, which shows the event duration exceedance probability curve, the fact that about 37 percent of events have a duration less than 8 hours bodes well for demand response and other short-term standby measures. For example, the LOLP of the 2024 power supply prior to applying the effects of standby resources is 9.3 percent but accounting for standby resources (460 megawatts of capacity and 41,750 megawatt-hours of energy) drops the LOLP to 8.2 percent. Thus, although demand response and other short-term measures can only be applied over several hours, they are nonetheless very effective in eliminating short-duration events (e.g. picking the low hanging fruit, in colloquial terms) and lowering the overall LOLP. What is also obvious in Figure 11 is that some events can last up to 120 hours or nearly an entire week. However, these very long duration events are extremely rare – the 120-hour event shown to the left of the chart below has a 1 in 5,520 chance of occurring.

Figure 11: Event Duration Probability Curve



Besides looking at curtailment statistics, it may also be of great value to examine the conditions under which curtailments occur. Thus, a record of all curtailment events along with the values for the four random variables used in the analysis is provided on the Council's Resource Adequacy website. The four random variables are monthly river flow volume at the Dalles Dam, daily average regional temperature, wind and solar generation and thermal resource forced outages. Some attempts have been made to correlate shortfall events with the occurrence of certain temperatures, water conditions, wind generation patterns and forced outages, but unfortunately without much success. This is an area of study that is being explored further and may produce better results once the GENESYS model has been enhanced to model plant-specific hourly hydroelectric operations.

Figure 12 below shows the number of shortfall events by historic water year and Figure 13 shows the number of events by historic temperature year. From Figure 12, regardless of temperature, the 2003 and 1937 historic river flows provide the worst conditions for adequacy and produce over 12 percent of all simulated shortfall events. In fact, the lowest 10 historic runoff years (as shown in Figure 12) produce nearly 50 percent of all shortfall events (425 out of 900). From Figure 13, regardless of river flows, 1950 and 1956 historic temperatures provide the worst conditions for adequacy and produce 29 percent of all shortfall events (260 out of 900).

Figure 12: Number of Events by Water Year

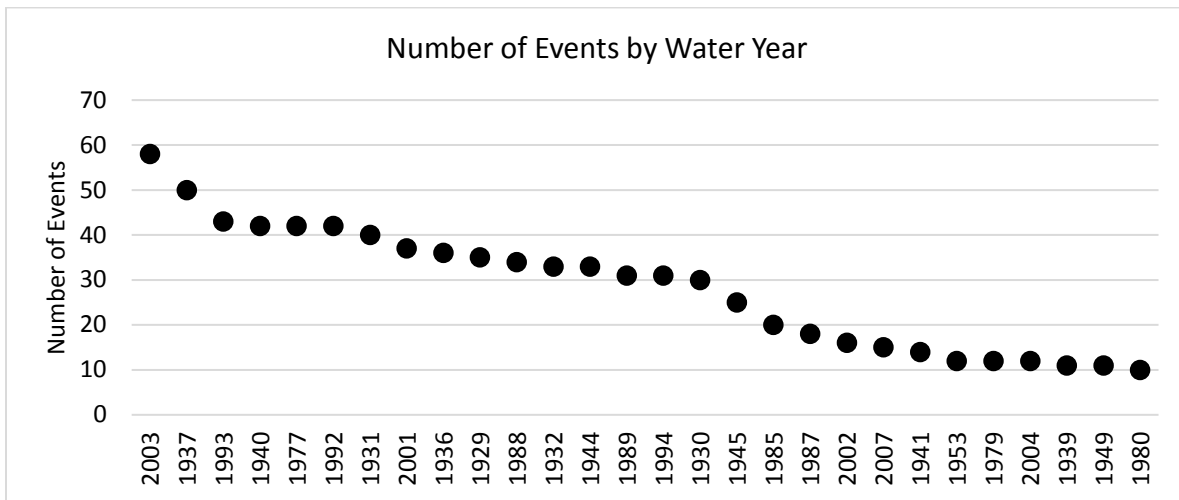
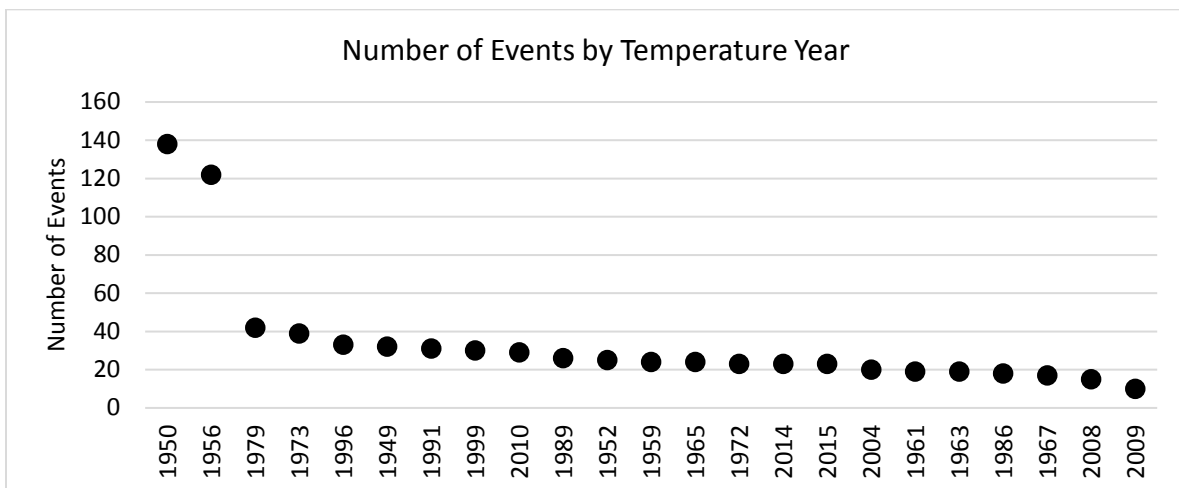


Figure 13: Number of Events by Temperature Year



Finally, Table 3 shows combinations of water and temperature years with the worst conditions for adequacy. From this table, the 1977 runoff year combined with 1950 temperatures is the worst combination, generating 11 shortfall events in that simulation. As mentioned earlier, the 1929 runoff year paired with 1950 temperatures generated 8 events. In fact, it is clear from the table below that 1950 temperatures are by far the most relevant factor contributing to multiple event simulations, being a part of 10 of the top 15 cases. And, while low wind and solar generation and thermal forces outages can add to shortfalls, they rarely, if ever, are the sole cause. In other words, having an extremely high number of thermal outages can easily be overcome if river flow volumes are near average or above.

Table 3: Water Year/Temperature Year Combinations with the most Shortfalls

Water Year	Temp Year	Number of Events
1977	1950	11
1929	1950	8
1931	1950	7
1937	1973	7
1988	1950	7
1993	1950	7
1994	1950	7
2002	1950	7
1936	1950	6
1937	1950	6
1993	1949	6
2001	1996	6
2003	1950	6
2006	1956	6
2007	1956	6

## OTHER ADEQUACY METRICS

Adequacy metrics help planners better understand the magnitude, frequency and duration of potential future power supply shortfalls. These metrics provide valuable information to planners as they consider resource expansion strategies. Table 4 below provides the definitions for some of the more commonly used probabilistic metrics used to examine power supply adequacy and Table 5 shows the value of these metrics for the region for 2024 and 2026. Finally, Table 6 shows the monthly values for these metrics for the 2024 reference case.

The North American Electric Reliability Corporation (NERC) instigated an adequacy assessment pilot program in 2012. It required each of its sub-regions in the United States to report three adequacy measures; 1) expected loss-of-load hours, 2) expected

unserved energy and 3) normalized expected unserved energy (EUE divided by load). This effort is a good first step toward standardizing how adequacy is measured across the United States. However, NERC is not tasked with setting nationwide thresholds for these metrics (i.e. setting a national adequacy standard). In fact, it may be impossible to do so because power supplies vary drastically across regions.

Table 4: Adequacy Metric Definitions

Metric	Description
<b>LOLP (%)</b>	<u>Loss of load probability</u> = number of games with a problem divided by the total number of games
<b>CVaR – Energy (GW-hours)</b>	<u>Conditional value at risk, energy</u> = average annual curtailment for 5% worst games
<b>CVaR – Peak (MW)</b>	<u>Conditional value at risk, peak</u> = average single-hour curtailment for worst 5% of games
<b>EUE (MW-hours)</b>	<u>Expected unserved energy</u> = total curtailment divided by the total number of games
<b>Normalized EUE (ppm)</b>	<u>Normalized expected unserved energy</u> = EUE divided by average load (in MW-hours) multiplied by 1,000,000 in units of parts per million
<b>LOLH (Hours)</b>	<u>Loss of load hours</u> = total number of hours of curtailment divided by total number of games
<b>LOLEV (Events/year)</b>	<u>Loss of load events</u> = total number of curtailment events divided by the total number of simulations

Table 5: Annual Adequacy Metrics (Base Case)

Metric	2024	2026	Units
<b>LOLP</b>	8.2	16.9	Percent
<b>CVaR - Energy</b>	104	195	GW-hours
<b>CVaR - Peak</b>	2623	3811	MW
<b>EUE</b>	5338	11,317	MW-hours
<b>Normalized EUE</b>	28	59	PPM
<b>LOLH</b>	3.1	6.6	Hours/year
<b>LOLEV</b>	0.16	0.38	Events/year

Table 6: 2024 Monthly Adequacy Metrics (Reference Case)

<b>Month</b>	<b>LOLP (%)</b>	<b>CVaR Energy (GW-hours)</b>	<b>CVaR Peak (MW)</b>	<b>EUE (MW-ours)</b>	<b>NEUE (ppm)</b>	<b>LOLH (hours)</b>
<b>Oct</b>	0	0.0	1	0	0	0.0
<b>Nov</b>	0.9	12.9	406	642	40	0.5
<b>Dec</b>	2	17.4	785	870	47	0.6
<b>Jan</b>	2	43.3	1043	2162	117	1.0
<b>Feb</b>	1.7	30.4	941	1520	96	0.7
<b>Jul</b>	0.9	0.9	115	45	3	0.1
<b>Ag1</b>	0.8	0.8	92	39	5	0.1
<b>Ag2</b>	1	1.1	120	57	7	0.1
<b>Sep</b>	0	0.0	4	1	0	0.0

While the Council has successfully used the annual LOLP metric to assess adequacy for over a decade, it became evident during the development of the Seventh Power Plan that seasonal adequacy targets are necessary to develop future power plans. The Council's Regional Portfolio Model uses quarterly reserve margin targets, derived from quarterly LOLP thresholds, to test for adequacy. Using a flat 5 percent annual LOLP to set quarterly reserve margins could result in power supplies that are not adequate. In other words, if the adequacy test in the RPM is a quarterly 5 percent LOLP, it is possible for a power supply that meets the 5 percent quarterly threshold to have an annual LOLP of nearly 20 percent. This can happen if curtailments in each quarter occur in different years. Thus, the calculation of quarterly adequacy reserve margins requires quarterly adequacy targets. Recognizing this, the Council added an action item to its Seventh Power Plan to review and amend its current adequacy standard, as necessary, to more accurately calculate seasonal planning reserve margins.

## RESOURCE AND LOAD DATA

Tables 7 and 8 summarize the resources and load forecasts used for the 2024 adequacy assessment. Table 10 displays the annual average load and the winter and summer peak loads along with the assumed out-of-region market availability.

The methodology used to assess the adequacy of the Northwest power supply assumes a certain amount of reliance on market supplies within the region and imports from California. The Northwest electricity market includes independent power producer (IPP) resources. The full capability of these resources, 2,151 megawatts, is assumed to be available for Northwest use during winter months. However, during summer months, due to competition with California utilities, the Northwest market availability is limited to 1,000 megawatts. Along with import availability, the Council’s analysis includes 460 megawatts of standby resources, which can be used during times of resource scarcity. These resources can only provide 41,750 megawatt-month energy, limiting their operation to 90 hours (at maximum capacity).

Also, this year’s load forecast was modified to incorporate the effects of historic hourly temperatures (1949-2017) as opposed to previous short-term load forecasts that used historic daily temperatures. The use of hourly regressions in the Council’s short-term econometric load forecasting model produced a significantly better representation of potential hourly loads for the 2024 operating year. Members of the Council’s Resource Adequacy Advisory Committee unanimously approved of this method.

Table 7: Loads and Import Availability for 2024

Item	Oct-Mar	Apr-Sep
Average Load (aMW)	21,776	
Avg. Peak Load (MW)	34,535	28,835
DSI Load (aMW)	421	421
Spot Imports (MW)	2,500 <sup>5</sup>	0
Purchase Ahead (MW)	3,000	3,000

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<sup>5</sup> For October, the spot market availability is set to 1,250 megawatts.



Table 8: Generating Resources

Annual Values	2024	2026	Difference
Nuclear (MW)	1,150	1,150	0
Coal (MW)	3,844	3,330	-514
Bio Mass	490	490	0
Gas and Misc (MW)	7,020	7,020	0
IPP (MW)	2,151	1,861	-290
<b>Total Thermal Resource</b>	<b>14,774</b>	<b>13,970</b>	<b>-804</b>
Wind Nameplate (MW)	5,151	5,151	0
Solar Nameplate (MW)	589	589	0

## Updated Resource Data

As mentioned previously, after the analyses for this assessment were completed, PacifiCorp proposed earlier retirement dates for several of its major coal plants. Because of the timing of the announcement and because a certain amount of uncertainty still surrounds the newly announced dates, the results of the 2024 adequacy assessment are based on the original coal retirement dates. Table 9 below provides the original set of retirement dates (used for this analysis) along with the updated retirement dates.

Table 10 shows the cumulative amount of coal plant capacity that is expected to be retired from 2018 through 2032. As can be seen in that table, up to 4,809 megawatts of coal plant capacity might be retired by 2028 (under the updated retirement dates). This represents nearly the capacity of five Columbia Generating Station nuclear plants and is almost enough power to serve five cities the size of Seattle. As mentioned earlier, it doesn't take a computer model to see that 4,809 megawatts represents a significant part of the Pacific Northwest power supply. If all the updated coal retirement dates are upheld, that loss of coal plant capacity is 22 percent of the region's average annual load, 14 percent of its average winter peak-hour load and 17 percent of its average summer peak-hour load. The Council is currently in the process of developing its next power plan that will account for these retirements, state clean air legislation and other factors affecting the regional power supply.

Table 9: Major Coal Plant Projected Retirement Dates

Major Coal Plants Serving the PNW	Nameplate Capacity (MW) Serving PNW	Reference Case Retirement Dates (EOY)	Updated Retirement Dates (EOY)
Hardin	119	2018	
Colstrip 1	154	2019	
Colstrip 2	154	2019	
Boardman	522	2020	
Centralia 1	670	2020	
N Valmy 1	127	2021	
N Valmy 2	134	2025	
Centralia 2	670	2025	
Bridger 1	530	2028	2023
Bridger 2	530	2032	2028
Colstrip 3	518	TBD	2027
Colstrip 4	681	TBD	2027
<b>Total</b>	<b>4,809</b>		

Table 10: Planned Cumulative Coal Capacity Retirement

By End of This Year	Original Dates Cumulative (MW)	Updated Dates Cumulative (MW)
2018	119	119
2019	427	427
2020	1619	1619
2021	1,746	1,746
2023	1,746	2,276
2025	2,550	3,080
2027	2,550	4,279
2028	3,080	4,809
2032	3,610	4,809

## FUTURE ASSESSMENTS

The Council will continue to assess the adequacy of the region's power supply annually as a check to ensure that resource acquisition does not lag behind demand growth. This task is becoming more challenging because of continued development of variable generation resources and changing load patterns. For example, regional planners have had to reevaluate methods to quantify and plan for balancing reserve needs. In light of these changes, the Council is in the process of enhancing its adequacy model to represent operations at a more granular level and to address capacity issues.

Another emerging concern is accounting for transmission access to market supplies. For the current adequacy assessment, the Northwest region is split into two sub-regions<sup>6</sup> in which only the major east-to-west transmission lines are modeled along with the major out-of-region interties. The Council is exploring how to address these issues for future adequacy assessments.

The Council's Seventh Power Plan identifies the following action items related to adequacy assessments:

- RES-8** Adaptive Management – Annual Resource Adequacy Assessments
- COUN-3** Review the regional resource adequacy standard
- COUN-4** Review the RAAC assumptions regarding availability of imports
- COUN-5** Review the methodology used to calculate the adequacy reserve margins used in the Regional Portfolio Model
- COUN-6** Review the methodology used to calculate the associated system capacity contribution values used in the Regional Portfolio Model
- COUN-8** Participate in and track WECC [adequacy] activities
- COUN-11** Participate in efforts to update and model climate change data
- ANLYS-4** Review and enhancement of peak load forecasting
- ANLYS-22** GENESYS Model Redevelopment
- ANLYS-23** Enhance the GENESYS model to improve the simulation of hourly hydroelectric system operations

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<sup>6</sup> The dividing line between the east and west areas of the region (for modeling purposes) is roughly the Cascade mountain range.

Issues identified in 2019 by the Council's Resource Adequacy Advisory Committee to consider for future assessments include:

- Review and update the availability of California and other west-wide market supplies for all months and all hours.
- Investigate the availability of interties that connect the Northwest with regions that may be able to provide market supplies. Consider adding transmission intertie maintenance schedules and forced outages to the analyses.

# Northwest Regional Forecast of Power Loads and Resources

2020 through 2029



April 2019

Special thanks to PNUCC System Planning Committee members and utility staff that provided us with this information.

Electronic copies of this report are available on the  
PNUCC website  
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# 2019 Northwest Regional Forecast

## Executive Summary

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### The One Certainty is Change

This annual analysis of Northwest utilities' data predicts the region's electric power need based on a look at supply and demand over the next 10 years, recognizing the unpredictability of weather and water conditions. This *Northwest Regional Forecast* has been a valuable tool to help inform utilities, decision-makers and others facing important decisions about the resource investments needed to ensure that the region has adequate supplies of electricity to meet the requirements of a growing region with a changing power supply picture.

This year's report, published on the heels of a recent record-setting wholesale energy price event in March, underscores the region's need for generating and demand-side resources that match up with characteristics of consumers' demand for electricity. It may also be a sign that traditional resource planning cannot fully capture the abilities and inabilities of our more dynamic, diverse power system.

This report largely shows a continuation of several compounding trends impacting the electric power industry's planning and operations. With the hydropower system as a backbone and a heavy reliance on future energy efficiency savings, utilities continue to operate – and make decisions about future power supply and demand – within a changing and sometimes chaotic economic, political, technological and social environment. The one certain thing is that the utility landscape continues to change and evolve.

Most notably, these are the key trends worth watching:

- Northwest utilities are achieving carbon-reduction goals and many are seeking opportunities to do more, while policymakers seem eager to enact more aggressive decarbonization legislation.
- Although the winter period shows improvement, serving winter peak demand remains a concern. And summertime peak demand continues to increase, focusing planners on peak capacity needs.
- The loss of several coal-fired power plants over the next decade will contribute to the challenges of maintaining an adequate, reliable power supply. In the Northwest, nearly 2,100 MW will be retired by 2022 with another 1,500 MW by 2029. Similarly, many more retirements are anticipated across the west, adding to regional adequacy concerns.
- Current planned construction of new wind and other renewable resources cannot be expected to fully offset the anticipated loss of generation from coal-fired power plant retirements.
- The use of new technologies, such as large-scale batteries, is being explored to confirm a greater role in utilities' resource plans.
- Growth in demand for electricity is not consistent across the region. On average, load growth is forecast under one percent annually. Some utilities are experiencing declining or flat loads, while a few expect well over three percent annual growth in demand through time.

These and other data-based perspectives are outlined in more detail on the following pages.

## Decarbonization is Happening

Decarbonization of electric power supply is the conversion of fossil fuel-based energy to lower-carbon electricity sources. Utilities are taking action to transition their power supply, and states’ legislatures are considering additional action aimed at reducing carbon emissions more aggressively, including both Oregon and Washington. California already has very aggressive carbon-reduction goals in place that will also impact the Northwest.

Utilities have taken the decarbonization goal to heart. To meet policy directives and consumers’ desires, they are setting corporate carbon reduction goals to reduce greenhouse gasses that contribute to climate change. Customers are expecting that their utility will invest more in wind, solar and other renewables.

Programs to accommodate electric-powered vehicles with charging stations and incentives are also top-of-mind among electric utilities across the region as they move to decarbonize. In addition, utilities continue to encourage more homes and businesses to pursue efficient heat pumps while pursuing more non-carbon generation. The success of these electrification efforts will influence future power supply and demand forecasts, but just how much is yet to be determined.

## Coal Retirements Underscore Reliability Challenges

Plans to retire eight coal-fired power units that serve the region will reduce the almost 6,800 megawatts of coal-fired generation available today to below 3,200 megawatts by 2028. This loss of more than 3,600 megawatts of dispatchable generation (both utility and non-utility owned) will be most notable during peak-demand periods in the winter and summer.

The committed and planned new generation facilities on the drawing board for the next five years are renewables projects. Then almost 950 MW of natural gas-fired generation are penciled in between 2025 and 2028. Utilities also continue to pursue aggressive energy-efficiency along with demand side-management programs designed to reduce energy use during peak periods. They are looking to capacity contracts and seeking to prove new technologies such as batteries, to also help fill the void created by the closure of the coal units.

Taken together, this is presenting the region with new challenges for reliably meeting demand under certain conditions. There is plenty of work ahead to identify and develop resources that meet the desire of customers and provide the supply attributes to ensure an adequate power system in the years ahead.

Figure 1: Northwest Planned Coal Unit Retirements

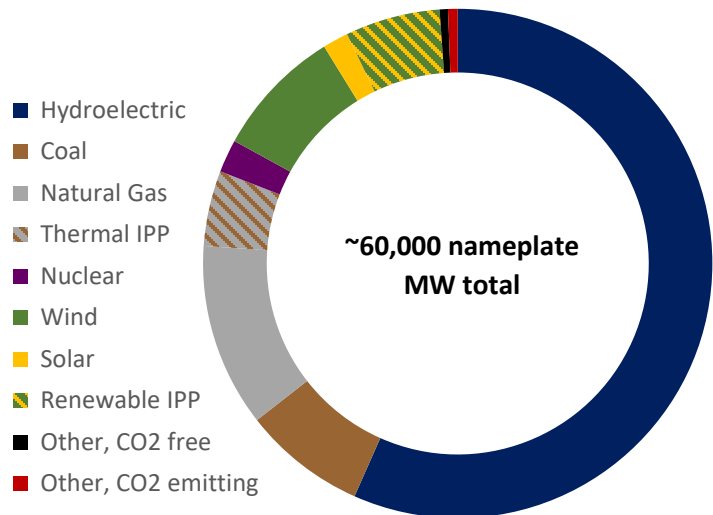
Project	Nameplate MW	Schedule
Valmy Unit 1	254	End of 2019
Centralia Unit 1	670	End of 2020
Boardman	585	End of 2020
Colstrip Unit 1 & 2	660	July 2022
Centralia Unit 2	670	End of 2025
Valmy Unit 2	267	End of 2025
Jim Bridger 2	540	End of 2028
<b>Total</b>	<b>3,646 MW</b>	

## Hydropower Still Dominates

Utilities in the Northwest depend on a reliable, low-carbon fleet of resources to ensure that we meet the energy needs of customers. Since the 1930s, hydroelectric power has been the centerpiece of the Northwest’s low-carbon energy portfolio, making up nearly 60 percent of the total electricity supply built in the region today. Even in low water conditions, hydropower makes up more than 60 percent of the region’s winter peak capacity supply. Of course, the more abundant the water supply in a year, the greater the share of the Northwest’s electric generation hydro provides.

Our reliance on hydropower means the average carbon footprint of the Northwest’s generating resources is less than half of the rest of the nation. It also means that the Northwest, in aggregate, has a head start in meeting national, regional, statewide and local goals that may be established for decarbonization.

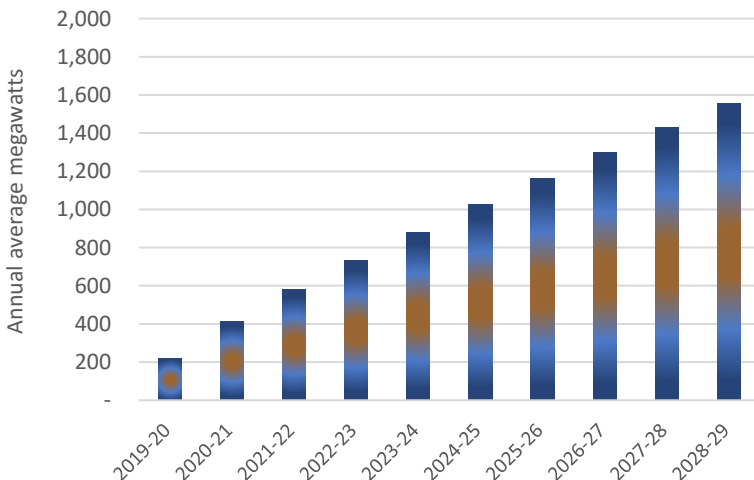
Figure 2: Northwest Generating Resources  
 2021 Nameplate MW



## One Constant: Energy Efficiency

Northwest utilities’ steady and long-term commitment to offering energy-efficiency programs and incentives to customers has saved thousands of average megawatts, reducing the need to invest in new and expensive power plants. According to the Northwest Power & Conservation Council, a multi-state planning agency, the Northwest has saved more than 6,600 average annual megawatts since 1978 thanks to energy efficiency.

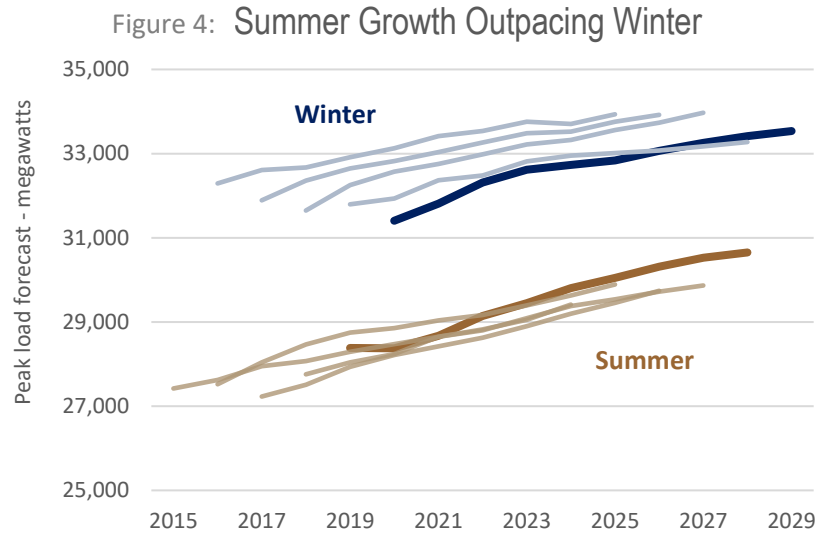
Figure 3: Energy Efficiency Savings  
 Cumulative



Based on utility data the Northwest has consistently exceeded its goals. The story remains constant. Utilities continue to invest heavily into energy efficiency, forecasting savings of almost 160 average megawatts per year. These numbers don’t include the added savings from federal building and construction codes and standards, nor any market transformation efforts. The *Forecast* continues to predict significant energy efficiency acquisitions over the next decade.

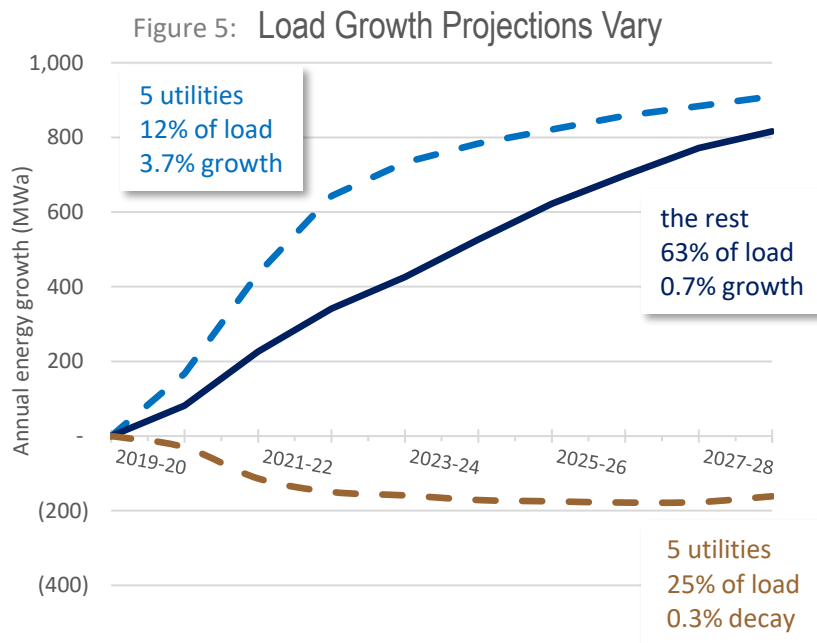
## Peak Demand Remains a Concern

The trends for meeting the region’s demand for power, especially during peak periods, might be as different as summer and winter – literally. Summer demand for electricity continues to stay on track. Multiple factors are likely contributing to this upward trend, including increased air conditioning. The projection for winter peak demand has slipped year over year. This is likely due to more energy efficiency, use of natural gas for heating, lost industrial load, among other drivers.



## Growth Varies Across the Region

The overall growth in demand is not consistent across the Northwest. Some utilities are experiencing significant growth, due largely to anticipated new industrial customers. Many of these utilities are located east of the Cascades in Oregon and Washington, where lower electricity costs, cheaper land prices and other factors are attracting new, large customers – particularly high-tech companies that need large amounts of electricity for data centers.



The annual average load growth for the region is less than 1 percent – 0.8 percent over the ten-year horizon. Yet, demand for electricity for just five utilities is growing at an average rate of 3.7 percent per year, while five other utilities are anticipating decaying loads on average of 0.3 percent per year. The region’s remaining utilities (over 60 percent of total demand) are expecting to grow on average at 0.7 percent annually.

Typically, the utilities with declining loads expect no new industrial customers to locate within their service territories. And while the number of residential customers is ticking up, energy use per customer is declining due to energy efficiency and federal codes and standards for new construction, use of natural gas for heating purposes or other factors.

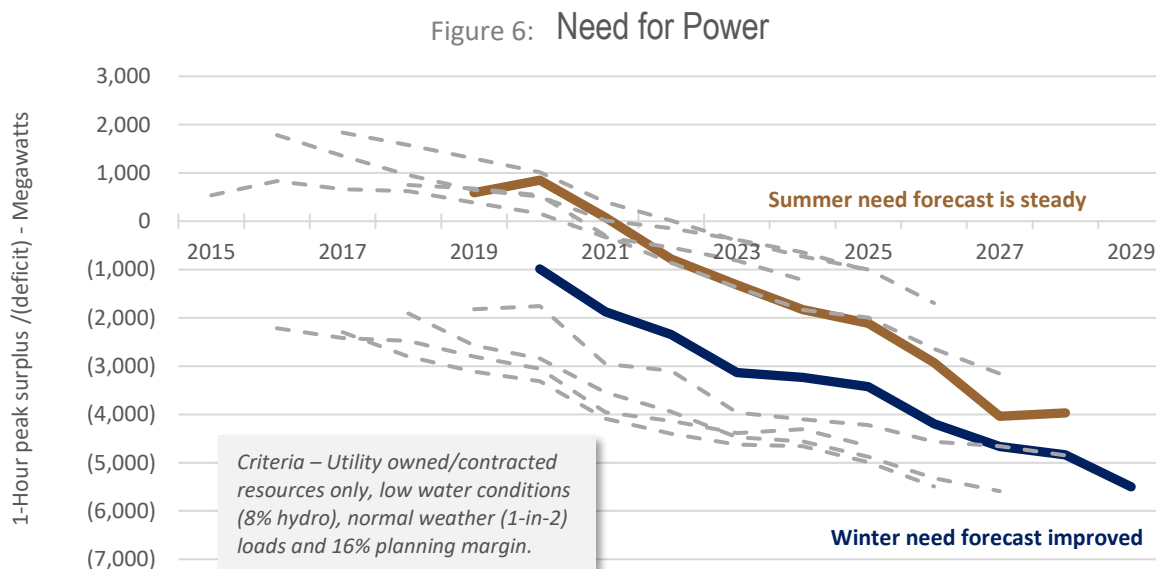
### Winter Need Remains, Summer Need Coming

The Northwest has adequate generation to meet customer demand during most times of the year. However, the winter peak need still exists under this forecast’s planning criteria. Although the picture has improved (in part due to the loss of large industrial load), the peak deficit grows through time if no future actions are taken.

The steady trend of a growing summer peak need is also drawing attention. Planning projections continue to indicate that within the *Forecast* horizon, summer peak requirements will outpace utilities’ firm generation, challenging utility planners to consider actions to address both winter and summer peak capacity need. This is underscored with the planned coal unit retirements (See Figure 1 above) and periodic experiences of tighter power supply throughout the west in the last few years.

This increasing sense of concern regarding winter and summer resource adequacy seems counterintuitive to the *Need for Power* pictured here. Summer need is similar to past reports and the winter picture is improving. However, we cannot look at the Northwest utilities’ load/resource balance picture in isolation.

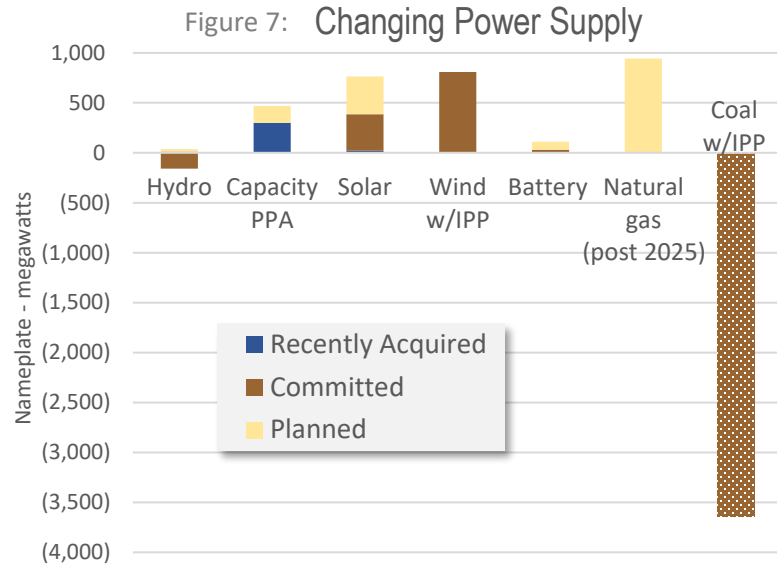
Northwest utilities have leaned on better than low hydro generation, power from independent power producers, and imports from outside the region to ease adequacy concerns. Looking ahead, those same opportunities may not exist. Hydro generation, depending on water supply, varies and can continue to provide non-firm power. However, as large thermal resources are retired throughout the Western Interconnection, the availability of non-firm power (the market) is shrinking, especially during hours of low renewable production. The retirements, along with the growing uncertainty of a utility or developer’s ability to build gas turbines to replace that lost generation, have triggered efforts to examine Northwest resource adequacy in a greater context.



## New Resource Plans Dynamic

This year's *Forecast* reflects a quickening pace-of-change for utilities' plans for acquiring new resources. New renewables are jumping in as committed, and planned new resources often show up one year and then fall away in another as utilities refine their plans to account for changing circumstances. Since last year's *Forecast*, another coal unit closure has shown up in our planning horizon and been added to our tally for a total of over 3,600 MW of dispatchable capacity leaving the picture. In addition, the first large-scale battery (30 MW) will be integrated with a combined 350 MW wind and solar project in Eastern Oregon that has been committed to the Northwest.

The changes are stacking up. We expect more in next year's report as utilities announce new goals for developing renewable generation and further decarbonizing their resource portfolios. Utilities have added 300 megawatts of contracts and 34 MW of new generation since last year. Nearly 900 megawatts of new generating resource, all wind and solar, are committed to be built in the next few years, as well as 200 MW of non-utility wind. Committed resources are included in the need for power assessment.



Utilities reported nearly 1,600 megawatts of nameplate capacity in the planning stage – mostly wind, batteries and solar power from 2019 to 2025. Starting in 2025, planned natural gas plants begin to appear, totaling over 900 MW by 2027. On the outgoing side, as mentioned earlier, are almost 3,600 MW of coal (including coal units owned by Independent Power Producers).

## The Future is Here

This year's *Northwest Regional Forecast* continues a trend that is relatively new in its 70-year history. Over the past two decades, the region has transformed into a more diverse mix of resources and customers. Stepping up to meet this challenge, utilities are carefully navigating a path for a reliable, adequate, affordable future.

Changes in customer desires have impacted energy usage and future supply. We have met the challenge to integrate new wind and solar resources into our existing hydropower dominate system. We are looking at how to achieve new, more aggressive carbon-reduction goals at the state and national level, in a region that already leads the country in a low carbon power supply. And we are paying careful attention to resolving the impact of the retiring dispatchable resources in this changing power supply landscape.

As always, we will keep our collective eyes on emerging trends and developments as new technologies for power supply evolve and the desires of consumers change.

# Overview

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Each year the *Northwest Regional Forecast* compiles utilities' 10-year projections of electric loads and resources which provide information about the region's need to acquire new power supply. The Forecast is a comprehensive look at the capability of existing and new electric generation resources, long-term firm contracts, expected savings from demand side management programs and other components of electric demand for the Northwest.

This report presents estimates of annual average energy, seasonal energy and winter and summer peak capability in Tables 1 through 4 of the Northwest Region Requirements and Resources section. These metrics provide a multi-dimensional look at the Northwest's need for power and underscore the growing complexity of the power system.

Northwest generating resources are shown by fuel type. Existing resources include those resources listed in Tables 5, 6, 10 and 11. Table 5, Recently Acquired Resources, highlights projects and supply that became available most recently. Table 6, Committed New Supply, lists those generating projects where construction has started, as well as contractual arrangements that have been made for providing power at a future time. Table 10, Northwest Utility Generating Resources, is a comprehensive list of generating resources that make up the electric power supply for the Pacific Northwest that are utility-owned or utility contracted. Table 11, Independent Owned Generating Resources, lists generating projects owned by independent power producers and located in the Northwest.

In addition, utilities have demand side management programs in place to reduce the need for generating resources. Table 7, Demand-Side Management Programs, provides a snapshot of expected savings from these programs for the next ten years. Table 8, Planned Resources, is a compilation of what utilities have reported in their individual integrated resource plans to meet future need.

## Planning Area

The Northwest Regional Planning Area is the area defined by the *Pacific Northwest Electric Power Planning and Conservation Act*. It includes: the states of Oregon, Washington, and Idaho; Montana west of the Continental Divide; portions of Nevada, Utah, and Wyoming that lie within the Columbia River drainage basin; and any rural electric cooperative customer not in the geographic area described above, but served by BPA on the effective date of the *Act*.



# Northwest Region Requirements and Resources

**Table 1. Northwest Region Requirements and Resources – Annual Energy** shows the sum of the individual utilities’ requirements and firm resources for each of the next 10 years. Expected firm load and exports make up the total firm regional requirements.

Average Megawatts	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
<b>Firm Requirements</b>										
Load <sup>1/</sup>	20,472	20,691	21,026	21,314	21,482	21,623	21,755	21,867	21,969	22,051
Exports	<u>476</u>	<u>465</u>	<u>467</u>	<u>467</u>	<u>467</u>	<u>467</u>	<u>467</u>	<u>467</u>	<u>467</u>	<u>467</u>
<b>Total</b>	20,947	21,157	21,493	21,781	21,949	22,090	22,222	22,334	22,436	22,518
<b>Firm Resources</b>										
Hydro <sup>2/</sup>	11,117	11,117	11,097	11,079	11,080	11,080	11,080	11,080	11,080	11,080
Natural Gas <sup>3/</sup>	4,637	4,627	4,586	4,481	4,462	4,359	4,340	4,136	4,137	4,094
Renewables-Other	235	233	230	227	227	227	224	214	215	216
Solar	189	254	269	268	268	267	268	268	268	268
Wind	1,308	1,397	1,378	1,337	1,322	1,314	1,314	1,299	1,261	1,258
Cogeneration	45	45	27	8	8	8	8	8	8	8
Imports	706	709	711	713	716	671	640	338	339	339
Nuclear	1,100	937	1,100	937	1,100	937	1,100	937	1,100	937
Coal	<u>3,621</u>	<u>3,664</u>	<u>3,111</u>	<u>3,108</u>	<u>2,912</u>	<u>2,847</u>	<u>2,741</u>	<u>2,796</u>	<u>2,732</u>	<u>2,248</u>
<b>Total</b>	22,958	22,984	22,509	22,160	22,094	21,711	21,713	21,076	21,140	20,448
<b>Surplus (Deficit)</b>	<b>2,011</b>	<b>1,827</b>	<b>1,017</b>	<b>379</b>	<b>145</b>	<b>(379)</b>	<b>(509)</b>	<b>(1,258)</b>	<b>(1,296)</b>	<b>(2,070)</b>

<sup>1/</sup> Loads net of energy efficiency

<sup>2/</sup> Firm hydro for energy is the generation expected assuming 1936-37 water conditions

<sup>3/</sup> There is likely more energy available from thermal units whose data shows only planned generation



**Table 2. Northwest Region Requirements and Resources – Monthly Energy** shows the monthly energy values for the 2019-2020 operating year.

Average Megawatts	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
<b>Firm Requirements</b>												
Load <sup>1/</sup>	20,346	18,609	18,709	20,767	23,536	23,213	21,649	20,459	19,129	18,848	19,737	20,977
Exports	<u>613</u>	<u>521</u>	<u>521</u>	<u>521</u>	<u>521</u>	<u>491</u>	<u>491</u>	<u>491</u>	<u>491</u>	<u>491</u>	<u>491</u>	<u>506</u>
<b>Total</b>	20,959	19,130	19,230	21,288	24,056	23,704	22,140	20,950	19,620	19,339	20,227	21,483
<b>Firm Resources</b>												
Hydro <sup>2/</sup>	11,715	9,136	9,526	10,863	11,595	11,202	9,144	9,581	9,412	11,341	14,633	13,512
Natural Gas <sup>3/</sup>	4,733	4,553	4,378	4,736	4,998	5,030	4,740	4,524	4,208	3,917	4,523	4,739
Renewables-Other	228	232	240	245	244	240	238	240	228	219	224	227
Solar	226	181	132	67	50	82	152	210	291	341	382	401
Wind	1,199	1,196	1,143	1,185	1,198	1,038	1,298	1,486	1,524	1,455	1,536	1,439
Cogeneration	43	45	47	47	55	55	51	54	46	40	28	43
Imports	701	659	671	705	744	762	729	736	674	677	697	721
Nuclear	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Coal	<u>3,852</u>	<u>3,852</u>	<u>3,852</u>	<u>3,852</u>	<u>3,852</u>	<u>3,737</u>	<u>3,737</u>	<u>3,647</u>	<u>3,220</u>	<u>2,966</u>	<u>2,876</u>	<u>3,737</u>
<b>Total</b>	23,798	20,953	21,088	22,799	23,835	23,247	21,190	21,577	20,703	22,056	25,998	25,918
<b>Surplus (Deficit)</b>	<b>2,839</b>	<b>1,823</b>	<b>1,858</b>	<b>1,511</b>	<b>(222)</b>	<b>(457)</b>	<b>(950)</b>	<b>627</b>	<b>1,083</b>	<b>2,717</b>	<b>5,771</b>	<b>4,435</b>

<sup>1/</sup> Loads net of energy efficiency

<sup>2/</sup> Firm hydro for energy is the generation expected assuming 1936-37 water conditions

<sup>3/</sup> There is likely more energy available from thermal units whose data shows only planned generation

**Table 3. Northwest Region Requirements and Resources – Winter Peak**

The sum of the individual utilities' firm requirements and resources for the peak hour in January for each of the next 10 years are shown in this table. Firm peak requirements include a planning margin to account for planning uncertainties.

Megawatts	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Firm Requirements</b>										
Load <sup>1/</sup>	31,405	31,811	32,317	32,620	32,732	32,839	33,069	33,255	33,418	33,537
Exports	1,150	1,174	1,003	1,000	998	1,009	1,017	1,017	1,001	997
Planning Margin <sup>2/</sup>	<u>5,025</u>	<u>5,090</u>	<u>5,171</u>	<u>5,219</u>	<u>5,237</u>	<u>5,254</u>	<u>5,291</u>	<u>5,321</u>	<u>5,347</u>	<u>5,366</u>
<b>Total</b>	37,580	38,075	38,490	38,840	38,967	39,102	39,378	39,593	39,766	39,900
<b>Firm Resources</b>										
Hydro <sup>3/</sup>	22,549	22,549	22,549	22,546	22,546	22,546	22,546	22,546	22,546	22,546
Demand Response	42	86	92	120	146	169	206	224	228	228
Small Thermal & Misc.	167	167	167	167	167	167	167	167	165	165
Natural Gas	6,546	6,556	6,556	6,418	6,417	6,417	6,417	6,157	6,157	6,157
Renewables-Other	250	248	241	241	241	241	241	223	223	223
Solar	10	13	14	14	14	14	14	14	14	14
Wind	289	309	297	276	271	271	271	271	270	270
Cogeneration	59	59	9	9	9	9	9	9	9	9
Imports	1,367	1,471	1,475	1,479	1,483	1,407	1,010	1,013	1,016	1,016
Nuclear	1,144	1,144	1,144	1,144	1,144	1,144	1,144	1,144	1,144	1,144
Coal	<u>4,168</u>	<u>3,598</u>	<u>3,598</u>	<u>3,291</u>	<u>3,291</u>	<u>3,291</u>	<u>3,157</u>	<u>3,157</u>	<u>3,157</u>	<u>2,627</u>
<b>Total</b>	36,592	36,200	36,143	35,706	35,730	35,676	35,183	34,926	34,931	34,400
<b>Surplus (Need)</b>	<b>(988)</b>	<b>(1,875)</b>	<b>(2,348)</b>	<b>(3,134)</b>	<b>(3,237)</b>	<b>(3,426)</b>	<b>(4,195)</b>	<b>(4,667)</b>	<b>(4,835)</b>	<b>(5,500)</b>

<sup>1/</sup> Expected (1-in-2) loads net of energy efficiency

<sup>2/</sup> Planning margin is 16% of load in every year (this is a change since 2018)

<sup>3/</sup> Firm hydro for capacity is the generation expected assuming critical (8%) water condition

**Table 4. Northwest Region Requirements and Resources – Summer Peak**

The sum of the individual utilities' firm requirements and resources for a peak hour in August for each of the next 10 years are shown in this table. Firm peak requirements include a planning margin to account for planning uncertainties.

Megawatts	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Firm Requirements</b>										
Load <sup>1/</sup>	28,380	28,375	28,674	29,140	29,450	29,805	30,051	30,315	30,529	30,652
Exports	1,726	1,491	1,504	1,510	1,580	1,689	1,637	1,619	2,250	2,037
Planning Margin <sup>2/</sup>	<u>4,541</u>	<u>4,540</u>	<u>4,588</u>	<u>4,662</u>	<u>4,712</u>	<u>4,769</u>	<u>4,808</u>	<u>4,850</u>	<u>4,885</u>	<u>4,904</u>
<b>Total</b>	34,647	34,405	34,766	35,312	35,742	36,263	36,496	36,785	37,664	37,594
<b>Firm Resources</b>										
Hydro <sup>3/</sup>	21,267	21,267	21,267	21,264	21,264	21,264	21,264	21,264	21,264	21,264
Demand Response	381	415	425	451	471	486	506	536	542	542
Small Thermal & Misc.	165	167	167	167	167	167	167	167	165	165
Natural Gas	6,084	6,095	6,095	6,097	5,962	5,962	5,961	5,957	5,720	5,720
Renewables-Other	253	251	249	243	243	243	243	225	225	225
Solar	249	336	389	406	406	406	406	406	406	406
Wind	298	306	325	293	293	284	284	284	280	280
Cogeneration	50	50	26	9	9	9	9	9	9	9
Imports	1,066	1,072	1,178	1,184	1,189	1,194	1,120	725	730	730
Nuclear	1,128	1,128	1,128	1,128	1,128	1,128	1,128	1,128	1,128	1,128
Coal	<u>4,295</u>	<u>4,168</u>	<u>3,598</u>	<u>3,291</u>	<u>3,291</u>	<u>3,291</u>	<u>3,291</u>	<u>3,157</u>	<u>3,157</u>	<u>3,157</u>
<b>Total</b>	35,235	35,254	34,846	34,532	34,423	34,435	34,379	33,859	33,625	33,625
<b>Surplus (Need)</b>	<b>588</b>	<b>849</b>	<b>81</b>	<b>(781)</b>	<b>(1,320)</b>	<b>(1,828)</b>	<b>(2,117)</b>	<b>(2,926)</b>	<b>(4,039)</b>	<b>(3,969)</b>

<sup>1/</sup> Expected (1-in-2) loads net of energy efficiency

<sup>2/</sup> Planning margin is 16% of load in every year (this is a change since 2018)

<sup>3/</sup> Firm hydro for capacity is the generation expected assuming critical (8%) water condition

# Northwest New and Existing Resources

**Table 5. Recently Acquired Resources** highlights projects that have recently become available.

Project	Fuel/Tech	Nameplate (MW)	Winter Peak (MW)	Summer Peak (MW)	Energy (MWa)	Utility/Owner
Calligan Creek	Hydro	6	6	2		Snohomish PUD
Hancock Creek	Hydro	6	6	3		Snohomish PUD
Adams Neilson PPA	Solar	22 (AC)				Avista/Strata Solar
BPA capacity PPA	PPA	200	200	200		PGE
AvanGrid capacity PPA	PPA	100	100	100		PGE
<b>Total</b>		<b>334</b>				

**Table 6. Committed New Supply** details contracts and generating projects where construction has started and that utilities are counting on to meet need. All supply listed in this table is included in the regional analysis of power needs.

Project	Year	Fuel/Tech	Name plate (MW)	Winter Peak (MW)	Summer Peak (MW)	Energy (MWa)	Utility/Owner
Vale 1 Solar	2019	Solar	3		5	2	Idaho Power
Brush Solar	2019	Solar	3		1	1	Idaho Power
Morgan Solar	2019	Solar	3		2	2	Idaho Power
Baker Solar Center	2019	Solar	15		8		Idaho Power
PacifiCorp Wind Repower	2019	Wind	25				PacifiCorp
Rattlesnake Flat	2020	Wind	144			50	Avista/Clearway
Skookumchuck	2020	Wind	139				PSE
Montauge Wind (IPP)	2020	Wind	200				Avangrid
Wheatfield Wind	2020	Wind	300	49	49	100	PGE/NextEra
Wheatfield Battery	2021	Battery	30				PGE/NextEra
East. WA. Solar	2021	Solar	150				PSE/Avangrid
Wheatfield Solar	2021	Solar	50				PGE/NextEra
Idaho/Twin Falls Solar	2022	Solar	120				Idaho Power/Jackpot
<b>Total</b>			<b>1,182</b>				

**Table 7. Demand-Side Management Programs** is a snapshot of the regional utilities’ efforts to manage demand. The majority of the energy efficiency savings are from utility programs and included in the regional analysis of power needs. This table also shows cumulative existing plus new demand response programs reported by utilities.

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
<b>Energy Efficiency (MWa)</b>										
Incremental	218	194	166	152	150	143	141	135	130	128
Cumulative	218	413	579	731	881	1,023	1,165	1,299	1,429	1,558
<b>Demand Response (MW)</b>										
Winter (exist. + forecast)	42	86	92	120	146	169	206	224	228	228
Summer (exist. + forecast)	381	415	425	451	471	486	506	536	542	542

**Table 8. Planned Resources** catalogues potential resources that utilities have identified to meet their own needs. These resources are not included in the regional analysis of power needs.

Project	Date	Fuel/Tech	Nameplate (MW)	Winter Peak (MW)	Summer Peak (MW)	Energy (MWa)	Utility
Generator Replacement	2019	Hydro	9	9	9		Grant County PUD
Generator Replacement	2019	Hydro	9	9	9		Grant County PUD
Generator Rebuild	2019	Hydro	9	9	9		Grant County PUD
Capacity PPA	2019	Unknown	50	50	-	5	Snohomish PUD
Hydro Upgrade	2020	Hydro	3	-	3		Idaho Power
Solar	2022	Solar	266	0			PSE
Battery	2023	Battery	50	38			PSE
Battery	2024	Battery	25	15			PSE
Solar	2024	Solar	112	0			PSE
Natural Gas Peaker	2025	Natural Gas	239	239			PSE
Natural Gas Peaker	2026	Natural Gas	192	204	177	178	Avista
Natural Gas Peaker	2026	Natural Gas	239	239			PSE
Thermal Upgrades	2026-2029	Natural Gas	34	34	35	31	Avista
Natural Gas Peaker	2027	Natural Gas	239	239			PSE
Capacity Resource	2028	Unknown	120	116	116	12	Snohomish PUD
Storage	2029	Unknown	5	5	5	0	Avista
<b>Total</b>			<b>1,599</b>				

**Table 9. Committed and Planned Dispatchable Resources Timeline** provides an expected schedule for new resource additions for both the committed resources already included in the load/resource picture, and planned resources that are not as far along in the acquisition/build process.

Nameplate MW	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Hydro	26	(160)										(134)
Capacity	50									120		170
Solar	24		200	266		112						741
Wind (inc. IPP)	25	783										808
Battery			30		50	25					5	110
Natural gas							239	431	273			943
Demand Response			44	6	28	26	23	37	17	5		186
Coal (inc. IPP)	(254)	(1,255)		(660)			(937)			(540)		(3,646)
<b>Total incremental</b>	<b>(129)</b>	<b>(632)</b>	<b>274</b>	<b>(248)</b>	<b>78</b>	<b>163</b>	<b>(675)</b>	<b>468</b>	<b>290</b>	<b>(416)</b>	<b>5</b>	
<b>Total cumulative</b>	<b>(129)</b>	<b>(761)</b>	<b>(487)</b>	<b>(735)</b>	<b>(657)</b>	<b>(494)</b>	<b>(1,169)</b>	<b>(701)</b>	<b>(411)</b>	<b>(827)</b>	<b>(823)</b>	

**Table 10. Northwest Utility Generating Resources** is a comprehensive list of utility-owned and utility contracted generating resources that make up those utilities electric power supply.

Project	Owner	NW Utility	Nameplate (MW)
<b>HYDRO</b>			<b>33,344</b>
Albeni Falls	US Corps of Engineers	Federal System (BPA)	43
Alder	Tacoma Power	Tacoma Power	50
American Falls	Idaho Power	Idaho Power	92
Anderson Ranch	US Bureau of Reclamation	Federal System (BPA)	40
Arena Drop	PURPA	Idaho Power	0
Arrowrock Dam	Clatskanie PUD/Irrigation Dist.	Clatskanie PUD	18
B. Smith	PacifiCorp	PacifiCorp	0
Baker City Hydro		Idaho Power	
Barber Dam		Idaho Power	4
Bell Mountain	PacifiCorp	PacifiCorp	1
Big Sheep Creek	Everand Jensen	Avista Corp.	0
Big Cliff	US Corps of Engineers	Federal System (BPA)	18
Birch Creek	PURPA	Idaho Power	0
Birch Creek	PacifiCorp	PacifiCorp	3
Black Canyon # 3	PURPA	Idaho Power	0
Black Canyon	US Bureau of Reclamation	Federal System (BPA)	10
Black Canyon Bliss Dam	PURPA	Idaho Power	-
Black Creek Hydro	Black Creek Hydro, Inc.	Puget Sound Energy	4
Blind Canyon	PURPA	Idaho Power	2
Boston Power		PacifiCorp	
Bliss	Idaho Power	Idaho Power	75
Boise River Diversion	US Bureau of Reclamation	Federal System (BPA)	2
Bonneville	US Corps of Engineers	Federal System (BPA)	1,102
Box Canyon-Idaho	PURPA	Idaho Power	0
Boundary	Seattle City Light	Seattle City Light	1,119
Box Canyon	Pend Oreille County PUD	Pend Oreille County PUD	70
Briggs Creek	PURPA	Idaho Power	1
Brownlee	Idaho Power	Idaho Power	585
Bypass	PURPA	Idaho Power	10
Cabinet Gorge	Avista Corp.	Avista Corp.	265
Calligan Creek	Snohomish County PUD	Snohomish County PUD	6
Calispel Creek	Pend Oreille County PUD	Pend Oreille County PUD	1
Canyon Springs	PURPA	Idaho Power	0
Carmen-Smith	Eugene Water & Electric Board	Eugene Water & Electric Board	105
Cascade	US Bureau of Reclamation	Idaho Power	12
CDM Hydro	PacifiCorp	PacifiCorp	6
Cedar Falls, Newhalem	PURPA	Seattle City Light	33
Central Oregon Siphon		PacifiCorp	5
Chandler	US Bureau of Reclamation	Federal System (BPA)	12

Project	Owner	NW Utility	Nameplate (MW)
Chelan	Chelan County PUD	Chelan County PUD	59
Chief Joseph	US Corps of Engineers	Federal System (BPA)	2,457
C. J. Strike	Idaho Power	Idaho Power	83
Clark Canyon Dam	PURPA	Idaho Power	8
Clear Lake	Idaho Power	Idaho Power	3
Clear Springs Trout	PURPA	Idaho Power	1
Clearwater #1	PacifiCorp	PacifiCorp	15
Clearwater #2	PacifiCorp	PacifiCorp	26
Cline Falls	COID	PacifiCorp	1
COID	PacifiCorp	PacifiCorp	7
Copco #1	PacifiCorp	PacifiCorp	20
Copco #2	PacifiCorp	PacifiCorp	27
Cougar	US Corps of Engineers	Federal System (BPA)	25
Cowlitz Falls	Lewis County PUD	Federal System (BPA)	70
Crystal Springs	PURPA	Idaho Power	2
Curry Cattle Company	PURPA	Idaho Power	0
Curtis Livestock	PacifiCorp	PacifiCorp	0
Cushman 1	Tacoma Power	Tacoma Power	43
Cushman 2	Tacoma Power	Tacoma Power	81
Deep Creek	Gordon Foster	Avista Corp.	0
Derr Creek	Jim White	Avista Corp.	0
Detroit	US Corps of Engineers	Federal System (BPA)	100
Dexter	US Corps of Engineers	Federal System (BPA)	15
Diablo Canyon	Seattle City Light	Seattle City Light	182
Dietrich Drop	PURPA	Idaho Power	5
Dry Creek		PacifiCorp	4
D. Wiggins		PacifiCorp	
Dworshak	US Corps of Engineers	Federal System (BPA)	400
Dworshak/ Clearwater		Federal System (BPA)	
Eagle Point	PacifiCorp	PacifiCorp	3
East Side	PacifiCorp	PacifiCorp	3
Eight Mile Hydro	PURPA	Idaho Power	0
Electron	Electron Hydro, LLC	Puget Sound Energy	23
Elk Creek	PURPA	Idaho Power	2
Eltopia Branch Canal	SEQCBID	Seattle City Light	2
Esquatzel Small Hydro	Green Energy Today, LLC	Franklin County PUD	1
Fall Creek	PacifiCorp	PacifiCorp	3
Falls Creek	Clallam PUD	Other Public (BPA)	0
Falls River	PURPA	Idaho Power	9
Faraday	Portland General Electric	Portland General Electric	37
Fargo Drop Hydro	PURPA	Idaho Power	1
Farmers Irrigation	PacifiCorp	PacifiCorp	3



<b>Project</b>	<b>Owner</b>	<b>NW Utility</b>	<b>Nameplate (MW)</b>
Faulkner Ranch	PURPA	Idaho Power	1
Fish Creek	PacifiCorp	PacifiCorp	11
Fisheries Development Co.	PURPA	Idaho Power	0
Foster	US Corps of Engineers	Federal System (BPA)	20
Frontier Technologies	PacifiCorp	PacifiCorp	4
Galesville Dam	PacifiCorp	PacifiCorp	2
Gem State Hydro		Other Publics (BPA)	23
Geo-Bon No 2	PURPA	Idaho Power	1
Georgetown Power	PacifiCorp	PacifiCorp	0
Gorge	Seattle City Light	Seattle City Light	207
Grand Coulee	US Bureau of Reclamation	Federal System (BPA)	6,494
Green Peter	US Corps of Engineers	Federal System (BPA)	80
Green Springs	US Bureau of Reclamation	Federal System (BPA)	16
Hailey CSPP	PURPA	Idaho Power	0
Hancock Creek	Snohomish County PUD	Snohomish County PUD	6
Hazelton A	PURPA	Idaho Power	8
Hazelton B	PURPA	Idaho Power	8
Head of U Canal	PURPA	Idaho Power	1
Hells Canyon	Idaho Power	Idaho Power	392
Hills Creek	US Corps of Engineers	Federal System (BPA)	30
Hood Street Reservoir	Tacoma Power	Tacoma Power	1
Horseshoe Bend	PURPA	Idaho Power	10
Hungry Horse	US Bureau of Reclamation	Federal System (BPA)	428
Hutchinson Creek	STS Hydro	Puget Sound Energy	1
Ice Harbor	US Corps of Engineers	Federal System (BPA)	603
Idaho Falls - City Plant		Federal System (BPA)	8
Idaho Falls - Lower Plant		Federal System (BPA)	8
Idaho Falls - Upper Plant		Federal System (BPA)	8
Ingram Warm Springs	PacifiCorp	PacifiCorp	1
Iron Gate	PacifiCorp	PacifiCorp	18
Island Park		Fall River Rural Electric Cooperative	5
Jackson (Sultan)	Snohomish County PUD	Snohomish County PUD	112
James Boyd		PacifiCorp	
Jim Ford Creek	Ford Hydro	Avista Corp.	2
Jim Knight	PURPA	Idaho Power	0
John C. Boyle	PacifiCorp	PacifiCorp	90
John Day	US Corps of Engineers	Federal System (BPA)	2,160
John Day Creek	Dave Cereghino	Avista Corp.	1
John H Koyle	PURPA	Idaho Power	1
Joseph Hydro		PacifiCorp	
Kasel-Witherspoon	PURPA	Idaho Power	1
Kerr	NorthWestern Corporation	NorthWestern Energy	194

Project	Owner	NW Utility	Nameplate (MW)
Koma Kulshan	Koma Kulshan Associates	Puget Sound Energy	11
La Grande	Tacoma Power	Tacoma Power	64
Lacomb Irrigation	PacifiCorp	PacifiCorp	1
Lake Creek		Other Publics (BPA)	
Lake Oswego Corp.		Portland General Electric	1
Lateral No. 10	PURPA	Idaho Power	2
Leaburg	Eugene Water & Electric Board	Eugene Water & Electric Board	16
Lemolo #1	PacifiCorp	PacifiCorp	32
Lemolo #2	PacifiCorp	PacifiCorp	33
Lemoyne	PURPA	Idaho Power	0
Libby	US Corps of Engineers	Federal System (BPA)	525
Lilliwaup Falls		Other Public (BPA)	1
Little Falls	Avista Corp.	Avista Corp.	32
Little Goose	US Corps of Engineers	Federal System (BPA)	810
Little Wood	PURPA	Idaho Power	3
Little Wood/Arkoosh	PURPA	Idaho Power	1
Little Wood River Ranch II	PURPA	Idaho Power	1
Lloyd Fery	PacifiCorp	PacifiCorp	0
Long Lake	Avista Corp.	Avista Corp.	70
Lookout Point	US Corps of Engineers	Federal System (BPA)	120
Lost Creek	US Corps of Engineers	Federal System (BPA)	49
Lower Baker	Puget Sound Energy	Puget Sound Energy	115
Lower Granite	US Corps of Engineers	Federal System (BPA)	810
Lower Malad	Idaho Power	Idaho Power	14
Lower Monumental	US Corps of Engineers	Federal System (BPA)	810
Lower Salmon	Idaho Power	Idaho Power	60
Lowline #2	PURPA	Idaho Power	3
Lowline Canal	PURPA	Idaho Power	3
Lowline Midway	Idaho Power	Idaho Power	8
Lucky Peak	US Corps of Engineers	Seattle City Light	113
Magic Reservoir	PURPA	Idaho Power	9
Main Canal Headworks	SEQCBID	Seattle City Light	26
Malad River	PURPA	Idaho Power	1
Mayfield	Tacoma Power	Tacoma Power	162
McNary	US Corps of Engineers	Federal System (BPA)	980
McNary Fishway	US Corps of Engineers	Other Publics (BPA)	10
Merwin	PacifiCorp	PacifiCorp	136
Meyers Falls	Hydro Technology Systems	Avista Corp.	1
Middlefork Irrigation	PacifiCorp	PacifiCorp	3
Mile 28	PURPA	Idaho Power	2
Mill Creek (Cove)		Idaho Power	1
Mill Creek		Other Publics (BPA)	1

<b>Project</b>	<b>Owner</b>	<b>NW Utility</b>	<b>Nameplate (MW)</b>
Milner	Idaho Power	Idaho Power	59
Minidoka	US Bureau of Reclamation	Federal System (BPA)	28
Mink Creek	PacifiCorp	PacifiCorp	3
Mitchell Butte	PURPA	Idaho Power	2
Monroe Street	Avista	Avista Corp.	15
Mora Drop	PURPA	Idaho Power	2
Morse Creek		Port Angeles	1
Mossyrock	Tacoma Power	Tacoma Power	300
Mountain Energy	PacifiCorp	PacifiCorp	0
Mount Tabor	City of Portland	Portland General Electric	0
Moyie Springs	City of Bonners Ferry	Other Publics (BPA)	4
Mud Creek/S&S	PURPA	Idaho Power	1
Mud Creek/White	Mud Creek Hydro	Idaho Power	0
N-32 Canal (Marco Ranches)	Ranchers Irrigation Inc.	Idaho Power	1
Nicols Gap	PacifiCorp	PacifiCorp	1
Nicolson SunnyBar	PacifiCorp	PacifiCorp	0
Nine Mile	Avista Corp.	Avista Corp.	26
Nooksack	Puget Sound Hydro, LLC	Puget Sound Energy	2
North Gooding		Idaho Power	
North Fork	Portland General Electric	Portland General Electric	41
North Fork Sprague	PacifiCorp	PacifiCorp	1
N.R. Rousch	PacifiCorp	PacifiCorp	0
Noxon Rapids	Avista Corp.	Avista Corp.	466
Odell Creek	PacifiCorp	PacifiCorp	0
Oak Grove	Portland General Electric	Portland General Electric	51
O.J. Power	PacifiCorp	PacifiCorp	0
Opal Springs	PacifiCorp	PacifiCorp	5
Ormsby		PacifiCorp	
Owyhee Dam	PURPA	Idaho Power	5
Oxbow	Idaho Power Company	Idaho Power	190
Packwood	Energy Northwest	Multiple Utilities	26
Palisades	US Bureau of Reclamation	Federal System (BPA)	177
PEC Headworks	SEQCBID	Grant County PUD	7
Pelton Reregulation	Warm Springs Tribe	Portland General Electric	19
Pelton	Portland General Electric	Multiple Utilities	110
Phillips Ranch	Glen Phillips	Avista Corp.	0
Pigeon Cove	PURPA	Idaho Power	2
Portland Hydro-Project	City of Portland	Portland General Electric	36
Portneuf River		PacifiCorp	1
Potholes East Canal 66 Headworks	SEQCBID	Seattle City Light	2
Post Falls	Avista Corp.	Avista Corp.	15

<b>Project</b>	<b>Owner</b>	<b>NW Utility</b>	<b>Nameplate (MW)</b>
Preston City	PacifiCorp	PacifiCorp	0
Powerdale	PacifiCorp	PacifiCorp	6
Pristine Springs	PURPA	Idaho Power	0
Priest Rapids	Grant County PUD	Multiple Utilities	956
Pristine Springs #3	PURPA	Idaho Power	0
Prospect projects	PacifiCorp	PacifiCorp	44
Quincy Chute	SEQCBID	Grant County PUD	9
R.D. Smith	SEQCBID	Seattle City Light	6
Reynolds Irrigation	PURPA	Idaho Power	0
Reeder Gulch	City of Ashland	Other Publics (BPA)	0
Rock Creek No. 1	PURPA	Idaho Power	2
River Mill	Portland General Electric	Portland General Electric	19
Rock Creek No. 2	PURPA	Idaho Power	2
Rocky Brook	Mason County PUD #3	Other Public (BPA)	2
Sagebrush	PURPA	Idaho Power	0
Rock Island	Chelan County PUD	Multiple Utilities	629
Rocky Reach	Chelan County PUD	Multiple Utilities	1,300
Ross	Seattle City Light	Seattle City Light	450
Round Butte	Portland General Electric	Multiple Utilities	247
Roza	US Bureau of Reclamation	Federal System (BPA)	13
Sahko	PURPA	Idaho Power	1
Santiam	PacifiCorp	PacifiCorp	0
Schaffner	PURPA	Idaho Power	1
Sheep Creek	Glen Phillips	Avista Corp.	2
Shingle Creek	PURPA	Idaho Power	0
Shoshone II	PURPA	Idaho Power	1
Shoshone CSPP	PURPA	Idaho Power	0
Slide Creek	PacifiCorp	PacifiCorp	18
Shoshone Falls	Idaho Power	Idaho Power	13
Soda Springs	PacifiCorp	PacifiCorp	11
Smith Creek	Smith Creek Hydro, LLC	Eugene Water & Electric Board	38
Snedigar Ranch	PURPA	Idaho Power	1
Snoqualmie Falls	Puget Sound Energy	Puget Sound Energy	54
Spokane Upriver	City of Spokane	Avista Corp.	16
Soda Creek	City of Soda Springs	Other Publics (BPA)	1
Snake River Pottery	PURPA	Idaho Power	
South Fork Tolt	Seattle City Light	Seattle City Light	17
Stauffer Dry Creek		PacifiCorp	
Summer Falls	SEQCBID	Seattle City Light	92
Stone Creek	Eugene Water & Electric Board	Eugene Water & Electric Board	12
Strawberry Creek	South Idaho Public Agency	Other Publics (BPA)	
Sygitowicz	Cascade Clean Energy	Puget Sound Energy	0

<b>Project</b>	<b>Owner</b>	<b>NW Utility</b>	<b>Nameplate (MW)</b>
Swan Falls	Idaho Power	Idaho Power	25
Swift 1	PacifiCorp	Multiple Utilities	219
Swift 2	Cowlitz County PUD	Multiple Utilities	-
TGS/Briggs		PacifiCorp	
Tiber Dam	PURPA	Idaho Power	8
The Dalles	US Corps of Engineers	Federal System (BPA)	1,807
The Dalles Fishway	Northern Wasco Co. PUD	Northern Wasco Co. PUD	5
Thompson Falls	NorthWestern Corporation	NorthWestern Energy	94
Thousand Springs	Idaho Power	Idaho Power	9
Toketee	PacifiCorp	PacifiCorp	43
Trout Company	PURPA	Idaho Power	0
Trail Bridge	Eugene Water & Electric Board	Eugene Water & Electric Board	10
Tunnel #1	PURPA	Idaho Power	7
Twin Falls	PURPA	Puget Sound Energy	20
Twin Falls	Idaho Power	Idaho Power	53
Walla Walla	PacifiCorp	PacifiCorp	2
TW Sullivan	Portland General Electric	Portland General Electric	15
Upper Baker	Puget Sound Energy	Puget Sound Energy	105
Upper Falls	Avista Corp.	Avista Corp.	10
Upper Malad	Idaho Power	Idaho Power	8
Upper Salmon 1 & 2	Idaho Power	Idaho Power	18
Upper Salmon 3 & 4	Idaho Power	Idaho Power	17
Weeks Falls	So. Fork II Assoc. LP	Puget Sound Energy	5
Wallowa Falls	PacifiCorp	PacifiCorp	1
Walterville	Eugene Water & Electric Board	Eugene Water & Electric Board	8
Wanapum	Grant County PUD	Multiple Utilities	934
West Side	PacifiCorp	PacifiCorp	1
Wells	Douglas County PUD	Multiple Utilities	774
White Water Ranch	PURPA	Idaho Power	0
Wilson Lake Hydro	PURPA	Idaho Power	8
Woods Creek	Snohomish County PUD	Snohomish County PUD	1
Yakima-Tieton	PacifiCorp	PacifiCorp	3
Wynoochee	Tacoma Power	Tacoma Power	13
Yale	PacifiCorp	PacifiCorp	134
Yelm		Other Publics (BPA)	12
Young's Creek	Snohomish County PUD	Snohomish County PUD	8

<b>Project</b>	<b>Owner</b>	<b>NW Utility</b>	<b>Nameplate (MW)</b>
<b>COAL</b>			<b>5,429</b>
Boardman	Portland General Electric	Multiple Utilities	575
Colstrip #1	PP&L Montana, LLC	Multiple Utilities	330
Colstrip #2	PP&L Montana, LLC	Multiple Utilities	330
Colstrip #3	PP&L Montana, LLC	Multiple Utilities	740
Colstrip #4	NorthWestern Energy	Multiple Utilities	805
Jim Bridger #1	PacifiCorp / Idaho Power	Multiple Utilities	540
Jim Bridger #2	PacifiCorp / Idaho Power	Multiple Utilities	540
Jim Bridger #3	PacifiCorp / Idaho Power	Multiple Utilities	540
Jim Bridger #4	PacifiCorp / Idaho Power	Multiple Utilities	508
Valmy #1	NV Energy / Idaho Power	Multiple Utilities	254
Valmy #2	NV Energy / Idaho Power	Multiple Utilities	267
<b>NUCLEAR</b>			<b>1,230</b>
Columbia Generating Station	Energy Northwest	Federal System (BPA)	1,230
<b>NATURAL GAS</b>			<b>6,878</b>
Alden Bailey	Clatskanie PUD	Clatskanie PUD	11
Beaver	Portland General Electric	Portland General Electric	516
Beaver 8	Portland General Electric	Portland General Electric	25
Bennett Mountain	Idaho Power	Idaho Power	173
Boulder Park	Avista Corp.	Avista Corp.	25
Carty	Portland General Electric	Portland General Electric	440
Chehalis Generating Facility	PacifiCorp	PacifiCorp	517
Coyote Springs I	Portland General Electric	Portland General Electric	266
Coyote Springs II	Avista Corp.	Avista Corp.	287
Danskin	Idaho Power	Idaho Power	92
Danskin 1	Idaho Power	Idaho Power	179
Dave Gates	NorthWestern Energy	NorthWestern Energy	150
Encogen	Puget Sound Energy	Puget Sound Energy	159
Ferndale Cogen Station	Puget Sound Energy	Puget Sound Energy	245
Frederickson	EPCOR Power L.P./PSE	Multiple Utilities	258
Fredonia 1 & 2	Puget Sound Energy	Puget Sound Energy	208
Fredonia 3 & 4	Puget Sound Energy	Puget Sound Energy	108
Fredrickson 1 & 2	Puget Sound Energy	Puget Sound Energy	149
Goldendale	Puget Sound Energy	Puget Sound Energy	298
Hermiston Generating P.	PacifiCorp/Hermiston Gen. Comp.	PacifiCorp	469
Kettle Falls CT	Avista Corp.	Avista Corp.	7
Lancaster Power Project	Avista Corp.	Avista Corp.	270
Langley Gulch	Idaho Power	Idaho Power	319
Mint Farm Energy Center	Puget Sound Energy	Puget Sound Energy	312
Northeast A&B	Avista Corp.	Avista Corp.	62

<b>Project</b>	<b>Owner</b>	<b>NW Utility</b>	<b>Nameplate (MW)</b>
Port Westward	Portland General Electric	Portland General Electric	415
Port Westward Unit 2	Portland General Electric	Portland General Electric	220
Rathdrum 1 & 2	Avista Corp.	Avista Corp.	167
River Road	Clark Public Utilities	Clark Public Utilities	248
Rupert (Magic Valley)	Rupert Illinois Holdings	Idaho Power	10
Sumas Energy	Puget Sound Energy	Puget Sound Energy	127
Whitehorn #2 & 3	Puget Sound Energy	Puget Sound Energy	149

<b>COGENERATION</b>			<b>147</b>
Billings Cogeneration	Billings Generation, Inc.	NorthWestern Energy	64
Hampton Lumber		Snohomish County PUD	5
International Paper Energy	Eugene Water & Electric Board	Eugene Water & Electric Board	26
Simplot-Pocatello	PURPA	Idaho Power	12
Tasco-Nampa	Tasco	Idaho Power	2
Tasco-Twin Falls	Tasco	Idaho Power	3
Wauna (James River)	Western Generation Agency	Multiple Utilities	36

<b>RENEWABLES-OTHER</b>			<b>307</b>
Bannock County Landfill	PURPA	Idaho Power	3
Bettencourt B6	PURPA	Idaho Power	2
Bettencourt Dry Creek	PURPA	Idaho Power	2
Big Sky West Dairy	PURPA	Idaho Power	2
Bio Energy		Puget Sound Energy	1
Bio Fuels, WA		Puget Sound Energy	5
Biomass One	PacifiCorp	PacifiCorp	25
City of Spokane Waste to E.	City of Spokane	Avista Corp.	26
Coffin Butte Resource	Power Resources Cooperative		6
Cogen Company	Prairie Wood Products Co-Gen Co.	Oregon Trail Coop	8
Co-Gen II - DR Johnson	PacifiCorp	PacifiCorp	8
Columbia Ridge Landfill Gas	Waste Management	Seattle City Light	13
Convanta Marion	Portland General Electric	Portland General Electric	16
Double A Digester	PURPA	Idaho Power	5
Dry Creek Landfill	Dry Creek Landfill Inc.	PacifiCorp	3
Edaleen Dairy		Puget Sound Energy	1
Farm Power Tillamook	Tillamook	Tillamook	1
Fighting Creek	PURPA	Idaho Power	3
Flathead County Landfill	Flathead Electric Cooperative	Flathead Electric Cooperative	2
Hidden Hollow Landfill	PURPA	Idaho Power	3
Hooley Digester	Tillamook PUD	Tillamook PUD	1
H. W. Hill Landfill	Allied Waste Companies	Multiple Utilities	10.5
Interfor Pacific-Gilchrist	Midstate Electric Co-op	Midstate Electric Co-op	2
Kettle Falls	Avista Corp.	Avista Corp.	51

<b>Project</b>	<b>Owner</b>	<b>NW Utility</b>	<b>Nameplate (MW)</b>
Lynden	Farm Power	Puget Sound Energy	1
Mill Creek (Cove)		Idaho Power	1
Neal Hot Springs	U.S Geothermal	Idaho Power	23
Olympic View 1&2	Mason County PUD #3	Mason County PUD #3	5
Pine Products	PacifiCorp	PacifiCorp	6
Plum Creek NLSL	Plum Creek MDF	Flathead Electric Cooperative	6
Pocatello Wastewater	PURPA	Idaho Power	0
Portland Wastewater	City of Portland	Portland General Electric	1.7
Qualco Dairy Digester		Snohomish PUD	1
Raft River 1	US Geothermal	Idaho Power	16
Rainier Biogas		Puget Sound Energy	1
Rexville	Farm Power	Puget Sound Energy	1
River Bend Landfill	McMinnville Water & Light	McMinnville Water & Light	5
Rock Creek Dairy	PURPA	Idaho Power	4
Seneca	Seneca Sustainable Energy, LLC	Eugene Water & Electric Board	20
Short Mountain		Emerald PUD	3
Skookumchuck		Puget Sound Energy	1
Smith Creek		Puget Sound Energy	0
Stimson Lumber	Stimson Lumber	Avista Corp.	7
Stoltze Biomass	F.H. Stoltze Land & Lumber	Flathead Electric Coop	3
Tamarack	PURPA	Idaho Power	5
Van Dyk		Puget Sound Energy	0
VanderHaak Dairy	VanderHaak Dairy, LLC	Puget Sound Energy	1
Whitefish Hydro	City of Whitefish	Flathead Electric Cooperative	0
<b>SOLAR</b>			<b>956</b>
Ashland Solar Project		BPA	0
American Falls Solar	PURPA	Idaho Power	20
American Falls Solar II	PURPA	Idaho Power	20
Baker Solar	PURPA	Idaho Power	10
Bellevue Solar	EDF Renewable Energy	Portland General Electric	2
Boise City Solar (ID Solar 1)	PURPA	Idaho Power	40
Brush Solar	PURPA	Idaho Power	3
Finn Hill Solar		Puget Sound Energy	0
Grand View Solar	PURPA	Idaho Power	80
Grove Solar	PURPA	Idaho Power	10
Hylina Solar Center	PURPA	Idaho Power	10
Island Solar		Puget Sound Energy	0
King Estate Solar	Lane County Electric Coop	Lane County Electric Coop	-
Morgan Solar	PURPA	Idaho Power	3
Mountain Home Solar	PURPA	Idaho Power	20
Moyer-Tolles Solar	Umatilla Electric Coop		1



Project	Owner	NW Utility	Nameplate (MW)
Murphy Flat Power	PURPA	Idaho Power	20
Neilson Solar		Avista	19
Open Range Solar Center	PURPA	Idaho Power	10
Orchard Ranch Solar	PURPA	Idaho Power	10
PacifiCorp Solar Bundle		PacifiCorp	193
PGE QF Solar		Portland General Electric	230
Puget Eastern WA		Puget Sound Energy	150
Railroad Solar Center	PURPA	Idaho Power	10
Simco Solar	PURPA	Idaho Power	20
Thunderegg Solar Center	PURPA	Idaho Power	10
Vale I Solar	PURPA	Idaho Power	3
Vale Air Solar	PURPA	Idaho Power	10
Wheatridge Solar	NextEra	PGE	50
Wild Horse Solar Project	Puget Sound Energy	Puget Sound Energy	1
Yamhill Solar	EDF Renewable Energy	Portland General Electric	1

<b>WIND</b>			<b>4,992</b>
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3Bar-G Wind		Puget Sound Energy	0
Bennett Creek	PURPA	Idaho Power	21
Benson Creek Wind	PURPA	Idaho Power	10
Big Top	Big Top LLC (QF)	PacifiCorp	2
Biglow Canyon - 1	Portland General Electric	Portland General Electric	125
Biglow Canyon - 2	Portland General Electric	Portland General Electric	150
Biglow Canyon - 3	Portland General Electric	Portland General Electric	174
Burley Butte Wind Farm	PURPA	Idaho Power	21
Butter Creek Power	Butter Creek Power LLC	PacifiCorp	5
Camp Reed Wind Park	PURPA	Idaho Power	23
Cassia Wind Farm	PURPA	Idaho Power	11
Coastal Energy	CCAP	Grays Harbor PUD	6
Cold Springs	PURPA	Idaho Power	23
Combine Hills I	Eurus Energy of America	PacifiCorp	41
Combine Hills II	Eurus Energy of America	Clark Public Utilities	63
Condon Wind	Goldman Sachs /SeaWest NW	Federal System (BPA)	25
Desert Meadow Windfarm	PURPA	Idaho Power	23
Durbin Creek	PURPA	Idaho Power	10
Elkhorn Wind	Telocaset Wind Power Partners	Idaho Power	101
Foote Creek Rim 1	PacifiCorp & EWEB	Multiple Utilities	41
Foote Creek Rim 2	PPM Energy	Federal System (BPA)	2
Foote Creek Rim 4	PPM Energy	Federal System (BPA)	17
Fossil Gulch Wind	PURPA	Idaho Power	11
Four Corners Windfarm	Four Corners Windfarm LLC	PacifiCorp	10
Four Mile Canyon Windfarm	Four Mile Canyon Windfarm LLC	PacifiCorp	10

<b>Project</b>	<b>Owner</b>	<b>NW Utility</b>	<b>Nameplate (MW)</b>
Golden Valley Wind Farm	PURPA	Idaho Power	12
Goodnoe Hills	PacifiCorp	PacifiCorp	94
Hammett Hill Windfarm	PURPA	Idaho Power	23
Harvest Wind	Summit Power	Multiple Utilities	99
Hay Canyon Wind	Hay Canyon Wind Project LLC	Snohomish County PUD	101
High Mesa Wind	PURPA	Idaho Power	40
Hopkins Ridge	Puget Sound Energy	Puget Sound Energy	157
Horseshoe Bend	PURPA	Idaho Power	9
Horseshoe Bend	PURPA	Idaho Power	9
Jett Creek	PURPA	Idaho Power	10
Judith Gap	Invenergy Wind, LLC	NorthWestern Energy	135
Klondike I	PPM Energy	Federal System (BPA)	24
Klondike II	PPM Energy	Portland General Electric	75
Klondike III	PPM Energy	Multiple Utilities	221
Knudson Wind		Puget Sound Energy	0
Leaning Juniper 1	PPM Energy	PacifiCorp	101
Lime Wind Energy	PURPA	Idaho Power	3
Lower Snake River 1	Puget Sound Energy	Puget Sound Energy	342
Lime Wind Energy	PURPA	Idaho Power	3
Marengo	Renewable Energy America	PacifiCorp	140
Marengo II	PacifiCorp	PacifiCorp	70
Milner Dam Wind Farm	PURPA	Idaho Power	20
Moe Wind	Two Dot Wind	NorthWestern Energy	1
Nine Canyon	Energy Northwest	Multiple Utilities	96
Oregon Trail Windfarm	Oregon Trail Windfarm LLC	PacifiCorp	10
Oregon Trails Wind Farm	PURPA	Idaho Power	14
Pa Tu Wind Farm	Pa Tu Wind Farm, LLC	Portland General Electric	9
Pacific Canyon Windfarm	Pacific Canyon Windfarm LLC	PacifiCorp	8
Palouse Wind	Palouse Wind, LLC	Avista Corp.	105
Paynes Ferry Wind Park	PURPA	Idaho Power	21
Pilgrim Stage Station Wind	PURPA	Idaho Power	11
Prospector Wind	PURPA	Idaho Power	10
Rattlesnake Flats		Avista Corp.	144
Rockland Wind	PURPA	Idaho Power	80
Ryegrass Windfarm	PURPA	Idaho Power	23
Salmon Falls Wind Farm	PURPA	Idaho Power	22
Sand Ranch Windfarm	Sand Ranch Windfarm LLC	PacifiCorp	10
Sawtooth Wind	PURPA	Idaho Power	21
Sheep Valley Ranch	Two Dot Wind	NorthWestern Energy	1
Skookumchuck		Puget Sound Energy	131
Stateline Wind	NextEra	Multiple Utilities	300
Swauk Wind		Puget Sound Energy	4

<b>Project</b>	<b>Owner</b>	<b>NW Utility</b>	<b>Nameplate (MW)</b>
Thousand Springs Wind	PURPA	Idaho Power	12
Three Mile Canyon	Momentum RE	PacifiCorp	10
Tuana Gulch Wind Farm	PURPA	Idaho Power	11
Tuana Springs Expansion	PURPA	Idaho Power	36
Tucannon	Portland General Electric	Portland General Electric	267
Two Ponds Windfarm	PURPA	Idaho Power	23
Vansycle Ridge	ESI Vansycle Partners	Portland General Electric	25
Wagon Trail Windfarm	Wagon Trail Windfarm LLC	PacifiCorp	3
Ward Butte Windfarm	Ward Butte Windfarm LLC	PacifiCorp	7
Wheat Field Wind Project	Wheat Field Wind LLC	Snohomish County PUD	97
Wheatridge	PGE/NextEra	PGE/NextEra	300
White Creek	White Creek Wind I LLC	Multiple Utilities	205
Wild Horse	Puget Sound Energy	Puget Sound Energy	273
Willow Spring Windfarm	PURPA	Idaho Power	10
Wolverine Creek	Invenergy	PacifiCorp	65
Yahoo Creek Wind Park	PURPA	Idaho Power	21
<b>SMALL THERMAL AND MISCELLANEOUS</b>			<b>130</b>
Crystal Mountain	Puget Sound Energy	Puget Sound Energy	3
PGE DSG		Portland General Electric	127
Wheatridge battery	PGE/NextEra	PGE/NextEra	30
<b>Total</b>			<b>53,502</b>

**Table 11. Independent Owned Generating Resources** is a comprehensive list of independently owned electric power supply located in the region. The nameplate values listed below show full availability. Some of these units have partial contracts (reflected in the load/resource tables) with Northwest utilities.

Project	Owner	Nameplate (MW)
<b>HYDRO</b>		<b>15</b>
Big Creek (Hellroaring)		-
PEC Headworks	SEQCBID	7
Soda Point Project		-
Sygitowicz	Cascade Clean Energy	0
Owyhee Tunnel No.1	Owyhee Irrigation District	8
<b>COAL</b>		<b>1,340</b>
Centralia #1	TransAlta	670
Centralia #2	TransAlta	670
<b>NATURAL GAS</b>		<b>2,081</b>
Grays Harbor (Satsop)	Invenergy	650
Hermiston Power Project	Hermiston Power Partners (Calpine)	689
Klamath Cogen Plant	Iberdrola Renewables	502
Klamath Peaking Units 1-4	Iberdrola Renewables	100
March Point 1	March Point Cogen	80
March Point 2	March Point Cogen	60
<b>COGENERATION</b>		<b>28</b>
Boise Cascade		9
Freres Lumber	Evergreen BioPower	10
Rough & Ready Lumber	Rough & Ready	1
Warm Springs Forest		8
<b>RENEWABLES-OTHER</b>		<b>26</b>
Spokane MSW	City of Spokane	23
Treasure Valley		3
<b>Solar</b>		<b>56</b>
Gala Solar Farm		56

<b>Project</b>	<b>Owner</b>	<b>Nameplate (MW)</b>
<b>WIND</b>		<b>3,447</b>
Big Horn	Iberdrola Renewables	199
Big Horn-Phase 2	Iberdrola Renewables	50
Cassia Gulch	John Deere	21
Glacier Wind - Phase 1	Naturener	107
Glacier Wind - Phase 2	Naturener	104
Goshen North	Ridgeline Energy	125
Juniper Canyon - Phase 1	Iberdrola Renewables	151
Kittitas Valley	Horizon	101
Klondike IIIa	Iberdrola Renewables	77
Lava Beds Wind		18
Leaning Juniper II-North	Iberdrola Renewables	90
Leaning Juniper II-South	Iberdrola Renewables	109
Linden Ranch	NW Wind Partners	50
Magic Wind Park		20
Martinsdale Colony North	Two Dot Wind	1
Martinsdale Colony South	Two Dot Wind	2
Montague Wind	AvanGrid	200
Notch Butte Wind		18
Pebble Springs Wind	Iberdrola Renewables	99
Rattlesnake Rd Wind (aka Arlington)	Horizon Wind	103
Shepards Flat Central	Caithness Energy	290
Shepards Flat North	Caithness Energy	265
Shepards Flat South	Caithness Energy	290
Stateline Wind	NextEra	300
Vancycle II (Stateline III)	NextEra	99
Vantage Wind	Invenergy	90
Willow Creek	Invenergy	72
Windy Flats	Cannon Power Group	262
Windy Point	Tuolumne Wind Project Authority	137
<b>SMALL THERMAL AND MISCELLANEOUS</b>		<b>44</b>
Colstrip Energy LP Coal	Colstrip Energy Limited Partnership	44
<b>Total</b>		<b>7,038</b>

# Report Description

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This report provides a regional firm needs assessment (Tables 1 - 4) using annual energy (August through July), monthly energy, winter peak-hour and summer peak-hour metrics. The monthly energy picture is provided to underscore the variability of the power need within an average year. A seasonal or weekly snapshot would tell a similar story. The peak need reflects information for January and August, as they present the greatest need for their respective seasons. These metrics provide a multi-dimensional look at the Northwest's need for power and underscore the growing complexity of the power system.

This information reflects the summation of individual utilities' load forecasts and generating resources expected to meet their load, as well as the presents the total of utilities' planned resource acquisitions to meet future needs. The larger utilities, in most cases, prepared their own projections for their integrated resource plans. BPA provides much of the information for its smaller customers. This section includes procedures used in preparing the load resource comparisons, a list of definitions, and a list of the utilities summarized by this report (Table 12).

## Load Estimate

Regional loads are the sum of demand estimated by the Northwest utilities and BPA for its federal agency customers, certain non-generating public utilities, and direct service industrial customers (DSI – currently not a significant part of regional load). Load projections reflect network transmission and distribution losses, reductions in demand due to rising electricity prices, and the effects of appliance efficiency standards and energy building codes. Savings from demand-side management programs, such as energy efficiency, are also reflected in the regional load forecasts.

## Energy Loads

A ten-year forecast of monthly firm energy loads is provided. This forecast reflects normal (1-in-2) weather conditions. The tabulated information includes the annual average load for the year forecast period as well as the monthly load for the first year of the report.

## Peak Loads

Northwest regional peak loads are provided for each month of the ten-year forecast period. The tabulated loads for winter and summer peak are the highest estimated 60-minute clock-hour average demand for that month, assuming normal (1-in-2) weather conditions. The regional firm peak load is the sum of the individual utility peak loads, and does not account for the fact that each utility may

experience its peak load at a different hour than other Northwest utilities. Hence the regional peak load is considered non-coincident. The federal system (BPA) firm peak load is adjusted to reflect a federal coincident peak among its many utility customers.

## Federal System Transmission Losses

Federal System (BPA) transmission losses for both firm loads and contractual obligations are embedded in federal load. These losses represent the difference between energy generated by the federal system (or delivered to a system interchange point) and the amount of energy sold to customers. System transmission losses are calculated by BPA for firm loads utilizing the federal transmission system.

## Planning Margin

In the derivation of regional peak requirements, a planning margin is added to the load. Like the *2018 Forecast*, this year's planning margin is different from past reports. The planning margin is set to 16 percent of the total peak load for every year of the planning horizon. In many *Forecast's* before 2018 the planning margin started at 12 percent for the first year and grew a percent a year until it reached 20 percent and remained at 20 percent thereafter. The justification for this change is three-fold.

- The purpose for the growing planning margin was in part to address uncertainty of planning for generating resources with long planning and construction lead times (coal and nuclear power plants). Utilities are not currently planning for these types of resources.
- The growing planning margin as a percent of load overstated the growing regional requirements and resulting need for power.
- A flat planning margin simplifies comparison analyzes of reports from different years.

This planning margin is intended to cover, for planning purposes, operating reserves and all elements of uncertainty not specifically accounted for in determining loads and resources. These include forced-outage reserves, unanticipated load growth, temperature variations, hydro maintenance and project construction delays.

## Demand-Side Management Programs

Savings from demand-side management efforts are reported in *Table 7. Demand-Side Management Programs*. These estimates are the savings for the ten-year study period and include expected future energy savings from existing and new programs in the areas of energy efficiency, distribution efficiency, some market transformation, fuel conversion, fuel switching, energy storage and other efforts that reduce the demand for electricity. These estimates reflect savings from programs that

utilities fund directly, or through a third-party, such as the Northwest Energy Efficiency Alliance and Energy Trust of Oregon.

Demand response activity is reported in *Table 7* as well. The total load reduction reported is the cumulative sum of different utilities' agreements with their customers. Each program has its own characteristics and limitations.

## Generating Resources

This report catalogues existing resources, committed new supply (including resources under construction), as well as planned resources. For the assessment of need only the existing and committed resources are reflected in the regional tabulations. In addition, only those generating resources (or shares) that are firmly committed to meeting Northwest loads are included in the regional analysis.

### Hydro

Major hydro resource capabilities are estimated from a regional analysis using a computer model that simulates reservoir operation of past hydrologic conditions with today's operating constraints and requirements. The historical stream flow record used covers the 80-year period from August 1928 through July 2008. The bulk of the hydro modeling used in this report is provided by BPA, the US Army Corps of Engineers, and/or project owners.

### Energy

The firm energy capability of hydro plants is the amount of energy produced during the operating year with the lowest 12-month average generation. The lowest generation occurred in 1936-37 given today's river operating criteria. The firm energy capability is the average of 12 months, August 1936 to July 1937. Generation for projects that are influenced by downstream reservoirs reflects the reduction due to encroachment.

### Peak Capability

For this report the peak capability of the hydro system represents the maximum sustained hourly generation available to meet peak demand during the period of heavy load. Historically, a 50-hour sustained peak (10 hours/day for 5 days) has been reported.

The peaking capability of the hydro system maximizes available energy and capacity associated with the monthly distribution of streamflow. The peaking capability is the hydro system's ability to continuously produce power for a specific time period by utilizing the limited water supply while meeting power and non-power requirements, scheduled maintenance, and operating reserves (including wind reserves).



Computer models are used to estimate the operational hydro peaking capability of the major projects, based on their monthly average energy for 70 or 80 water conditions, depending on the source of information. The peaking capability used for this report is the 8<sup>th</sup> percentile of the resulting hourly peak capabilities for January and August to indicate winter and summer peak capability respectively. These models shape the monthly hydro energy to maximize generation in the heavy load hours.

### **Columbia River Treaty**

Since 1961 the United States has had a treaty with Canada that outlines the operation of U.S. and Canadian storage projects to increase the total combined generation. Hydropower generation in this analysis reflects the firm power generated by coordinating operation of three Canadian reservoirs, Duncan, Arrow and Mica with the Libby reservoirs and other power facilities in the region. Canada's share of the coordinated operation benefits is called Canadian Entitlement. BPA and each of the non-Federal mid-Columbia project owners are obligated to return their share of the downstream power benefits owed to Canada. The delivery of the Entitlement is reflected in this analysis.

### **Downstream Fish Migration**

Another requirement incorporated in the computer simulations is modified river operations to provide for the downstream migration of anadromous fish. These modifications include adhering to specific flow limits at some projects, spilling water at several projects, and augmenting flows in the spring and summer on the Columbia, Snake and Kootenai rivers. Specific requirements are defined by various federal, regional and state mandates, such as project licenses, biological opinions and state regulations.

### **Thermal and Other Renewable Resources**

Thermal resources are reported in a variety of categories. Coal, cogeneration, nuclear, and natural gas projects are each totaled and reported as individual categories.

Renewable resources other than hydropower are categorized as solar, wind and other renewables and are each totaled and reported separately. Other renewables include energy from biomass, geothermal, municipal solid waste projects and other miscellaneous projects.

All existing generating plants, regardless of size, are included in amounts submitted by each utility that owns or is purchasing the generation. The energy and peaking capabilities of plants are submitted by the sponsors of the projects and take into consideration scheduled maintenance (including refueling), forced outages and other expected operating constraints. Some small fossil-fuel plants and combustion turbines are included as peaking resources and their reported energy

capabilities are only the amounts necessary for peaking operations. Additional energy may be available from these peaking resources but is not included in the regional load/resource balance.

## New and Future Resources

The latest activity with new and future resource developments, including expected savings from demand-side management, are tabulated in this report. These resources are reported as *Recently Acquired Resources*, *Committed New Supply* and *Planned Resources* to reflect the different stages of development.

### Recently Acquired Resources

*The Recently Acquired Resources* reported in *Table 5* have been acquired in the past year and are serving Northwest utility loads as of December 31, 2018. They are reflected as part of the regional firm needs assessment.

### Committed New Supply

*Committed New Supply* reported in *Table 6* includes those projects under construction or committed resources and supply to meet Northwest load that are not delivering power as of December 31, 2018. In this report, resources being built by utilities or resources where their output is firmly committed to utilities are included in the regional load-resource analysis. Future savings from committed demand-side management programs are reported in *Table 7*.

### Planned Resources

*Planned Resources* presented in *Table 8* include specific resources and/or blocks of generic resources identified in utilities' most current integrated resource plans. Projects specifically named in *Planned Resources* are not yet under construction, are not part of the regional analysis, and are in some ways speculative.

## Contracts

Imports and exports include firm arrangements for interchanges with systems outside the region, as well as with third-party developers/owners within the region. These arrangements comprise firm contracts with utilities to the East, the Pacific Southwest and Canada. Contracts to and from these areas are amounts delivered at the area border and include any transmission losses associated with deliveries.

Short term purchases from Northwest independent power producers and other spot market purchases are not reflected in the tables that present the firm load resource comparisons.

## Non-Firm Resources

The *Forecast* omits from the load/resource comparisons non-firm power supply that may be available to utilities to meet needs. These non-firm sources include generation from uncommitted Northwest independent power producers, imports from power plants located outside the region, and hydro generation likely available when water supply is greater than the assumed critical water.

*Independent Owned Generating Resources*, presented in *Table 11*, include thermal independent power producers (IPP) located in the region. The table below shows the nameplate amount of dispatchable non-firm generation over the next five years. Due to maintenance, unplanned outages, fuel availability, unit commitments to out-of-region buyers, and other factors, the actual amount of resource available from these sources may be less. Note the decrease from 2020 to 2021 as Centralia Unit 1 retires.

Thermal Northwest IPP Nameplate MW				
2019	2020	2021	2022	2023
3,095	3,095	2,425	2,425	2,425

Non-firm imports depend on several factors including availability of out-of-region resources, availability of transmission interties, and market friction. In their *2018 Resource Adequacy* study for year 2023, the Northwest Power and Conservation Council assumed 2,500 MW of available spot imports from California in the winter, and zero for summer (3,000 MW of generation was assumed to be available off-peak year-round in a day-ahead market). However, as noted earlier a trend of large thermal resource retirements in the Western Interconnection could impact power available for import into the Northwest in the coming years.

Looking at hydropower, the Forecast assumes critical water (8%) during peak hours. Most years the water supply for the hydro system is not at critical levels. During an average, the region could expect an additional 4,100 MW of sustained peaking generation in January and 2,200 MW in August.

**Table 12. Utilities included in the Northwest Regional Forecast**

Albion, City of	Fall River Rural Electric Cooperative	Pacific County PUD #2
Alder Mutual	Farmers Electric Co-op	PacifiCorp
Ashland, City of	Ferry County PUD #1	Parkland Light & Water
Asotin County PUD #1	Fircrest, Town of	Pend Oreille County PUD
Avista Corp.	Flathead Electric Cooperative	Peninsula Light Company
Bandon, City of	Forest Grove Light & Power	Plummer, City of
Benton PUD	Franklin County PUD	PNGC Power
Benton REA	Glacier Electric	Port of Seattle – SEATAC
Big Bend Electric Co-op	Grant County PUD	Portland General Electric
Blachly-Lane Electric Cooperative	Grays Harbor PUD	Puget Sound Energy
Blaine, City of	Harney Electric	Raft River Rural Electric
Bonnors Ferry, City of	Hermiston, City of	Ravalli Co. Electric Co-op
Bonneville Power Administration	Heyburn, City of	Richland, City of
Burley, City of	Hood River Electric	Riverside Electric Co-op
Canby Utility	Idaho County L & P	Rupert, City of
Cascade Locks, City of	Idaho Falls Power	Salem Electric Co-op
Central Electric	Idaho Power	Salmon River Electric Cooperative
Central Lincoln PUD	Inland Power & Light	Seattle City Light
Centralia, City of	Kittitas County PUD	Skamania County PUD
Chelan County PUD	Klickitat County PUD	Snohomish County PUD
Cheney, City of	Kootenai Electric Co-op	Soda Springs, City of
Chewelah, City of	Lakeview L & P (WA)	Southside Electric Lines
City of Port Angeles	Lane Electric Cooperative	Springfield Utility Board
Clallam County PUD #1	Lewis County PUD	Steilacoom, Town of
Clark Public Utilities	Lincoln Electric Cooperative	Sumas, City of
Clatskanie PUD	Lost River Electric Cooperative	Surprise Valley Elec. Co-op
Clearwater Power Company	Lower Valley Energy	Tacoma Power
Columbia Basin Elec. Co-op	Mason County PUD #1	Tanner Electric Co-op
Columbia Power Co-op	Mason County PUD #3	Tillamook PUD
Columbia REA	McCleary, City of	Troy, City of
Columbia River PUD	McMinnville Water & Light	Umatilla Electric Cooperative
Consolidated Irrigation Dist. #19	Midstate Electric Co-op	Umpqua Indian Utility Co-op
Consumers Power Inc.	Milton, Town of	United Electric Cooperative
Coos-Curry Electric Cooperative	Milton-Freewater, City of	US Corps of Engineers
Coulee Dam, City of	Minidoka, City of	US Bureau of Reclamation
Cowlitz County PUD	Missoula Electric Co-op	Vera Water & Power
Declo, City of	Modern Electric Co-op	Vigilante Electric Co-op
Douglas County PUD	Monmouth, City of	Wahkiakum County PUD #1
Douglas Electric Cooperative	Nespelem Valley Elec. Co-op	Wasco Electric Co-op
Drain, City of	Northern Lights Inc.	Weiser, City of
East End Mutual Electric	Northern Wasco Co. PUD	Wells Rural Electric Co.
Eatonville, City of	NorthWestern Energy	West Oregon Electric Cooperative
Ellensburg, City of	Ohop Mutual Light Company	Whatcom County PUD
Elmhurst Mutual P & L	Okanogan Co. Electric Cooperative	Yakama Power
Emerald PUD	Okanogan County PUD #1	
Energy Northwest	Orcas Power & Light	
Eugene Water & Electric Board	Oregon Trail Co-op	

# Definitions

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## Annual Energy

Energy value in megawatts that represents the average output over the period of one year. Expressed in average megawatts.

## Average Megawatts

(MWa) Unit of energy for either load or generation that is the ratio of energy (in megawatt-hours) expected to be consumed or generated during a period of time to the number of hours in the period.

## Biomass

Any organic matter which is available on a renewable basis, including forest residues, agricultural crops and waste, wood and wood wastes, animal wastes, livestock operation residue, aquatic plants, and municipal wastes.

## Canadian Entitlement

Canada is entitled to one-half the downstream power benefits resulting from Canadian storage as defined by the Columbia River Treaty. Canadian entitlement returns estimated by Bonneville Power Administration.

## Coal

This category of generating resources includes the region's coal-fired plants.

## Cogeneration

Cogeneration is the technology of producing electric energy and other forms of useful energy (thermal or mechanical) for industrial and commercial heating or cooling purposes through sequential use of an energy source.

## Combustion Turbines

These are plants with combined-cycle or simple-cycle natural gas-fired combustion turbine technology for producing electricity.

## Committed Resources

These projects are under construction and/or committed resources and supply to meet Northwest load but not delivering power as of December 31, 2018.

## Conservation

Any reduction in electrical power consumption as a result of increases in the efficiency of energy use, production, or distribution. For the purposes of this report used synonymously with energy efficiency.

## Demand Response

Control of load through customer/utility agreements that result in a temporary change in consumers' use of electricity.

## Demand-side Management

Peak and energy savings from conservation/energy efficiency measures, distribution efficiency, market transformation, demand response, fuel conversion, fuel switching, energy storage and other efforts that that serve to reduce electricity demand.

## Dispatchable Resource

A term referring to controllable generating resources that are able to be dispatched for a specific time and need.

## Direct Service Industries (DSI)

Large electricity-intensive industries such as aluminum smelters and metals-reduction plants that purchase power directly from the Bonneville Power Administration for their own use. Very few of these customers exist in the region today.

## Distribution Efficiency

Infrastructure upgrades to utilities' transmission and distribution systems that save energy by minimizing losses.

## Encroachment

A term used to describe a situation where the operation of a hydroelectric project causes an increase in the level of the tailwater of the project that is directly upstream.

## Energy Efficiency

Any reduction in electrical power consumption as a result of increases in the efficiency of energy use, production, or distribution. For the purposes of this report used synonymously with conservation.

## Energy Load

The demand for power averaged over a specified period of time.

## Energy Storage

Technologies for storing energy in a form that is convenient for use at a later time when a specific energy demand is greater.

## Exports

Firm interchange arrangements where power flows from regional utilities to utilities outside the region or to non-specific, third-party purchasers within the region.

## Federal System (BPA)

The federal system is a combination of BPA's customer loads and contractual obligations, and resources from which BPA acquires the power it sells. The resources include plants operated by the U.S. Army Corps of Engineers (COE), U.S. Bureau of Reclamation (USBR) and Energy Northwest. BPA markets the thermal generation from Columbia Generating Station, operated by Energy Northwest.

## Federal Columbia River Power System (FCRPS)

Thirty federal hydroelectric projects constructed and operated by the Corps of Engineers and the Bureau of Reclamation, and the Bonneville Power Administration transmission facilities.

## Firm Energy

Electric energy intended to have assured availability to customers over a defined period.

## Firm Load

The sum of the estimated firm loads of private utility and public agency systems, federal agencies and BPA industrial customers.

## Firm Losses

Losses incurred on the transmission system of the Northwest region.

## Fuel Conversion

Consumers' efforts to make a permanent change from electricity to natural-gas or other fuel source to meet a specific energy need, such as heating.

## Fuel Switching

Consumers' efforts to make a temporary change from electricity to another fuel source to meet a specific energy need.

### Historical Streamflow Record

A database of unregulated streamflows for 80 years (July 1928 to June 2008). Data is modified to take into account adjustments due to irrigation depletions, evaporations, etc. for the particular operating year being studied.

### Hydro Maintenance

The amount of energy lost due to the estimated maintenance required during the critical period. Peak hydro maintenance is included in the peak planning margin calculations.

### Hydro Regulation

A study that utilizes a computer model to simulate the operation of the Pacific Northwest hydroelectric power system using the historical streamflows, monthly loads, thermal and other non-hydro resources, and other hydroelectric plant data for each project.

### Imports

Firm interchange arrangements where power flows to regional utilities from utilities outside the region or third-party developer/owners of generation within the region.

### Independent Power Producers (IPPs)

Non-utility entities owning generation that may be contracted (fully or partially) to meet regional load.

### Intermittent Resource (a.k.a. Variable Energy Resource)

An electric generating source with output controlled by the natural variability of the energy resource rather than dispatched based on system requirements. Intermittent output usually results from the direct, non-stored conversion of naturally occurring energy fluxes such as solar and wind energy.

### Investor-Owned Utility (IOU)

A privately owned utility organized under state law as a corporation to provide electric power service and earn a profit for its stockholders.

### Market Transformation

A strategic process of intervening in a market to accelerate the adoption of cost-effective energy efficiency.

### Megawatt (MW)

A unit of electrical power equal to 1 million watts or 1,000 kilowatts.



### Nameplate Capacity

A measure of the approximate generating capability of a project or unit as designated by the manufacturer.

### Natural Gas-Fired Resources

This category of resources includes the region's natural gas-fired plants, mostly single-cycle and combined-cycle combustion turbines. It may include projects that are considered cogeneration plants.

### Non-Firm Resources

Electric energy acquired through short term purchases of resources not committed as firm resources. This includes generation from hydropower in better than critical water conditions, independent power producers and imports from outside the region.

### Non-Utility Generation

Facilities that generate power whose percent of ownership by a sponsoring utility is 50 percent or less. These include PURPA-qualified facilities (QFs) or non-qualified facilities of independent power producers (IPPs).

### Nuclear Resources

The region's only nuclear plant, the Columbia Generating Station, is included in this category.

### Operating Year

Twelve-month period beginning on August 1 of any year and ending on July 31 of the following year. For example, operating year 2017 is August 1, 2016 through July 31, 2017.

### Other Publics (BPA)

Refers to the smaller, non-generating public utility customers whose load requirements are estimated and served by Bonneville Power Administration.

### Peak Load

In this report the peak load is defined as one-hour maximum demand for power.

### Planned Resources

These resources include specific resources and/or blocks of generic resources identified in utilities' most current integrated resource plans. These projects are not yet under construction, are not part of the regional analysis, and are in some ways speculative.

## Planning Margin

A component of regional requirements that is included in the peak needs assessment to account for various planning uncertainties. In the 2018 *Forecast* the planning margin changed to a flat 16% of the regional load for each year of the study. Earlier reports included a growing planning margin that started at 12% of load, increasing 1% per year until it reached 20%.

## Private Utilities

Same as investor-owned utilities.

## Publicly-Owned Utilities

One of several types of not-for-profit utilities created by a group of voters and can be a municipal utility, a public utility district, or an electric cooperative.

## PURPA

Public Utility Regulatory Policies Act of 1978. The first federal legislation requiring utilities to buy power from qualifying independent power producers.

## Renewables - Other

A category of resources that includes projects that produce power from such fuel sources as geothermal, biomass (includes wood, municipal solid-waste facilities), and pilot level projects including tidal and wave energy.

## Requirements

For each year, a utility's projected loads, exports, and contracts out. Peak requirements also include the planning margin.

## Small Thermal & Miscellaneous Resources

This category of resources includes small thermal generating resources such as diesel generators used to meet peak and/or emergency loads.

## Solar Resources

Resources that produce power from solar exposure. This includes utility scale solar photovoltaic systems and other utility scale solar projects. This category does not include customer side distributed solar generation.

## Thermal Resources

Resources that burn coal, natural gas, oil, diesel or use nuclear fission to create heat which is converted into electricity.

### Variable Energy Resource (a.k.a. Intermittent Resource)

An electric generating source with output controlled by the natural variability of the energy resource rather than dispatched based on system requirements. Intermittent output usually results from the direct, non-stored conversion of naturally occurring energy fluxes such as solar and wind energy.

### Wind Resources

This category of resources includes the region's wind powered projects.

2020 to 2025	Current+185	Current	"Current+185" - Current	Adjusted Base+185	Adjusted Base	"Adjusted Base+185"- Adusted Base
Existing Resource Rev Req	\$1,419,228,852	\$1,419,228,852	\$0	\$1,419,228,852	\$1,419,228,852	\$0
New Resource Rev Req	\$73,566,010	\$0	\$73,566,010	\$209,302,712	\$198,137,956	\$11,164,756
<b>Fixed Costs</b>	<b>\$1,492,794,862</b>	<b>\$1,419,228,852</b>	<b>\$73,566,010</b>	<b>\$1,628,531,564</b>	<b>\$1,617,366,808</b>	<b>\$11,164,756</b>
Market Sales	(\$236,490,647)	(\$68,642,809)	(\$167,847,838)	(\$332,216,054)	(\$199,674,140)	(\$132,541,914)
Market Purchases	\$152,368,767	\$188,684,571	(\$36,315,803)	\$135,034,783	\$145,960,798	(\$10,926,016)
Ancillary Costs	\$20,240,794	\$34,577,072	(\$14,336,279)	\$17,158,650	\$28,643,726	(\$11,485,077)
<b>Net Market</b>	<b>(\$63,881,086)</b>	<b>\$154,618,835</b>	<b>(\$218,499,921)</b>	<b>(\$180,022,621)</b>	<b>(\$25,069,615)</b>	<b>(\$154,953,006)</b>
Fuel Costs	\$155,739,573	\$83,978,443	\$71,761,130	\$199,178,589	\$143,611,210	\$55,567,379
VOM Costs	\$39,570,917	\$21,321,123	\$18,249,794	\$41,626,127	\$23,956,653	\$17,669,474
Fuel Delivery Costs	\$17,367,750	\$11,934,386	\$5,433,364	\$31,199,593	\$31,625,821	(\$426,227)
Startup Costs	\$855,735	\$911,799	(\$56,064)	\$998,764	\$1,093,766	(\$95,002)
FOM Costs	\$0	\$0	\$0	\$15,296,018	\$22,162,903	(\$6,866,885)
<b>Variable Costs</b>	<b>\$213,533,975</b>	<b>\$118,145,750</b>	<b>\$95,388,225</b>	<b>\$288,299,092</b>	<b>\$222,450,353</b>	<b>\$65,848,739</b>
PPA Costs for Small QFs	\$49,994,051	\$49,994,051	\$0	\$43,181,531	\$43,181,531	\$0
Wind PPA Costs	\$323,966,043	\$323,966,043	\$0	\$323,966,043	\$323,966,043	\$0
PPA for CELP and YELP	\$350,381,736	\$350,381,736	\$0	\$350,602,535	\$350,602,535	\$0
<b>Contract Costs</b>	<b>\$724,341,830</b>	<b>\$724,341,830</b>	<b>\$0</b>	<b>\$717,750,109</b>	<b>\$717,750,109</b>	<b>\$0</b>
<b>Subtotal</b>	<b>\$2,366,789,581</b>	<b>\$2,416,335,267</b>	<b>(\$49,545,686)</b>	<b>\$2,454,558,144</b>	<b>\$2,532,497,655</b>	<b>(\$77,939,512)</b>
Risk Premium	\$48,677,829	\$49,934,981	(\$1,257,152)	\$45,458,656	\$47,644,343	(\$2,185,688)
Sub Hourly Credit	(\$1,442,096)	\$0	(\$1,442,096)	(\$30,572,813)	(\$43,375,184)	\$12,802,371
	\$2,414,025,314	\$2,466,270,248	(\$52,244,934)	\$2,469,443,986	\$2,536,766,815	(\$67,322,828)

2020 to 2039	Current+185	Current	"Current+185" - Current	Adjusted Base+185	Adjusted Base	"Adjusted Base+185"- Adusted Base
Existing Resource Rev Req	\$3,162,755,339	\$3,162,755,339	\$0	\$3,162,755,339	\$3,162,755,339	\$0
New Resource Rev Req	\$223,368,024	\$0	\$223,368,024	\$1,400,837,302	\$1,510,134,248	(\$109,296,946)
<b>Fixed Costs</b>	<b>\$3,386,123,363</b>	<b>\$3,162,755,339</b>	<b>\$223,368,024</b>	<b>\$4,563,592,640</b>	<b>\$4,672,889,587</b>	<b>(\$109,296,946)</b>
Market Sales	(\$340,763,238)	(\$110,400,252)	(\$230,362,986)	(\$771,753,572)	(634,906,757.69)	(\$136,846,814)
Market Purchases	\$328,056,172	\$462,833,392	(\$134,777,221)	\$249,528,549	291,148,036.94	(\$41,619,488)
Ancillary Costs	\$62,259,823	\$79,382,693	(\$17,122,870)	\$51,990,280	62,444,977.77	(\$10,454,697)
<b>Net Market</b>	<b>\$49,552,757</b>	<b>\$431,815,833</b>	<b>(\$382,263,077)</b>	<b>(\$470,234,742)</b>	<b>(\$281,313,743)</b>	<b>(\$188,920,999)</b>
Fuel Costs	\$391,679,454	\$236,364,651	\$155,314,803	588,194,410.31	495,938,965.25	\$92,255,445
VOM Costs	\$98,092,067	\$59,787,828	\$38,304,239	\$104,580,333	67,054,207.95	\$37,526,125
Fuel Delivery Costs	\$42,023,187	\$32,035,513	\$9,987,674	\$102,020,434	111,786,307.29	(\$9,765,873)
Startup Costs	\$1,516,577	\$2,259,209	(\$742,632)	\$2,700,437	3,762,817.55	(\$1,062,380)
FOM Costs	\$0	\$0	\$0	\$67,743,117	92,347,065.10	(\$24,603,948)
<b>Variable Costs</b>	<b>\$533,311,284</b>	<b>\$330,447,200</b>	<b>\$202,864,084</b>	<b>\$865,238,731</b>	<b>\$770,889,363</b>	<b>\$94,349,368</b>
PPA Costs for Small QFs	\$61,510,678	61,510,677.59	\$0	\$61,510,678	61,510,677.59	\$0
Wind PPA Costs	\$646,330,606	\$646,330,606	\$0	\$646,330,606	646,330,605.74	\$0
PPA for CELP and YELP	\$449,540,478	\$449,540,478	\$0	\$449,552,176	449,552,175.55	\$0
<b>Contract Costs</b>	<b>\$1,157,381,761</b>	<b>\$1,157,381,761</b>	<b>\$0</b>	<b>\$1,157,393,459</b>	<b>\$1,157,393,459</b>	<b>\$0</b>
<b>Sub Total</b>	<b>\$5,126,369,164</b>	<b>\$5,082,400,133</b>	<b>\$43,969,031</b>	<b>\$6,115,990,088</b>	<b>\$6,319,858,666</b>	<b>(\$203,868,578)</b>
Risk Premium	\$102,370,531	\$126,977,754	(\$24,607,223)	\$86,455,322	91,590,820.39	(\$5,135,499)
Sub Hourly Credit	(\$4,498,660)	\$0	(\$4,498,660)	(\$386,717,242)	(\$475,067,983)	\$88,350,742
<b>Total</b>	<b>\$5,224,241,036</b>	<b>\$5,209,377,887</b>	<b>\$14,863,148</b>	<b>\$5,815,728,168</b>	<b>\$5,936,381,503</b>	<b>(\$120,653,335)</b>

WACC

6.92%

Year	90 PPA Revenue	90 PPA Revenue Requirement	Variable Costs	Net Revenue
2020	\$7,414,750	\$1,667,632		
2021	\$29,844,540	\$7,200,492		
2022	\$30,699,065	\$7,305,219		
2023	\$31,334,479	\$7,477,378		
2024	\$28,422,458	\$9,785,244		
2025	\$21,331,223	\$5,891,940		
NPV	\$124,831,508	\$39,327,905	\$67,114,731	\$18,388,873

From Adjusted Base+185 Portfolio				
2020 to 2025	90 PPA	95 MW	Existing	
<b>Fuel Costs</b>	52,525,291.96	\$23,124,841	\$17,359,351	
<b>VOM Costs</b>	\$10,952,708	\$5,041,307	\$3,728,885	
<b>Fuel Delivery Costs</b>	\$3,413,896	\$1,509,982	\$1,142,193	
<b>Startup Costs</b>	\$222,835	\$72,890	\$106,337	
<b>FOM Costs</b>	\$0	\$0	\$0	
<b>Variable Costs</b>	\$67,114,731	\$29,749,021	\$22,336,767	

From Adjusted Base+185 Portfolio				
2020 to 2039	90 PPA	95 MW	Existing	
<b>Fuel Costs</b>	\$52,525,292	\$111,911,464	\$123,903,299	
<b>VOM Costs</b>	\$10,952,708	\$25,427,857	\$28,192,744	
<b>Fuel Delivery Costs</b>	\$3,413,896	\$7,578,260	\$8,424,126	
<b>Startup Costs</b>	\$222,835	\$365,778	\$457,803	
<b>FOM Costs</b>	\$0	\$0	\$0	
<b>Variable Costs</b>	\$67,114,731	\$145,283,359	\$160,977,972	

QF Name	CU4 Expansion
QF Type	Coal
Capacity (MW)	185.00
PowerSimm Study	22271
WACC	6.92%
Contract Duration (years)	20
COD	10/1/2020
End Date	9/30/2040

	Heavy Load	Light Load	ATC
Net Present Value of AC	\$4,434.35	\$2,363.55	\$3,714.15
Levelized AC over contract period	\$34.17	\$18.21	\$28.62

Year	Total Generation MWh	Heavy Load MWh	Light Load MWh
2019	-	-	-
2020	44,474	29,871	14,603
2021	152,534	102,597	49,937
2022	160,477	106,565	53,912
2023	163,864	108,160	55,704
2024	156,931	100,659	56,271
2025	432,431	288,274	144,157
2026	938,076	580,393	357,683
2027	914,628	572,293	342,335
2028	810,531	505,669	304,862
2029	847,079	534,322	312,757
2030	790,670	508,519	282,151
2031	717,681	460,836	256,846
2032	614,905	394,805	220,100
2033	643,219	407,269	235,950
2034	619,599	395,764	223,835
2035	636,275	407,803	228,472
2036	589,576	381,673	207,903
2037	637,073	408,563	228,511
2038	619,198	398,043	221,155
2039	611,087	391,942	219,145
Total	11,100,307	7,084,020	4,016,287

Assumptions	
Discount Rate:	6.93%
Inflation	2.00%
Avoidable Resource COD:	2020
<b>Facility: Colstrip Add</b>	
Nameplate Capacity:	185 MW
Capacity Contribution (%):	91.6%
Capacity Credit:	169 MW

**Value of Avoided Capacity Costs - 20 years**

	NPV	Monthly PMT (\$/Month)	Annual PMT (\$/Year)	Annual PMT/MW (\$/MW-Year)
<b>Capital Costs:</b>	\$296,111,709	\$2,283,326	\$27,399,906	\$161,707.17
<b>O&amp;M Costs:</b>	\$30,199,232	\$232,867	\$2,794,405	\$16,491.86
	<b>\$326,310,941</b>		<b>\$30,194,312</b>	
			<b>Avoided Capacity Rate (\$/MW-Year):</b>	<b>\$178,199.03</b>

Avoidable resource is nominal 50 MW AERO-CT <sup>1</sup>	
Size:	50,000 kW
AERO Capital Cost	\$ 1,390 \$/kW
Asset Life:	30
AERO Revenue Requirement:	\$ 160.16 \$/kW-year
	\$ 13.35 \$/kW-month
Fixed O&M (first year):	\$ 13.92 \$/kW-year
	\$ 1.16 \$/kW-month

COD	Aero Rev Req
2020	\$ 160.16
2021	\$ 163.37
2022	\$ 166.63

<sup>1</sup>Source: NorthWestern Energy 2019 Resource Procurement Plan (see Resource Cost tab). The revenue requirement value is calculated by applying NorthWestern's Revenue Requirement model to these resource costs.

9 **PREFILED DIRECT TESTIMONY**

10 **OF KEVIN J. MARKOVICH**

11 **ON BEHALF OF NORTHWESTERN ENERGY**

12  
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21 Forecast Value from PPA

Exhibit KJM-1

22 Back Cast Value from PPA

Exhibit KJM-2

23  
24 **Witness Information**

25 **Q. Please provide your name, employer, and title.**

26 **A.** My name is Kevin J. Markovich. I am the Director of Energy Supply

27 Market Operations for NorthWestern Energy (“NorthWestern”).



1 **Q. Please provide a description of your relevant employment**  
2 **experience and other professional qualifications.**

3 **A.** I have worked in NorthWestern’s Energy Supply department since 2002,  
4 becoming Director of Risk Management in 2005 and assuming my current  
5 position in 2006. In my current role, I am responsible for electricity supply  
6 trading, marketing, and scheduling in Montana and natural gas supply  
7 trading, marketing, and scheduling in Montana, South Dakota, and  
8 Nebraska. Prior to joining NorthWestern, I served in various marketing  
9 and energy supply roles for Montana Power Trading & Marketing  
10 Company and The Montana Power Company. I have a Bachelor of  
11 Science in Business with an Accounting option, and a Master of Business  
12 Administration. I am also a Certified Public Accountant and a Certified  
13 Cash Manager.

14  
15 **Purpose of Testimony**

16 **Q. What is the purpose of your testimony in this docket?**

17 **A.** My testimony supports NorthWestern’s request for pre-approval to  
18 purchase Puget Sound Energy, Inc.’s (“Puget”) interest in Colstrip Unit 4  
19 (“CU4”) to address NorthWestern’s capacity needs (“Capacity  
20 Acquisition”). I explain that in addition to capacity, the Capacity  
21 Acquisition provides energy value to NorthWestern’s electricity supply  
22 portfolio. I present NorthWestern’s proposal to ensure that customers’  
23 bills remain unaffected by the Capacity Acquisition through the use of a

1 corresponding offset (“Offset”) in the Power Costs and Credits Adjustment  
2 Mechanism (“PCCAM”). Next, I describe the Power Purchase Agreement  
3 (“PPA”) with Puget and provide estimates of the value that NorthWestern’s  
4 customers will realize from that agreement.

5

6

### **Energy Supply Costs**

7

**Q. Is there value in the Capacity Acquisition besides its capacity?**

8

**A.** Yes. The Prefiled Direct Testimony of Bleau J. LaFave discusses the  
9 capacity value inherent in this transaction, but there are also other value  
10 streams that will flow to customers beyond capacity.

11

12

First, there is an energy value to the transaction. The variable costs to  
13 produce energy at CU4 are anywhere from dollars in the teens to twenties  
14 per megawatt-hour (“MWh”) depending on its operating level. When all of  
15 the following conditions occur, energy will be produced and used to either  
16 serve load or sell into the market:

17

- the supply portfolio has met its backup capacity needs;
- there is additional capacity available from CU4; and
- market prices are higher than the variable cost to produce energy.

18

19

20

21

The energy value to customers from this transaction will result in fewer  
22 market purchases and greater market sales which will justify the variable  
23 costs to produce the energy.

22

23

1 **Q. Are there other value components that will be affected by the**  
2 **Capacity Acquisition?**

3 **A.** Yes, there are three other items that will be affected by this transaction.

4 First, the Capacity Acquisition will, at times, allow NorthWestern to reduce  
5 purchases of capacity from the market to meet its reliability needs by  
6 being able to self-supply the backup capacity needed to integrate wind  
7 and solar resources.

8  
9 Second, the PCCAM contains costs for Operating Reserve – Spinning  
10 Reserve Service purchases from the market. Once the Capacity  
11 Acquisition is in place, NorthWestern’s portfolio of resources will be able  
12 to self-supply these reserves more often, and the need for these  
13 purchases will be reduced.

14  
15 Third, as I mentioned earlier, when the cost to produce energy is less  
16 than the market price of energy, NorthWestern will generate the energy  
17 and either serve load or sell the excess energy to third parties, which in  
18 either case benefits customers. When selling excess energy,  
19 NorthWestern at times has to purchase transmission to move the energy  
20 off system. The Capacity Acquisition provides energy that will at times be  
21 sold-off system so transmission expense is estimated to increase, but  
22 those expenses will be justified by the sale prices in those situations.

23

1 **Q. Do you have a table that summarizes the changes that you forecast**  
 2 **to occur to electricity supply costs as a result of the Capacity**  
 3 **Acquisition?**

4 **A.** Below is a table that summarizes the changes described above:

	PCCAM Base with CA <sup>1</sup>	PCCAM Base <sup>1</sup>	Diff
Total Costs	\$129,512,018	\$140,955,973	(\$11,443,955)
CU4 Volume (MWh)	2,014,591	1,402,320	612,271
On System Market Purch (MWh)	305,760	381,975	(76,215)
On System Market Sales (MWh)	(1,072,240)	536,184	(1,608,424)
CU4 Variable Costs	\$38,942,453	\$27,737,890	\$11,204,563
On System Market Purch	\$11,914,882	\$13,938,486	(\$2,023,604)
On System Market Sales	(\$30,006,771)	(\$13,432,433)	(\$16,574,338)
"INC" Purchases	\$0	\$5,188,073	(\$5,188,073)
Operating Reserves	\$0	\$1,183,624	(\$1,183,624)
Transmission Expense	\$4,508,951	\$2,187,830	\$2,321,121

<sup>1</sup> PCCAM Base Updated with Current Market Prices

5 **Q. How does NorthWestern recover its variable electricity supply costs?**

6 **A.** NorthWestern recovers these costs through a tracker mechanism, the  
 7 PCCAM. Under the PCCAM, the Montana Public Service Commission  
 8 (“Commission” or “MPSC”) approves base power costs and credits  
 9 (“PCC”). The Commission recently approved a base PCC of  
 10 \$138,655,703 in Order No. 7604u, Docket No. 2018.02.012 (December  
 11 20, 2019) at ¶ 95. During the yearly tracking period, NorthWestern tracks

1 certain costs and credits subject to sharing in its PCC and either charges  
2 or rebates 90% of the difference between the base PCC revenues and  
3 actual PCC.

4

5 **Q. The table above shows base PCC costs at \$140.9 million yet you just**  
6 **said PCC costs were \$138.7 million. What is the difference?**

7 **A.** In order to isolate the value of the Capacity Acquisition, I had to restate  
8 the base PCC with current market prices so that an up-to-date estimate of  
9 the energy value could be calculated. The \$138.7 million base PCC  
10 contains market prices that were forecasted in March 2019; market prices  
11 had to be updated to ensure the Capacity Acquisition provided value in  
12 more current market conditions. Forecasted market prices on October 31,  
13 2019 were used to update the Base PCC as that is when negotiations with  
14 Puget on the Capacity Acquisition were taking place.

15

16 **Q. Will NorthWestern's additional interest in CU4 reduce**  
17 **NorthWestern's actual PCC?**

18 **A.** NorthWestern will have an additional 95 megawatts ("MW") to serve  
19 customers for the first five years. As shown in the table above,  
20 NorthWestern expects this additional 95 MW to reduce NorthWestern's  
21 actual PCC.

22

1 **Q. Will the reduction to NorthWestern’s actual PCC be reflected in**  
2 **customer’s rates?**

3 **A.** Under NorthWestern’s current PCCAM tariff, this savings would not be  
4 reflected in rates until the actual savings are realized, sometime after the  
5 95 MW is added to NorthWestern’s supply portfolio. NorthWestern’s  
6 customers would receive a rebate reflecting 90% of the savings, only if  
7 and when NorthWestern’s actual PCC are less than the PCC that  
8 NorthWestern recovers.

9  
10 So that NorthWestern’s customers can receive an immediate benefit from  
11 the 95 MW, NorthWestern proposes to offset the costs of the 95 MW with  
12 forecasted savings on day one. As explained in the Prefiled Direct  
13 Testimony of Andrew D. Durkin (“Durkin Direct Testimony”), NorthWestern  
14 requires a \$7,447,343 revenue requirement for the 95 MW. NorthWestern  
15 proposes the Offset in the PCCAM in the same amount.

16  
17 **Q. How does NorthWestern propose to implement the Offset?**

18 **A.** NorthWestern proposes that the Commission approve a new base PCC of  
19 \$131,208,360. This is a \$7,447,343 reduction from the \$138,655,703  
20 base PCC the Commission approved in NorthWestern’s recent rate case  
21 in Docket No. 2018.02.012.

22

1 A single line item reducing costs by \$7,447,343 will be inserted into the  
2 PCCAM, and all other categories and costs will remain the same. A single  
3 entry that is easily identified is preferable to changing the costs and  
4 categories and having them buried in numerous different lines.

5  
6 **Q. What if the actual savings are greater than reflected in the change to  
7 the PCCAM base rates?**

8 **A.** If NorthWestern's actual PCC are less than the \$131,208,360 of base  
9 PCC, 90% of those savings will flow to the environmental compliance,  
10 remediation, and decommissioning fund ("Reserve Fund") described in the  
11 Prefiled Direct Testimony of Crystal D. Lail. The change to the PCCAM  
12 tariff that allows 90% of the savings to flow to the Reserve Fund instead of  
13 directly to customers is described in the Durkin Direct Testimony.

14

15 **Q. What if actual PCC are more than base PCC?**

16 **A.** If NorthWestern's actual PCC are more than \$131,208,360, customers will  
17 pay 90% of the additional costs, as stated in the PCCAM tariff.

18

19 **Power Purchase Agreement with Puget**

20 **Q. Please describe the PPA with Puget.**

21 **A.** As part of the Capacity Acquisition, NorthWestern and Puget have entered  
22 into a PPA. The PPA is Exhibit C to the Purchase and Sale Agreement.  
23 The PPA uses the standard the Western Systems Power Pool ("WSPP")

1 Schedule B agreement along with other Special Terms and Conditions.

2 Below is a synopsis of the PPA:

3 Term 4 Years, 364 days

4 Contract WSPP Schedule B Unit Contingent

5 Volume When Unit 4 is operating (any level)  
6 90 MW sale

7 When Unit 4 is off-line, 0 MW sale

8 Each hour the volume is either 90 or 0

9

10 Delivery Colstrip busbar or Mid C (seller's choice)

11

12 Price Mid C day-ahead index price with an hourly floor  
13 equal to variable costs when operating at the  
14 minimum level

15

16 Fixed O&M Puget will make monthly payments of budgeted  
17 Fixed O&M Base costs

18 When market prices exceed the floor, Puget will  
19 reduce the sales price to defray some of the Fixed  
20 O&M payments

21

22 **Q. Will this sale be part of the PCCAM?**

23 **A.** No. The PPA is a standalone transaction outside of the PCCAM. The net  
24 value from the PPA (revenues less expenses) will be transferred to the  
25 Reserve Fund.

26

27 **Q. Does the PPA contain a floor price that Puget will pay?**

28 **A.** Yes. There is an hourly floor on the sales price that is based on variable  
29 costs incurred when CU4 is operating at its minimum level.



1 **Q. What are the “Fixed O&M” costs listed in the terms above?**

2 **A.** Fixed O&M are operations and maintenance expenses, property taxes,  
3 and other minor charges including MPSC and Montana Consumer  
4 Counsel taxes.

5  
6 **Q. Will Puget pay the “Fixed O&M” costs on the 90 MW?**

7 **A.** Yes. Puget will make monthly payments of base “Fixed O&M” costs, but  
8 Puget will be able to recoup some of these costs through a reduction in  
9 the sales price when market prices exceed the floor.

10

11 **Q. How will Puget recoup some of the Fixed O&M costs through a**  
12 **reduction in the sales price?**

13 **A.** When market prices exceed the floor, Puget will pay the market price less  
14 a Fixed O&M recoupment amount. There is a limit on how much Fixed  
15 O&M Puget can recover each hour, and at no time can the sales price be  
16 less than the floor price. When market prices are less than the floor price,  
17 Puget pays the floor price and does not recoup any Fixed O&M.

18

1 **Q. Can you provide some examples of how this is calculated?**

2 **A.** Yes.

3 Example #1:

4 Assume the floor price is \$20, the hourly Fixed O&M recoupment limit is  
5 \$5, and the hourly market price is \$40. In this example, Puget would pay  
6 \$35 and the \$5 it saved would go toward recouping Fixed O&M costs.

7

8 Example #2:

9 Assume the floor price is \$20, the hourly Fixed O&M recoupment limit is  
10 \$5, and the hourly market price is \$23. In this example, Puget would pay  
11 \$20 and the \$3 it saved would go toward recouping Fixed O&M costs.

12

13 Example #3:

14 Assume the floor price is \$20, the hourly Fixed O&M recoupment limit is  
15 \$5, and the hourly market price is \$18. In this example, Puget would pay  
16 \$20 and no savings would be available for them to recoup Fixed O&M  
17 costs.

18

19 **Q. How did you estimate the “Fixed O&M”?**

20 **A.** The Fixed O&M are estimated costs to operate and maintain the 90-MW  
21 portion of the Capacity Acquisition. The Prefiled Direct Testimony of  
22 Michael J. Barnes explains how these estimates were derived.

23

1 **Q. How did you estimate the property taxes?**

2 **A.** As explained in the Durkin Direct Testimony, NorthWestern obtained the  
3 actual 2017-2018 property taxes related to Puget's ownership interest in  
4 CU4 from Puget.

5  
6 **Q. Did you conduct a forecast of expected value generated from the**  
7 **PPA between Puget and NorthWestern?**

8 **A.** Yes. I forecasted revenues and expenses for the approximately five-year  
9 term.

10

11 **Q. What assumptions did you include in that forecast?**

12 **A.** I used forward market prices from October 31, 2019 as this was when  
13 negotiations with Puget were going on. I assumed an Equivalent  
14 Availability Factor ("EAF") rate of 87%. The EAF was based on the five-  
15 year history of EAF for CU4. Scheduled maintenance was based on the  
16 current plan, and the base sales price was either the monthly on-peak and  
17 off-peak price or the floor, whichever was higher.

18

19 **Q. What were the results of your forecast?**

20 **A.** Over the almost five-year term, I calculated a value (revenues less  
21 expenses) of approximately \$4.5 million. The year one value is  
22 approximately \$2.1 million. This forecast is attached as Exhibit KJM-1.

23

1 **Q. Did you conduct a back cast of value that could have been generated**  
2 **from the PPA?**

3 **A.** Yes.

4

5 **Q. What assumptions did you use for the back cast?**

6 **A.** I left everything the same except for market prices. I used 2019 actual on-  
7 peak and off-peak prices for January through November and I used  
8 December 2018 actual prices for December.

9

10 **Q. What were the results of your back cast?**

11 **A.** This analysis showed a year one value of \$6.7 million and a five-year  
12 value of \$28.1 million. This increase in value shows that short-term  
13 market volatility will increase the value beyond what was forecasted. This  
14 back cast is attached as Exhibit KJM-2.

15

16 **Q. Please explain the difference between the \$4.5 million forecast value**  
17 **and the \$28.1 million back cast value.**

18 **A.** The main driver in determining value from the PPA is market prices. The  
19 cost to produce energy at CU4 fluctuates very little. The revenue from the  
20 PPA will fluctuate, depending on market prices. The value from the PPA  
21 is thus a function of the difference between market prices and CU4  
22 production costs. As market prices increase so does the value of the  
23 PPA. Also, with a sales price floor, NorthWestern is insulated from selling

1 energy at an amount less than the variable costs to produce the energy.  
2 To put this into further context, if this PPA had been in place on March 3-  
3 4, 2019, the value for those two days alone would have been in excess of  
4 \$3.7 million.

5

6 **Q. Does this conclude your testimony?**

7 **A.** Yes, it does.

Analysis of 90 MW Sale  
10/31/19 Strip

	87% EAF, 2024 8 Week Outage, No RSA					Total
	2020/2021 Tracker Year	2021/2022 Tracker Year	2022/2023 Tracker Year	2023/2024 Tracker Year	2024/2025 Tracker Year	
Revenue	\$ 19,333,835	\$ 20,082,417	\$ 20,326,701	\$ 16,877,187	\$ 19,467,837	\$ 96,087,976
Fixed O&M Pmt. from Puget	\$ 2,546,569	\$ 1,989,230	\$ 1,928,387	\$ 1,446,964	\$ 2,718,615	\$ 10,629,765
Total Revenue	\$ 21,880,404	\$ 22,071,647	\$ 22,255,088	\$ 18,324,151	\$ 22,186,451	\$ 106,717,741
Variable Cost	\$ 12,552,116	\$ 12,552,116	\$ 12,552,116	\$ 10,488,755	\$ 12,552,116	\$ 60,697,220
Fixed O&M Base	\$ 4,549,032	\$ 4,760,094	\$ 4,900,279	\$ 5,084,389	\$ 7,101,239	\$ 26,395,033
Fixed O&M Other	\$ 1,330,013	\$ 1,191,068	\$ 1,189,249	\$ 3,266,305	\$ 1,249,455	\$ 8,226,090
Property Taxes	\$ 1,280,692	\$ 1,312,709	\$ 1,345,527	\$ 1,345,527	\$ 1,379,165	\$ 6,663,620
MPSC & MCC Taxes	\$ 40,755	\$ 41,348	\$ 42,322	\$ 55,384	\$ 33,348	\$ 213,157
Total Expenses	\$ 19,752,608	\$ 19,857,335	\$ 20,029,493	\$ 20,240,360	\$ 22,315,324	\$ 102,195,121
Net Value	\$ 2,127,795	\$ 2,214,312	\$ 2,225,594	\$ (1,916,209)	\$ (128,872)	\$ 4,522,620

Analysis of 90 MW Sale  
 2019 Actual Prices

	87% EAF, 2024 8 Week Outage, No RSA					Total
	2020/2021 Tracker Year	2021/2022 Tracker Year	2022/2023 Tracker Year	2023/2024 Tracker Year	2024/2025 Tracker Year	
Revenue	\$ 24,573,035	\$ 24,502,012	\$ 24,454,403	\$ 21,313,087	\$ 23,781,835	\$ 118,624,371
Fixed O&M Pmt. from Puget	\$ 1,924,922	\$ 2,059,448	\$ 2,149,707	\$ 1,923,975	\$ 3,656,563	\$ 11,714,616
Total Revenue	\$ 26,497,957	\$ 26,561,460	\$ 26,604,110	\$ 23,237,061	\$ 27,438,398	\$ 130,338,987
Variable Cost	\$ 12,552,116	\$ 12,552,116	\$ 12,552,116	\$ 10,488,755	\$ 12,552,116	\$ 60,697,220
Fixed O&M Base	\$ 4,549,032	\$ 4,760,094	\$ 4,900,279	\$ 5,084,389	\$ 7,101,239	\$ 26,395,033
Fixed O&M Other	\$ 1,330,013	\$ 1,191,068	\$ 1,189,249	\$ 3,266,305	\$ 1,249,455	\$ 8,226,090
Property Taxes	\$ 1,280,692	\$ 1,312,709	\$ 1,345,527	\$ 1,345,527	\$ 1,379,165	\$ 6,663,620
MPSC & MCC Taxes	\$ 40,755	\$ 41,348	\$ 42,322	\$ 55,384	\$ 33,348	\$ 213,157
Total Expenses	\$ 19,752,608	\$ 19,857,335	\$ 20,029,493	\$ 20,240,360	\$ 22,315,324	\$ 102,195,121
Net Value	\$ 6,745,349	\$ 6,704,125	\$ 6,574,617	\$ 2,996,702	\$ 5,123,075	\$ 28,143,867

9 **PREFILED DIRECT TESTIMONY**

10 **OF MICHAEL J. BARNES**

11 **ON BEHALF OF NORTHWESTERN ENERGY**

12  
13 **TABLE OF CONTENTS**

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21	<b><u>Exhibits</u></b>	
22	Operating Data	Exhibit MJB-1*
23	NERC's Generating Unit Statistical Brochure	Exhibit MJB-2
24	Ownership and Operation Agreement	Exhibit MJB-3^
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26	AOC/CCR Cost Estimate	Exhibit MJB-5*
27	Decommissioning Studies	Exhibits MJB-6,7,8^



1	Decommissioning Cost Estimate	Exhibit MJB-9
2	Project Budget	Exhibit MJB-10*
3	Budget Allocation of O&M	Exhibit MJB-11*
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5	Coal Supply Agreement	Exhibit MJB-13*

6 \* Confidential exhibits not provided

7 ^ Voluminous exhibits provided on CD and uploaded to PSC website (EDDI)

8

9

**Witness Information**

10 **Q. Please provide your name, employer, and title.**

11 **A.** My name is Michael J. Barnes. I am NorthWestern Energy's  
12 ("NorthWestern") Superintendent of Joint Owned Thermal Operations.

13

14 **Q. Please provide a description of your relevant employment  
15 experience and other professional qualifications.**

16 **A.** I have 25 years of experience in the energy industry, first with The  
17 Montana Power Company, and then subsequently with NorthWestern.  
18 For 24 of those years, my work has been directly related to the Colstrip  
19 plant and its operations. I have been NorthWestern's representative on  
20 the Project Committee for Colstrip Unit 3 and Unit 4 ("Project") since 2002  
21 and represented The Montana Power Company on the Project Committee  
22 from 1999-2002.

23

1 In my current role as Superintendent of Joint Owned Thermal Operations,  
2 I am responsible for NorthWestern’s interest in four jointly-owned thermal  
3 facilities in four states representing approximately 440 megawatts (“MW”)  
4 of generating capacity. The facilities are the Coyote Generating Station  
5 located near Beulah, North Dakota, the Big Stone Plant located near Big  
6 Stone City, South Dakota, the Neal 4 South Generating Station located  
7 near Sioux City, Iowa, and, of course, the Colstrip Generating Station,  
8 located near Colstrip, Montana. I am also responsible for administration of  
9 NorthWestern’s contracts with Basin Creek Power, a 52-MW reciprocating  
10 engine natural gas-fired power plant, and Judith Gap, a 135-MW  
11 nameplate capacity wind farm. I hold a Bachelor of Science in  
12 Engineering Science and a Bachelor of Science in Environmental  
13 Engineering.

14

15 **Purpose of Testimony**

16 **Q. What is the purpose of your testimony in this docket?**

17 **A.** My testimony supports NorthWestern’s request for pre-approval to  
18 purchase Puget Sound Energy, Inc.’s (“Puget”) interest in Colstrip Unit 4  
19 (“CU4”) to address NorthWestern’s capacity needs (“Capacity  
20 Acquisition”). I provide information on CU4’s operations and the cost of  
21 those operations. I also explain the types of costs that will be alleviated  
22 by the environmental compliance, remediation, and decommissioning fund  
23 (“Reserve Fund”).

1 **CU4 Operations**

2 **Q. Is CU4 capable of operating reliably and efficiently for the**  
3 **foreseeable future?**

4 **A.** Yes. Performance data reflects that CU4 has a track record of sustained  
5 availability while at the same time maintaining efficiency. While there is  
6 always a risk of failure with any mechanical equipment, the Project owners  
7 have historically lessened that risk by continually investing in Colstrip  
8 Units 3 & 4 to maintain capacity and reliability.

9  
10 **Q. Please describe the statistics that indicate that CU4 is reliable and**  
11 **efficient.**

12 **A.** The statistics that demonstrate the reliability and efficiency of CU4 are its  
13 equivalent availability factor (“EAF”) and heat rate.

14  
15 **Q. Please describe CU4’s EAF.**

16 **A.** The EAF is a measure of overall reliability of a generation facility. It  
17 represents the amount of time that a facility is able to produce energy at  
18 full capacity. CU4’s EAF for the past five years (2014-2018) averaged  
19 86.93%. Its EAF from 1990 to 2013 averaged 83.52%. These EAF  
20 statistics were derived from the confidential operating data included in  
21 Exhibit MJB-1.

1 As the North American Electric Reliability Corporation's ("NERC") reports  
2 indicate, CU4's recent EAF is nearly 7% better than coal plants of the  
3 same size. NERC's Generating Unit Statistical Brochure 4 2014-2018 All  
4 Units Reporting ("NERC Report"), attached as Exhibit MJB-2, shows that  
5 for generating resources with a nameplate capacity of 600 – 799 MW and  
6 coal as the primary fuel, the EAF averages 80.77%.

7  
8 **Q. Please describe CU4's heat rate.**

9 **A.** Heat rate is a measure of the efficiency by which a plant turns the fuel's  
10 heat content into energy. If efficiency decreases, then heat rate  
11 increases. CU4's heat rate for the past five years (2014-2018) averaged  
12 10,806 British thermal units per kilowatt-hour ("Btu/kWh"). Its heat rate  
13 from 1993 to 2013 averaged 10,687 Btu/kWh. These heat rate averages  
14 were derived from the confidential operating data included in Exhibit  
15 MJB-1.

16  
17 **Q. Is an increased heat rate always an indication of a decrease in**  
18 **efficiency?**

19 **A.** No. One of the contributing factors to a higher heat rate is an auxiliary  
20 power requirement or the power necessary to run auxiliary components at  
21 the unit. At CU4, the auxiliary power requirement has increased over 9%  
22 over the past five years (2014-2018). The increase may be attributed to a  
23 number of factors. As a result of increased demands to lower emissions,

1 new legal requirements obligated the Project owners to install new  
2 equipment or change existing equipment at the Project, which negatively  
3 affected CU4's heat rate. Additionally, an increasing number of  
4 intermittent resources on NorthWestern's system has negatively affected  
5 CU4's heat rate. Increased intermittent resources negatively affect heat  
6 rate as plants capable of demand response, like CU4, are forced to  
7 provide ancillary services for those resources. For instance, CU4 must  
8 reduce generation to respond to sudden increases in wind generation.  
9 Due to providing those services, CU4 was not as efficient operating at  
10 reduced generation levels, which negatively affected its heat rate.

11

12 **Q. Please describe CU4's capacity factor.**

13 **A.** The capacity factor ("CF") is the ratio of electric energy output over a given  
14 period of time to the maximum possible electric energy output over that  
15 period. A 100% CF means that a generation unit operated at maximum  
16 output; a 50% CF means that a unit operated at half of its maximum  
17 output. The average CU4 capacity factor for the past five years (2014-  
18 2018) was 77.08% and from 1990 to 2013 was 77.54%. These CFs were  
19 derived from the confidential operating data included in Exhibit MJB-1.

20

21 **Q. Is a decreased CF always an indication of a decrease in operating**  
22 **performance?**

1 **A.** No. Many factors influence a generation unit's actual CF over a given  
2 time. For example, as more and more intermittent renewable resources  
3 are connected to the grid, thermal units capable of on-demand generation  
4 must provide ancillary services for those resources in order to balance the  
5 load with the generation. Those services are provided by backing down  
6 the thermal unit as wind resources unexpectedly increase production.  
7 Backing down lowers the unit's CF, but that is not an indicator of  
8 decreasing operating performance.

9

10 **Q. Please summarize what performance data indicates about CU4's**  
11 **operations.**

12 **A.** CU4 has a track record of sustained availability while at the same time  
13 maintaining efficiency. It has done so even with the ever increasing  
14 emission control requirements, increasing auxiliary power requirements,  
15 and the necessity to provide ancillary services for the increasing number  
16 of intermittent renewable resources on the grid.

17

18 **Reserve Fund**

19 **Q. What is the Reserve Fund?**

20 **A.** As explained in the Prefiled Direct Testimony of Crystal D. Lail,  
21 NorthWestern proposes to establish a Reserve Fund to be used for  
22 environmental compliance, remediation, and decommissioning costs.

23

1 **Q. What types of costs would the Reserve Fund address?**

2 **A.** As part of normal operations, the Project generates coal combustion ash  
3 residuals (“CCR”), which are disposed of in coal ash disposal ponds. The  
4 Project must conduct operations in compliance with the U.S.  
5 Environmental Protection Agency’s (“EPA”) CCR regulations. In addition,  
6 in 2012, the Montana Department of Environmental Quality (“MDEQ”) and  
7 PPL Montana, LLC, n/k/a Talen Montana, LLC (“Talen”), as operator of  
8 the Project and as operator of Colstrip Units 1 and 2, entered into an  
9 Administrative Order on Consent (“AOC”) to address leakage from the  
10 coal ash disposal ponds at Colstrip. The Project currently incurs operating  
11 and maintenance expenses (“O&M”) and capital expenditures (“Capex”)  
12 associated with complying with the AOC and CCR regulations. Together,  
13 the AOC and CCR costs can be referred to as environmental compliance  
14 and remediation costs.

15  
16 Upon closure, the Project will incur costs associated with  
17 decommissioning.

18

19 **Q. What is the status of the AOC?**

20 **A.** Under the AOC, the Colstrip site is divided into three areas – the “Units  
21 1&2 Stage I and Stage II evaporation ponds”, the “main plant site”, and the  
22 “Units 3&4 effluent holding ponds”. For each of the three areas, Talen has  
23 submitted remedy evaluation reports and site closure plans to MDEQ.

1 MDEQ has approved the site closure plan and part one of a two-part  
2 remedy evaluation report for the Units 1&2 Stage I and Stage II  
3 evaporation ponds. MDEQ has approved the remedy evaluation report  
4 and site closure plan for the main plant site. MDEQ has approved the site  
5 closure plan for the Units 3&4 effluent holding ponds, but it has not  
6 approved the remedy evaluation report for that area. MDEQ's approval of  
7 the remedy evaluation report for the Units 3&4 effluent holding ponds is  
8 expected in the near future.

9

10 **Q. What is the status of compliance with CCR?**

11 **A.** Compliance with CCR is on-going. The Project must conduct operations  
12 in compliance with the EPA CCR regulations.

13

14 **Q. How are AOC and CCR compliance costs allocated among the  
15 owners?**

16 **A.** The costs are allocated according to the percentage of ownership.  
17 NorthWestern currently owns 30% of CU4. Due to the Reciprocal Sharing  
18 Agreement with Talen, the percentage allocated to NorthWestern's share  
19 of the Project is 15%. The Ownership and Operation Agreement and  
20 Reciprocal Sharing Agreement are provided as Exhibit MJB-3 and Exhibit  
21 MJB-4, respectively.

22



1 The Capacity Acquisition will not increase the costs associated with  
2 NorthWestern's ownership interest for AOC or CCR compliance. Puget  
3 will maintain responsibility for its share of AOC and CCR compliance costs  
4 and will provide the financial assurance required by MDEQ. Therefore,  
5 even after the Capacity Acquisition, the percentage of costs associated  
6 with AOC and CCR compliance for NorthWestern's ownership interest will  
7 remain the same as they are now, which is a 15% responsibility for areas  
8 associated with CU3 and CU4 operations.

9  
10 Specifically, the Units 3&4 effluent holding ponds is a CU3 and CU4  
11 compliance cost, because that area is the CU3 and CU4 coal ash disposal  
12 area.

13  
14 The main plant site is a shared responsibility among all four Colstrip Units.

15  
16 Since NorthWestern has no ownership interests in Units 1 & 2, none of the  
17 costs for Units 1&2 Stage I and Stage II evaporation ponds are associated  
18 with NorthWestern's ownership interests.

19

20 **Q. What AOC and CCR compliance costs are associated with**  
21 **NorthWestern's interest?**

22 **A.** An estimate of the amount associated with NorthWestern's ownership  
23 percentage is \$53 million for AOC/CCR activities. The AOC/CCR

1 estimate is primarily based on confidential estimates provided by Talen.  
2 The workpapers associated with those the AOC/CCR estimates are part of  
3 the confidential Exhibit MJB-5.

4

5 **Q. What decommissioning activities are associated with**  
6 **NorthWestern's ownership interest?**

7 **A.** The types of costs will depend on the requirements for decommissioning  
8 at the time CU4 reaches its end of life. In general, for purposes of this  
9 testimony, when I refer to "decommissioning costs", I am referring to costs  
10 associated with activities such as removing process chemicals, removing  
11 salvageable equipment and materials, asbestos abatement, and  
12 demolition of the structures and other assets.

13

14 **Q. What additional costs for decommissioning are expected as a result**  
15 **of the Capacity Acquisition?**

16 **A.** Assuming no new buildings or structures are erected after the Capacity  
17 Acquisition is completed, the cost relative to NorthWestern's current  
18 ownership interest will not increase as the obligation will remain the same  
19 as it was prior to the Capacity Acquisition.

20

21 **Q. What are the estimated decommissioning costs?**

22 **A.** Publicly available decommissioning studies conducted for Duke Energy,  
23 Oklahoma Gas & Electric, and Public Service Company of Colorado (Xcel

1 Energy) all included cost information for plants of similar size and vintage  
2 that may provide insight into the costs that may be incurred when CU4  
3 reaches its end of life. I used the data from those decommissioning  
4 studies to estimate the costs that may be incurred at Colstrip. I removed  
5 pond remediation from the list of costs because the AOC/CCR cost  
6 estimates already include pond compliance and remediation for Colstrip.  
7 I also removed the contingency costs. I set indirect costs at 5% of total  
8 costs. If a similar vintage plant was part of a larger facility but was the  
9 only one of similar vintage to be included, I allocated common costs  
10 proportionately by the size of the plant. To provide an estimate of costs  
11 that may be incurred at CU4, I divided the total costs by the number of  
12 MW (total for all units) to get to an average cost per MW of capacity. That  
13 calculation resulted in an estimate of \$29,469/MW in decommissioning  
14 costs. As applied to the Project, the CU3 and CU4 decommissioning  
15 obligation would be approximately \$44 million making the  
16 decommissioning obligation estimate relative to NorthWestern's current  
17 ownership share approximately \$6.6 million. The above-referenced  
18 decommissioning studies are provided as Exhibits MJB-6 through MJB-8,  
19 and the decommissioning cost calculations are attached as Exhibit MJB-9.  
20 As previously stated, actual costs will depend on requirements at the time  
21 of closure and could be more or less than estimated above; the estimate is  
22 only provided to illustrate the types and magnitude of costs that have been

1 estimated elsewhere to show the benefit of establishing a Reserve Fund  
2 to help offset those types of costs.

3

4 **Q. Are AOC/CCR costs due only upon closure of the facility?**

5 **A.** No, the Project currently incurs O&M and Capex associated with  
6 complying with the AOC and CCR regulations. These are ongoing costs  
7 being presently incurred, and they will continue after closure of the  
8 Project. Of course, decommissioning costs will not be incurred until after  
9 closure of the facility.

10

11 **Operations and Maintenance and Capital Expenditure Costs**

12 **Q. Did you provide other NorthWestern witnesses with estimated O&M  
13 and Capex for the additional 185 MW of CU4?**

14 **A.** Yes, I provided information on the Project's costs. As a member of the  
15 Project Committee, I receive O&M and Capex budgets from Talen, the  
16 facility's operator. The O&M and Capex budgets are included in  
17 confidential Exhibit MJB-10. Although the budgets are for the Project, I  
18 was able to allocate costs to CU3 and CU4 separately. The allocation of  
19 O&M is confidential Exhibit MJB-11. The allocation of Capex is  
20 confidential Exhibit MJB-12. The coal supply agreement, which contains  
21 the cost of fuel, is confidential Exhibit MJB-13.

22 **Q. Does this conclude your testimony?**

23 **A.** Yes, it does.

2014-2018 Generating Unit Statistical Brochure -- All Units Reporting

NOTE: This brochure contains data on units reporting events only. For a review of statistics containing units that reported events, see the brochure "2014-2018 Generating Unit Statistical Brochure -- Units Reporting Events".

(The differences between statistics with or with events will appear in equations needing derating information such as EAF, EFOR, and other equations. The equations are more accurate if events are reported.)

Unit Type	IW Trb/Gen Nameplate	# of Units	Unit-Years	ART	SR	NCF	NOF	SF	AF	EAF	FOR	EFOR	EFORd	SOF	FOF	UOF	EUOF	EUOR	POF	MOF	WSF	WAF	WEAF	WFOR	WEFOR	WSOF	WFOF	
FOSSIL All Fuel Types	All Sizes	1350	5751.5	169.88	98.68	44.31	72.55	53.41	82.93	80.29	8.53	11.3	8.85	12.09	4.98	8.4	10.28	16.53	8.67	3.41	61.07	81.9	79.3	7.68	10.28	13.02	5.08	
FOSSIL All Fuel Types	001-099	327	1278	124.91	99.21	29.21	63.99	42.95	85.24	82.63	10.56	13.41	9.19	9.69	5.07	8.25	9.92	19.21	6.51	3.18	45.66	85.19	82.66	9.6	12.4	9.96	4.85	
FOSSIL All Fuel Types	100-199	320	1320.75	73.39	99.34	28.29	62.56	43.6	84.14	81.35	8.55	11.54	7.62	11.78	4.08	7.34	8.99	17.45	8.52	3.26	45.22	83.87	80.98	8.21	11.22	12.09	4.04	
FOSSIL All Fuel Types	200-299	158	658	246.36	97.85	37.07	66.64	55.62	81.09	78.54	9.74	12.45	10.25	12.91	6	9.99	11.92	18.04	8.92	3.99	55.63	81.43	78.9	9.41	12.09	12.79	5.78	
FOSSIL All Fuel Types	300-399	113	527.25	214.33	98.04	33.57	64.67	52.63	82.01	79.71	7.92	10.7	8.61	13.47	4.53	7.8	9.62	15.82	10.19	3.27	51.91	81.98	79.74	7.97	10.73	13.52	4.49	
FOSSIL All Fuel Types	400-599	213	951	326.56	97.54	45.49	72.34	62.62	81.37	78.46	8.44	11.47	10	12.86	5.77	9.21	11.53	16	9.43	3.44	62.88	81.37	78.46	8.48	11.5	12.81	5.82	
FOSSIL All Fuel Types	600-799	143	660.5	526.9	96.75	53.03	77.47	68.39	82.32	79.73	6.64	9.03	8.22	12.82	4.86	8.31	10.39	13.51	9.38	3.44	68.45	82.22	79.65	6.67	9.05	12.88	4.89	
FOSSIL All Fuel Types	800-999	60	291	271.43	97.96	49.77	75.24	65.72	82.28	80.21	6.17	8.36	7.33	13.4	4.32	7.72	9.64	13.09	10	3.4	66.14	82.39	80.33	6.1	8.26	13.31	4.3	
FOSSIL All Fuel Types	1000 Plus	16	60	694.46	95.43	55.32	78.58	69.56	75.2	71.99	8.98	10.71	10.2	17.94	6.87	12.38	14.2	17.3	12.42	5.51	70.4	75.45	72.38	8.7	10.39	17.84	6.71	
FOSSIL Coal Primary	All Sizes	858	3483.5	355.19	97.83	54.69	76.07	65.47	83	80.2	7.22	9.63	8.5	11.9	5.09	8.7	10.7	14.38	8.3	3.61	71.9	82.19	79.45	6.72	8.99	12.63	5.18	
FOSSIL Coal Primary	001-099	146	491.67	225.11	98.69	36	72.91	45.32	86.11	83.97	8.98	11.34	8.65	9.42	4.47	7.72	9.18	17.14	6.17	3.25	49.38	86.88	84.77	7.26	9.58	9.26	3.87	
FOSSIL Coal Primary	100-199	215	763.42	159.66	98.89	39.7	67.98	57.93	85.15	81.74	6.73	9.48	7.54	10.67	4.18	7.79	9.76	14.75	7.05	3.62	58.41	85.06	81.62	6.58	9.45	10.83	4.12	
FOSSIL Coal Primary	200-299	113	455	457.05	96.82	45.62	72.57	62.93	80.15	77.3	9.8	12.2	10.86	13.01	6.84	11.23	13.19	17.73	8.62	4.39	62.86	80.74	77.89	9.42	11.82	12.72	6.54	
FOSSIL Coal Primary	300-399	66	306.58	465.11	96.66	48.49	72.19	67.1	81.69	78.82	7.02	9.81	8.86	13.24	5.07	8.98	11.26	14.76	9.33	3.91	67.17	81.8	78.95	7.01	9.78	13.14	5.06	
FOSSIL Coal Primary	400-599	143	660.5	557.15	97.24	57.25	75.69	75.59	82.1	79.13	6.86	9.41	8.94	12.33	5.57	8.79	11.12	13.16	9.11	3.22	75.65	82.04	79.06	6.9	9.48	12.35	5.61	
FOSSIL Coal Primary	600-799	118	539.33	642.66	96.75	59.62	78.55	75.8	83.0	80.77	5.78	7.82	7.4	12.01	4.65	8.03	10.04	11.96	8.63	3.38	75.9	83.34	80.77	5.78	7.82	12	4.66	
FOSSIL Coal Primary	800-999	43	206	702.28	95.41	58.22	77.39	75.13	81.38	79.17	6.51	8.41	8.03	13.39	5.23	8.76	10.8	12.84	9.86	3.53	75.23	81.56	79.37	6.41	8.29	13.29	5.15	
FOSSIL Coal Primary	1000 Plus	14	56	705.56	95.19	57.49	79.7	71.72	75.78	72.85	7.91	9.33	8.99	18.06	6.16	11.85	13.37	16	12.37	5.69	72.14	75.92	73.07	7.86	9.3	17.93	6.15	
FOSSIL Oil Primary	All Sizes	89	283	81.47	99.13	7.18	44.78	24.32	83.92	82.27	10.85	15.69	8.43	13.12	2.96	7.63	9.16	28.22	8.45	4.67	16.03	80.89	79.63	15.47	20.1	16.18	2.93	
FOSSIL Oil Primary	001-099	27	92.42	70.78	99.63	26.68	49.42	45.25	86.65	83.67	5.25	10.64	6.6	10.85	2.51	9.35	12.26	22.18	4.01	6.84	53.99	85.47	82.09	4.41	9.59	12.04	2.49	
FOSSIL Oil Primary	100-199	19	65.33	161.3	97.68	10.78	54.03	17.42	85.39	84.02	19.12	24.3	14.43	10.49	4.12	7.96	9.29	35.72	6.64	3.84	19.95	84.82	83.38	16.69	21.7	11.18	4	
FOSSIL Oil Primary	200-299	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
FOSSIL Oil Primary	300-399	13	47	164.32	98.66	10.89	40.77	26.16	80.86	80.33	8.61	9.81	7.1	16.67	2.46	4.93	5.32	17.01	14.2	2.47	26.7	81.05	80.5	8.04	9.24	16.62	2.34	
FOSSIL Oil Primary	400-599	12	35.58	23.33	98.6	1.62	41.22	3.95	85.41	84.47	49.84	56.08	23.34	10.66	3.92	7.31	8.06	69	7.28	3.39	3.93	85.35	84.42	50.41	56.53	10.66	4	
FOSSIL Oil Primary	600-799	7	25.42	32.14	98.64	3.2	44.43	7.43	80.37	79.79	8.37	13.71	6.17	18.95	0.68	6.7	7.16	49.56	12.93	6.02	7.19	78.49	77.88	8.76	14.03	20.82	0.69	
FOSSIL Oil Primary	800-999	7	12.92	53.48	87.37	0.56	28.63	1.98	77.21	76.7	5.68	22.49	5.36	22.67	0.12	3.87	4.32	68.63	18.92	3.75	1.95	77.46	76.94	5.73	22.95	22.43	0.12	
FOSSIL Gas Primary	All Sizes	422	1557.75	57.06	98.98	11.55	40.74	26.08	81.62	79.75	16.77	20.38	10.69	13.12	5.25	8.46	9.82	27.83	9.92	3.21	28.35	79.7	77.62	16.01	20.12	14.89	5.41	
FOSSIL Gas Primary	001-099	126	441.92	63.56	99.04	11.18	43.13	20.49	83.43	82.16	24.95	26.91	12.19	9.76	6.81	9.89	10.55	34.19	6.69	3.08	25.92	82.37	80.98	21.89	23.66	10.36	7.26	
FOSSIL Gas Primary	100-199	116	463.58	40.84	99.32	11.44	43.25	25.29	82.79	80.75	12.54	16.18	8	13.59	3.63	6.39	7.67	23.64	10.82	2.77	26.46	82.24	80	12.1	15.65	14.12	3.64	
FOSSIL Gas Primary	200-299	53	178	94.49	99.07	14.74	40.24	36.45	82.22	80.29	10.83	14.87	9.31	13.35	4.43	7.86	9.73	21.45	9.92	3.43	36.63	82.03	80.18	10.64	14.49	13.61	4.36	
FOSSIL Gas Primary	300-399	40	158.5	61.96	98.72	9.83	35.37	27.99	81.77	79.97	13.69	17.36	9.89	13.79	4.44	6.96	8.42	23.49	11.26	2.52	27.8	81.56	79.8	13.73	17.35	14.01	4.43	
FOSSIL Gas Primary	400-599	62	227.33	77.67	98.19	12.32	41.75	29.37	77.84	75.11	18.91	24.22	14.66	15.31	6.85	11.12	13.34	32.37	11.04	4.27	29.52	78.08	75.35	19	24.22	14.99	6.93	
FOSSIL Gas Primary	600-799	16	54.33	143.21	95.08	11.78	47.17	24.05	70.45	68.01	26.22	31.71	21.46	21.01	8.55	12.73	15.16	39.44	16.82	4.19	24.97	71.14	68.8	25.45	30.71	20.34	8.53	
FOSSIL Gas Primary	800-999	9	34.08	19.89	99.44	7.81	32.71	23.76	83.08	82.64	4.94	6.16	2.86	15.68	1.24	5.47	5.89	19.9	11.45	4.23	23.88	82.96	82.51	4.81	6.05	15.83	1.21	
FOSSIL Lignite Primary	All Sizes	35	130.25	54.05	99.52	66.39	80.43	81.87	87.31	83.06	4.55	8.5	8.01	8.79	3.9	5.4	8.96	10.27	7.29	1.5	82.55	88.05	83.77	4.67	9	7.9	4.05	
FOSSIL Oil/Gas Primary	001-099	148	534.33	65.67	99.21	14.33	45.31	24.78	83.98	82.42	19.67	22.56	10.83	9.95	6.07	9.79	10.85	30.92	6.22	3.73	31.62	83	81.2	16.6	19.41	10.7	6.3	
FOSSIL Oil/Gas Primary	100-199	127	528.92	43.57	99.29	11.37	44.18	24.36	83.09	81.13	13.13	16.91	8.3	13.22	3.68	6.58	7.86	24.81	10.33	2.9	25.74	82.52	80.37	12.51	16.2	13.8	3.68	
FOSSIL Oil/Gas Primary	200-299	54	180.33	94.41	99.03	14.64	40.33	36.14	82.35	80.44	10.84	14.88	9.31	13.26	4.39	7.8	9.65	21.46	9.85	3.41	36.29	82.16	80.33	10.65	14.5	13.51	4.32	
FOSSIL Oil/Gas Primary	300-399	51	205.5	70.91	98.7	10.07	36.54	27.6	81.58	80.05	12.71	15.92	9.32	14.4	4.02	6.53	7.75	22.25	11.89	2.51	27.56	81.45	79.96	12.56	15.7	14.59	3.96	
FOSSIL Oil/Gas Primary	400-599	69	260.92	74.08	98.23	10.9	41.73	25.89	78.																			

NUCLEAR PWR	All Sizes	62.00	306.00	4,523.42	97.8	91.53	99.59	91.89	91.89	90.51	1.48	1.89	1.89	6.73	1.38	1.69	2.23	2.38	6.41	0.31	91.91	91.91	90.51	1.44	1.86	6.75	1.34	
NUCLEAR PWR	400-799	5.00	23.00	2,720.53	100	89.75	99.12	90.65	90.65	88.87	2.18	2.43	2.43	7.33	2.02	3.4	3.79	4.02	5.95	1.38	90.55	90.55	88.85	2.09	2.33	7.52	1.93	
NUCLEAR PWR	800-999	22.00	110.00	4,786.20	96.57	92.2	100.02	92.29	92.29	91.28	1.33	1.72	1.72	6.47	1.24	1.49	2	2.13	6.22	0.25	92.18	92.18	91.17	1.34	1.74	6.56	1.26	
NUCLEAR PWR	1000 Plus	35.00	173.00	4,761.01	98.26	91.33	99.42	91.8	91.8	90.25	1.49	1.93	1.93	6.81	1.38	1.6	2.16	2.31	6.6	0.21	91.87	91.87	90.3	1.45	1.89	6.78	1.35	
NUCLEAR BWR	All Sizes	34.00	158.00	4,539.35	98.37	91.98	98.28	93.91	93.91	91.32	1.49	2.29	2.29	4.67	1.42	1.9	3.22	3.36	4.19	0.48	93.59	93.59	91.02	1.61	2.39	4.88	1.54	
NUCLEAR BWR	400-799	5.00	21.00	3,578.16	94.24	91.17	96.29	94.79	94.79	91.76	2.2	3.51	3.51	3.07	2.14	2.61	4.47	4.59	2.6	0.47	94.69	94.69	91.68	2.28	3.57	3.11	2.2	
NUCLEAR BWR	800-999	11.00	49.00	5,675.08	98.66	94.43	99.17	95.18	95.18	92.94	0.8	1.59	1.59	4.06	0.76	1.09	2.39	2.48	3.73	0.33	95.22	95.22	93.04	0.79	1.56	4.02	0.76	
NUCLEAR BWR	1000 Plus	18.00	88.00	4,312.86	100	91.05	98.15	93	93	90.32	1.7	2.4	2.4	5.39	1.61	2.18	3.39	3.56	4.82	0.57	92.77	92.77	90.1	1.88	2.58	5.46	1.78	
NUCLEAR CANDU	All Sizes	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****
JET ENGINE	All Sizes	315	1302.58	4.79	98.73	4.62	80.12	4.21	90.1	88.55	37.59	39.67	10.37	6.5	3.4	6.68	7.12	55.25	3.22	3.28	5.77	89.73	87.48	32.85	35.9	6.64	3.63	
JET ENGINE	001-019	38	152.08	5.2	95.86	0.3	39.35	0.85	91.17	91.13	76.94	77.07	19.74	6	2.83	5.94	5.98	87.38	2.89	3.11	0.76	90.89	90.85	79.55	79.68	6.17	2.94	
JET ENGINE	20 Plus	277	1150.5	4.78	98.78	4.83	80.37	4.65	89.95	88.2	35.62	37.85	10.18	6.57	3.48	6.78	7.27	53.12	3.26	3.31	6.01	89.67	87.31	32.11	35.22	6.66	3.66	
GAS TURBINE	All Sizes	750	3504.25	8.16	98.28	4.27	69.66	4.25	89.65	87.49	47.1	48.58	10.75	6.54	3.81	6.23	6.46	60.18	4.12	2.41	6.13	90.1	87.88	33.47	35.08	6.8	3.1	
GAS TURBINE	001-019	127	550	3.04	96.24	0.66	73.08	0.91	88.44	87.72	84.47	84.77	17.24	6.62	4.94	8.43	8.53	90.41	3.13	3.49	0.91	88.01	87.31	84.9	85.15	6.88	5.11	
GAS TURBINE	020-049	158	705.25	5.47	98.76	3.26	80.87	2.71	90.5	87.06	62.29	63.06	11.08	5.03	4.48	6.23	6.36	70.22	3.27	1.76	4.03	90.44	86.88	48.97	49.97	5.69	3.87	
GAS TURBINE	50 Plus	464	2247	9.46	98.4	4.52	68.98	5.5	89.67	87.56	37.67	39.6	9.65	6.98	3.35	5.72	6.02	52.08	4.62	2.37	6.55	90.15	88	30.93	32.64	6.91	2.94	
COMBINED CYCLE	All Sizes	333	1400.58	77.7	98.71	53.59	79.92	55.5	87.91	84.9	4.05	5.09	3.94	9.75	2.34	3.92	4.71	7.89	8.17	1.58	67.05	88.5	85.17	2.49	3.57	9.79	1.72	
HYDRO	All Sizes	1064	4672	29.33	99.94	37.63	60.72	60.04	80.81	80.27	8.64	8.89	7.52	13.17	6.02	7.93	8.12	11.34	11.26	1.91	61.98	82.38	81.92	4.27	4.4	14.76	2.87	
HYDRO	001-029	403	1821	94.19	99.85	32.85	55.21	56.77	76.47	75.96	14.91	15.34	13.75	12.72	10.81	12.55	12.89	17.35	10.98	1.74	59.51	82.13	81.62	7.19	7.71	12.77	5.1	
HYDRO	30 Plus	661	2851	20.96	99.95	37.97	61.09	62.12	83.57	82.99	4.39	4.51	3.71	13.45	2.98	5	5.1	7.29	11.43	2.02	62.15	82.39	81.94	4.05	4.16	14.9	2.71	
PUMPED STORAGE	All Sizes	111	553.00	9.13	99.91	8.11	46.52	28.34	82.06	81.83	7.44	7.52	5.25	14.47	3.46	5.49	5.52	11.38	12.45	2.02	17.43	79.61	78.98	8.85	9.17	17.00	3.39	
MULTI-BOILER/MULTI-TURBINE	All Sizes	22	103.00	373.07	99.07	37.54	63.79	68.79	87.22	79.60	3.13	9.60	8.03	10.56	2.22	4.34	9.91	13.48	8.44	2.12	58.84	84.27	79.78	2.86	6.78	13.99	1.73	
DIESEL	All Sizes	166	684.17	10.21	99.29	10.35	62.47	7.57	94.11	93.49	18.91	20.50	6.23	4.12	1.76	3.64	3.86	34.04	2.24	1.88	16.57	94.72	93.46	8.60	11.23	3.72	1.56	

EXECUTION COPY

**MPC/PP&L COLSTRIP UNITS 3&4 GENERATING PROJECT  
RECIPROCAL SHARING AGREEMENT**

This MPC/PP&L COLSTRIP UNITS 3&4 GENERATING PROJECT RECIPROCAL SHARING AGREEMENT (this "Agreement"), is entered into as of December 17<sup>th</sup>, 1999, by and between PP&L MONTANA, LLC, a Delaware limited liability company ("PP&L Montana"), and THE MONTANA POWER COMPANY, a Montana corporation ("MPC" and, collectively, with the PP&L Montana, the "Parties").

**R E C I T A L S :**

1. The ownership, operation and maintenance of the Project is governed by that certain Ownership and Operation Agreement, dated as of May 6, 1981 and amended on October 11, 1991 and July 13, 1998, by and between MPC, Puget Sound Energy, Inc. (formerly named "Puget Sound Power & Light Company"), a Washington corporation, Avista Corporation (formerly named "Washington Water Power Company"), a Washington corporation, Portland General Electric Company, an Oregon corporation, and PacifiCorp (successor by merger to the Maine corporation named "Pacific Power & Light Company"), an Oregon corporation (as amended, modified and supplemented from time to time, the "Ownership Agreement"). Unless otherwise defined in this Agreement (including the Recitals), all other capitalized terms used in this Agreement have the meanings assigned to such terms in the Ownership Agreement.
2. MPC holds interests in (a) that certain Power Sales Agreement (as amended, modified and supplemented from time to time, the "PSE PSA"), dated as of October 1, 1989, by and between MPC and Puget, and (b) that certain Power Sales Agreement (as amended, modified and supplemented from time to time, the "LADWP PSA"), dated July 17, 1989, by and between MPC and Department of Water and Power of the City of Los Angeles (the PSE PSA, the LADWP PSA and any of the replacement power purchase agreements which MPC contemplates entering into in its sole discretion to replace the PSE PSA or the LADWP PSA, collectively, the "CS4 PSAs").
3. Colstrip 3 and Colstrip 4 are relied upon by MPC to serve its customers.
4. The contractual provisions of the Ownership Agreement and the CS4 PSAs require the coordinated operation of Colstrip 3 and Colstrip 4. In furtherance of such coordination and cooperation, the Parties are concurrently executing and delivering a Project Committee Vote Sharing Agreement that will govern the voting of their Shared Vote (as defined therein) that relates to their Project Shares in the Project.
5. MPC's Colstrip 4 Project Share (as defined in the Project Committee Vote Sharing Agreement) is subject to (i) the Participation Agreement dated as of December 16, 1985 (including all exhibits to same as actually executed by the parties thereto), by and among

United States Trust Company of New York, a New York corporation ("USTC"), Louis P. Young, an individual ("Young" and together with USTC, "Owner Trustee" or "Lessor"), MPC, Bankers Trust Company (the "Indenture Trustee"), Mellon Leasing Corporation (the "Owner Participant" as assignee and successor to Burnham Leasing Corporation, the original Owner Participant)) and the Loan Participants identified therein and (ii) the Participation Agreement, dated as of December 16, 1985 (including all exhibits to same as actually executed by the parties thereto), by and among the Owner Trustee, MPC, the Indenture Trustee, SGE (New York) Associates (the "Owner Participant") and the Loan Participant identified therein (items (i) and (ii), collectively, and as amended, modified and supplemented from time to time, the "Colstrip 4 Leveraged Lease Documents").

NOW, THEREFORE, in consideration of the foregoing premises, and for other consideration the sufficiency and receipt of which is hereby acknowledged, the Parties agree to the following terms and conditions:

### AGREEMENT

Section 1. Effective Date and Term. This Agreement shall become effective as of the date first written above and shall continue in full force and effect until the occurrence of the Lessor Possession Date (under any of the Colstrip 4 Leveraged Lease Documents). Termination of this Agreement shall not affect the Parties' respective rights and obligations under the Ownership Agreement as Project Users with 15% Project Shares.

Section 2. Confirmation and Agreement. Consistent with Section 2(c) of the Ownership Agreement, the Parties hereby confirm and agree as follows:

(a) subject to the provisions of the Ownership Agreement, each Party holds a fifteen percent (15%) Project Share in the Project;

(b) subject to the provisions of this Agreement and the Ownership Agreement, each Party shall be (i) entitled to schedule and take an amount of generation from the Project up to but not to exceed such Parties' respective Project Shares of Net Generating Capability and (ii) obligated to take or otherwise dispose of a percentage of the minimum energy production from the Project in accordance with such Party's Project Share in the Project and Section 13(d) of the Ownership Agreement irrespective of whether a particular cost is specific to Unit 3 or Unit 4; and

(c) except for (i) charges payable by the Parties pursuant to Section 12 of the Ownership Agreement, (ii) coal transportation charges payable by the Parties pursuant to the Coal Transportation Agreement, and (iii) other Costs of Operation the Project Users pay based on each Project User's allocation of generation (e.g., lime and diesel fuel), the Parties shall be responsible for their respective Project Shares of Costs of Operation and Costs of Construction irrespective of whether a particular costs is specific to Unit 3 or Unit 4.



Section 1. Representations and Warranties. Each Party represents and warrants to the other as of the date of this Agreement that:

(a) such Party is duly formed and validly existing under the laws of the jurisdiction of its organization and is duly authorized to do business in each other jurisdiction in which it is required to be so qualified with full power and authority to perform its obligations hereunder and that the execution, delivery and performance of this Agreement has been duly authorized by such Party;

(b) this Agreement has been duly executed and delivered by such Party and constitutes the legal, valid, binding and enforceable agreement of such Party enforceable in accordance with its terms against such Party subject to the effect of bankruptcy, insolvency, moratorium and other similar laws relating to creditors' rights generally, whether existing at law or in equity, by general equitable principles and by an implied covenant of good faith and fair dealing;

(c) no consent, approval or authorization of, or filing, registration or qualification with, any court or governmental authority on the part of such Party is required for the execution and delivery of this Agreement by such Party and the performance of its obligations and duties hereunder, other than those that have been made or obtained; and

(d) such Party is in material compliance with all laws and legal requirements applicable to its business.

Section 1. Assignment; Third Party Beneficiaries. Any transfer or assignment by either Party of any part of its interest under this Agreement to any other Person (an "Assignee") shall be subject to the satisfaction of each of the following conditions: (a) the assigning Party under this Agreement shall be simultaneously transferring or assigning a corresponding portion of its Project Share to such Assignee and (b) such Assignee shall have assumed in writing the corresponding duties and obligations of the assigning Party which arise and are attributable to the period after the effective date of the assignment. Nothing in this Agreement, express or implied, is intended to confer on any person or entity other than the Parties and their successors and assigns permitted hereunder any rights, remedies, obligations or liabilities under or by reason of this Agreement.

Section 2. Governing Law. This agreement shall be governed by and construed in accordance with the laws of the State of Montana without regard to conflicts of laws principles.

Section 3. Severability. Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions of this Agreement, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

Section 4. Notices and Communications.

(a) Unless otherwise specified herein, all notices under this Agreement shall be in writing and shall be (i) delivered personally; (ii) sent by a recognized overnight mail or courier service, with delivery receipt requested; or (iii) sent by facsimile transmission, followed by written confirmation, to the Parties at the addresses telephone and facsimile numbers set forth on the signature pages hereto.

(b) All notices sent under this Agreement shall be effective when received by the other Party, except that any facsimile which is received after 5:00 p.m. at the location of the receiving Party shall be deemed to be effective on the next business day.

(c) Each Party may change its notice information set forth above by written notice to the other Party pursuant to this Section 7.

Section 1. Counterparts. This Agreement may be executed in any number of counterparts, all of which together shall constitute a single instrument.

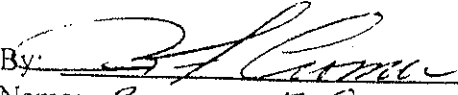
Section 2. Conflicts. In the event of a conflict between the Asset Purchase Agreement, on the one hand, and this Agreement on the other hand, the terms and provisions of this Agreement shall govern.

Section 3. Amendments and Waivers. This Agreement may be amended, supplemented or otherwise modified only in writing executed and delivered by each Party. Notwithstanding the foregoing, the Parties shall not enter into any amendment, supplement, or modification to this Agreement which conflicts with the terms and conditions of the CS4 PSAs or the Ownership Agreement. No waiver of any right under this Agreement shall be binding unless such waiver is in a writing by the Party to be bound. No failure to exercise and no delay in exercising, on the part of any Party, any right, remedy, power or privilege under this Agreement, shall operate as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege under this Agreement preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege.

[SIGNATURES FOLLOW]

IN WITNESS WHEREOF, the parties have executed this MPC/PP&L Colstrip Units 3&4 Generating Project Reciprocal Sharing Agreement as of the date first above written.

THE MONTANA POWER COMPANY

By:   
Name: RICHARD E. COOMER  
Title: EXECUTIVE VICE PRESIDENT


Addresses for Notices:

The Montana Power Company  
Energy Supply Division  
40 E. Broadway  
Butte, MT 59701  
Attn: Executive Vice President and Chief  
Operating Officer  
Telephone Number: (406) 496-5100  
Facsimile Number: (406) 497-2150

With a copy of written notices to:

Montana Power Company  
40 E. Broadway  
Butte, MT 59701  
Attn: General Counsel  
Facsimile Number: (406) 497-2451

PP&L MONTANA, LLC

By:   
Name: Roger Petersen  
Title: President

Address for Notices:

PP&L Montana, LLC  
US Bank Building  
303 North Broadway, Suite 400  
Billings, Montana 59101  
Attention: David Kinnard, General Counsel  
Telephone: (406) 869-5100  
Facsimile: (406) 869-5149

	Total Cost	Salvage
Muskogee Unit 6 (550MW - 1984) total plant 1650MW		
Muskogee Unit 6		
Asbestos Removal	\$ 1,013,000	
Boiler	\$ 5,770,000	
Steam Turbine & Building	\$ 2,612,000	
Precipitator	\$ 1,499,000	
Switchgear and Electrical	\$ 19,000	
Stacks	\$ 465,000	
Cooling Tower & Circulating Water	\$ 282,000	
GSU & Foundation	\$ 100,000	
On-site Concrete Crushing & Disposal	\$ 155,000	
Debris	\$ 422,000	
Scrap		\$ (6,323,000)
Subtotal	\$ 12,337,000	\$ (6,323,000)
Muskogee Common Fac.		
Handling		
Coal Pile Remediation	\$ 3,365,631	
Coal Handling Facilities	\$ 103,563	
Rail Spur Removal	\$ -	
On-Site Concrete Crushing & Disposal	\$ 1,998	
Debris	\$ 999	
Scrap		\$ (34,965)
Subtotal	\$ 3,472,191	\$ (34,965)
Common		
Circulating Water	\$ 48,951	
All BOP Buildings	\$ 187,146	
Mercury & Universal Waste Disposal	\$ 15,318	
Plant Wash Down & Disposal	\$ 21,312	
Transformer Oil Disposal	\$ 68,931	
Transformer Pad and Soil Removal	\$ 32,301	
Concrete Removal, Crushing, & Disposal	\$ 6,660	
Scrap	\$ -	\$ (45,621)
Subtotal	\$ 380,619	\$ (45,621)
Total Cost	\$ 16,189,810	\$ (6,403,586)
Project indirect (5%)	\$ 809,491	
Total	\$ 16,999,301	\$ (6,403,586)
Total Net	\$ 10,595,715	
Cost per MW	\$ 19,264.94	

	Total Cost	Salvage
Sooner Units 1 & 2 (Unit 1 - 530MW 1979, Unit 2 - 530MW 1980) 1060 Total MW		
Sooner Unit 1		
Asbestos Removal	2,258,000	
Boiler	5,040,000	
Steam Turbine & Building	3,068,000	
Precipitator	1,233,000	
Switchgear and Electrical	21,000	
Scrubber/ FGD	683,000	
Stacks	460,000	
Circulating Water	21,000	
GSU & Foundation	181,000	
On-site Concrete Crushing & Disposal	163,000	
Debris	421,000	
Scrap		(\$7,866,000)
Subtotal	\$13,549,000	(\$7,866,000)
Sooner Unit 2		
Asbestos Removal	2,258,000	
Boiler	5,040,000	
Steam Turbine & Building	3,017,000	
Precipitator	1,233,000	
Switchgear and Electrical	21,000	
Scrubber/ FGD	662,000	
Stacks	460,000	
Circulating Water	20,000	
GSU & Foundation	183,000	
On-site Concrete Crushing & Disposal	162,000	
Debris	421,000	
Scrap		(\$6,578,000)
Subtotal	\$13,477,000	(\$6,578,000)
Sooner Common Fac.		
Handling		
Coal Handling Facilities	\$1,167,000	
Rail Spur Removal	\$922,000	
Limestone Handling Facilities	\$43,000	
Coal pile Remediation	\$8,200,000	
On-site Concrete Crushing & Disposal	\$6,000	
Debris	\$311,000	
Scrap		(\$2,708,000)
Subtotal	\$10,649,000	(\$2,708,000)
Common		
All BOP Buildings	\$790,000	
Fuel Equipment	\$128,000	
GSU & Foundation	\$42,000	
Circulating Water	\$127,000	
Mercury & Universal Waste Disposal	\$51,000	
Plant Wash Down & Disposal	\$73,000	
Transformer Oil Disposal	\$195,000	
Transformer Pad and Soil Removal	\$25,000	
Soil Remediation Beneath Fuel Oil Tank	\$43,000	
Concrete Removal, Crushing & Disposal	\$33,000	
Grading & Seeding	\$1,033,000	
Scrap		(\$196,000)
Subtotal	\$2,540,000	(\$196,000)
Total Cost	\$ 40,215,000	(\$17,348,000)
Project indirect (5%)	\$ 2,010,750	
Total	\$ 42,225,750	(\$17,348,000)
Total Net	\$ 24,877,750	
Cost per MW	\$ 23,470	

	Total Cost	Salvage
Roxboro Unit 4 (698MW - 1980) 2349 total MW		
Roxboro Unit 4		
Asbestos Removal	\$ 2,434,000	
Boiler	\$ 6,575,000	
Steam Turbine & Cooling Water Intakes and Circulating Water Pumps	\$ 2,055,000	
Precipitator	\$ 465,000	
SCR	\$ 1,585,000	
Switchyard & Scrubber/ FGD	\$ 1,419,000	
Stacks	\$ 20,000	
Cooling Towers & GSU & Foundation	\$ 562,000	
Coal Pile remediation	\$ 426,000	
On-site Concrete	\$ 928,000	
Crushing & Disposal	\$ 65,000	
Debris	\$ 7,000	
Scrap		\$ (4,946,000)
<u>Subtotal</u>	<u>\$ 16,942,000</u>	<u>\$ (4,946,000)</u>
Roxboro Common Fac.		
Handling		
Coal Handling	\$ 111,826	
Rail Spur Removal	\$ 77,220	
Limestone Handling & Facilities	\$ 8,866	
Coal Pile Remediation	\$ 959,816	
On-Site Concrete		
Crushing & Disposal	\$ 572	
Debris	\$ 1,144	
Scrap		\$ (638,638)
<u>Subtotal</u>	<u>\$ 1,159,444</u>	<u>\$ (638,638)</u>
Common		
Cooling Water Intakes and Circulating Water Pumps	\$ 71,786	
Roads	\$ 118,118	
All BOP Buildings	\$ 171,314	
Fuel Oil Storage Tanks	\$ 25,454	
All Other Tanks	\$ 13,442	
Mercury & Universal Waste Disposal	\$ 3,432	
Plant Wash Down & Disposal	\$ 28,886	
Transformer Oil	\$ 53,768	
Transformer Pad and Soil Removal	\$ 5,720	
Fuel Oil Tank	\$ 14,300	
Fuel Oil Line Flushing/ Cleaning	\$ 5,148	
Soil Remediation		
Beneath Fuel Oil Tanks	\$ 168,740	
Nuclear Device	\$ 2,574	
On-Site Concrete		
Crushing & Disposal	\$ 5,720	
Grading & Seeding	\$ 1,234,090	
Debris	\$ 5,720	
Scrap		(\$53,768)
<u>Subtotal</u>	<u>\$ 1,928,212</u>	<u>(\$53,768)</u>
 Total Cost	 \$ 20,029,656	 \$ (5,638,406)
Project indirect (5%)	\$ 1,001,483	
Total	\$ 21,031,139	\$ (5,638,406)
Total Net	\$ 15,392,733	
Cost per MW	\$ 22,052.63	

Total Cost      Salvage

Comanche Unit 3 (828MW - 2010) 1488MW total plant

Comanche Unit 3

Demolition	\$ 16,580,000	
Scrap		\$ (8,214,000)
Subtotal	\$ 16,580,000	\$ (8,214,000)

Comanche Common Fac.

Pond Closures		this is zeroed out for calculation as pond issues are covered separately for Colstrip
Coal Area Restoration	\$ 7,275,260	
Landfill Closure	\$ 1,498,420	
Demolition	\$ 1,738,056	
Subtotal	\$ 10,511,736	

Total Cost	\$ 27,091,736	\$ (8,214,000)
Project indirect (5%)	\$ 1,354,587	
Total	\$ 28,446,323	\$ (8,214,000)
Total Net	\$ 20,232,323	
Cost per MW	\$ 24,435.17	

Craig Units 1 & 2 (Unit 1 - 428MW 1980, Unit 2 - 428MW 1979)

Craig Unit 1

	Total Cost	Salvage
Asbestos	\$ 100,000	
Demolition	\$ 11,422,000	
Scrap		(\$5,595,000)
Subtotal	\$ 11,522,000	(\$5,595,000)

Craig Unit 2

Asbestos	\$ 100,000	
Demolition	\$ 11,422,000	
Scrap		(\$5,595,000)
Subtotal	\$ 11,522,000	(\$5,595,000)

Craig Common Fac.

Pond Closure		this is zeroed out for calculation as pond issues are covered separately for Colstrip
Coal Area Restoration	\$ 22,459,000	
Landfill Closure		
Demolition	\$ 2,192,000	
Subtotal	\$ 24,651,000	

Total Cost	\$ 47,695,000	\$ (11,190,000)
Project indirect (5%)	\$ 2,384,750	
Total	\$ 50,079,750	\$ (11,190,000)
Total Net	\$ 38,889,750	
Cost per MW	\$ 45,431.95	



	Total Cost	Salvage
PawneeUnit 1 (1981 - 505MW)		
Pawnee Unit 1		
Demolition	\$ 12,058,000	
Scrap		(\$5,811,000)
Subtotal	\$ 12,058,000	(\$5,811,000)
Pawnee Common Fac.		
Pond Closure		this is zeroed out for calculation as pond issues are covered separately for Colstrip
Coal Area Restoration	\$ 7,518,000	
Landfill Closure	\$ 2,580,000	
Demolition	\$ 1,377,000	
Subtotal	\$ 11,475,000	
Total Cost	\$ 23,533,000	\$ (5,811,000)
Project indirect (5%)	\$ 1,176,650	
Total	\$ 24,709,650	\$ (5,811,000)
Total Net	\$ 18,898,650	
Cost per MW	\$ 37,423.07	

	Total Cost	Salvage
Mayo Unit 1 (727MW - 1983)		
Mayo Unit 1		
Asbestos Removal	\$44,000	
Boiler	\$6,916,000	
Steam Turbine & Building	\$2,408,000	
Precipitator	\$1,475,000	
SCR	\$1,709,000	
Switchyard & Substation	\$19,000	
Scrubber / FGD	\$1,704,000	
Stacks	\$2,099,000	
Cooling Towers & Basin	\$244,000	
GSU & Foundation	\$266,000	
Refractory Disposal	\$7,000	
On-site Concrete Crushing & Disposal	\$296,000	
Debris	\$194,000	
Scrap		(\$6,516,000)
<b>Subtotal</b>	<b>\$ 17,381,000</b>	<b>(\$6,516,000)</b>

Mayo Common Fac.

Handling

Demolition	\$ 270,000	
Rail Spur Removal	\$ 558,000	
Limestone Handling Facilities	\$ 62,000	
Debris	\$ 135,000	
Scrap		(\$285,000)
<b>Subtotal</b>	<b>\$ 1,025,000</b>	<b>\$ (285,000)</b>

\* Burns and McDonnell has an incorrect subtotal

Common

Cooling Water Intakes and Circulating Water Pumps	\$1,002,000	
Roads	\$725,000	
All BOP Buildings	\$699,000	
Fuel Oil Storage Tanks	\$350,000	
All Other Tanks	\$35,000	
Mercury & Universal Waste Disposal	\$12,000	
Plant Wash Down & Disposal	\$28,000	
Transformer Oil Disposal	\$128,000	
Transformer Pad and Soil Removal	\$13,000	
Soil Remediation Beneath Fuel Oil Tank	\$9,000	
Fuel Oil Tank Cleaning	\$73,000	
Fuel Oil Line Flushing/Cleaning	\$5,000	
Nuclear Device Disposal	\$9,000	
Coal Pile Remediation	\$4,754,000	
On-site Concrete Crushing & Disposal	\$176,000	
Grading & Seeding	\$4,503,000	
Debris	\$6,000	
Scrap		- \$ (618,000)
<b>Subtotal</b>	<b>\$ 12,527,000</b>	<b>\$ (618,000)</b>

Total Cost	\$ 30,933,000	\$ (7,419,000)
Project indirect (5%)	\$ 1,546,650	
Total	\$ 32,479,650	\$ (7,419,000)
Total Net	\$ 25,060,650	
Cost per MW	\$ 34,471.32	

**Overall Average**

	Cost / MW	MW	Total	
Muskogee	\$ 19,265	550	\$ 10,595,715	oklahoma gas & electric
Sooner	\$ 23,470	1060	\$ 24,877,750	oklahoma gas & electric
Roxboro	\$ 22,053	698	\$ 15,392,733	Duke
Comanche	\$ 24,435	828	\$ 20,232,323	Public Service of Colorado
Craig	\$ 45,432	856	\$ 38,889,750	Public Service of Colorado
Pawnee	\$ 37,423	505	\$ 18,898,650	Public Service of Colorado
Mayo	\$ 34,471	727	\$ 25,060,650	Duke
wieghted average	\$ 29,469	5224	\$ 153,947,570	
Colstrip 3&4 estimate	\$ 43,614,549			
15% share	\$ 6,542,182			

9 **PREFILED DIRECT TESTIMONY**

10 **OF MICHAEL R. CASHELL**

11 **ON BEHALF OF NORTHWESTERN ENERGY**

12  
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19  
20 **Exhibit**

21 Transmission Purchase and Sale Agreement Exhibit MRC-1

22  
23 **Witness Information**

24 **Q. Please provide your name, employer, and title.**

25 **A.** My name is Michael R. Cashell and I am the Vice President –

26 Transmission of NorthWestern Energy (“NorthWestern”).

1 **Q. Please provide a description of your relevant employment**  
2 **experience and other professional qualifications.**

3 **A.** I have worked in the electric and natural gas utility industry for over 33  
4 years. I have served as NorthWestern’s Vice President-Transmission for  
5 nearly nine years. In this role, I am responsible for all aspects of  
6 NorthWestern’s electric and natural gas transmission systems and  
7 substations in Montana and South Dakota, including the systems’ safe,  
8 reliable and efficient operation, transmission services, operations,  
9 planning, engineering, and maintenance. I am also responsible for the  
10 activities related to transmission and transportation contracts,  
11 interconnection agreements, and transmission service under  
12 NorthWestern’s Federal Energy Regulatory Commission (“FERC”) Open  
13 Access Transmission Tariff (“OATT”), and compliance activities related to  
14 all FERC regulation and North American Electric Reliability Corporation  
15 (“NERC”) reliability and cyber and physical security standards. I hold a  
16 Bachelor of Science in Engineering Science. I have also completed the  
17 Public Utilities Executive Course.

18

19 **Purpose and Summary of Testimony**

20 **Q. What is the purpose of your testimony in this docket?**

21 **A.** I provide information regarding NorthWestern’s potential acquisition  
22 (“Transmission Acquisition”) of a portion of Puget Sound Energy, Inc.’s  
23 (“Puget”) interest in the Colstrip Project Transmission System (“CTS”).

1 **Q. Is NorthWestern seeking approval in this docket of the Transmission**  
2 **Acquisition?**

3 **A.** No, in this docket, NorthWestern is seeking approval for acquisition of an  
4 electricity supply resource (“Capacity Acquisition”), i.e. Puget’s interest in  
5 Colstrip Unit 4 (“CU4”). Nevertheless, because the Transmission  
6 Acquisition is necessary to integrate the Capacity Acquisition into  
7 NorthWestern’s system, NorthWestern is providing the Montana Public  
8 Service Commission with information on the Transmission Acquisition.

9  
10 **Q. Please summarize your testimony.**

11 **A.** Transmission capacity is critical to all of NorthWestern’s Montana  
12 customers, including retail, large industrial, and electric cooperatives. The  
13 CTS provides overall transmission reliability, especially as Montana  
14 generation units, such as Colstrip Units 1 and 2, close and non-Montana  
15 owners of the CTS exit the state. The CTS is critical to Montana’s ability  
16 to import and export energy. The Capacity Acquisition provides  
17 NorthWestern the opportunity to purchase additional transmission capacity  
18 on the CTS. This additional capacity is necessary to integrate the  
19 Capacity Acquisition.

20

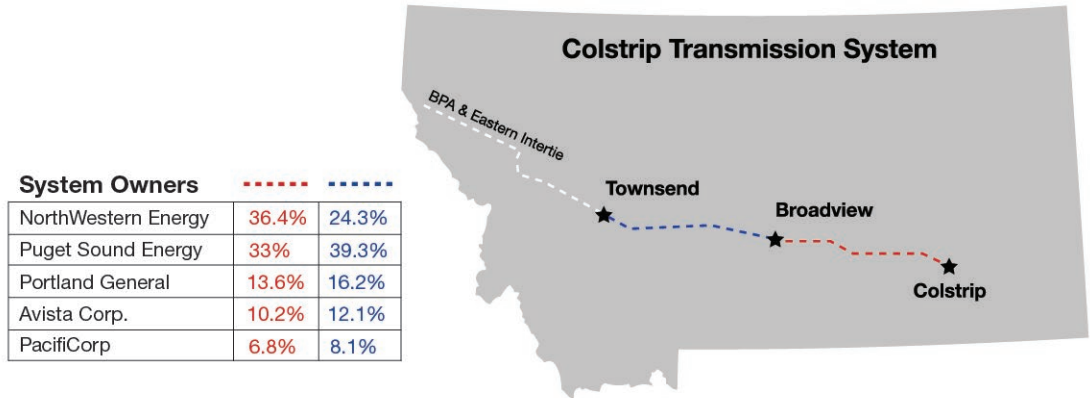
1                    **Description of the Colstrip Project Transmission System**

2    **Q.    What is the CTS?**

3    **A.**    The CTS is Montana’s energy backbone, running 248 miles from the  
4            Colstrip transmission substation to just south of Townsend, Montana. As  
5            shown in the graphic below, the CTS is comprised of two 500-kilovolt  
6            (“kV”) segments. The first segment runs from Colstrip to Broadview. The  
7            second segment runs from Broadview to Townsend. Capacity on the first  
8            and second segments is 2,260 megawatts (“MW”) and 1,930 MW,  
9            respectively.

10  
11           From Townsend, power moves across the Bonneville Power  
12           Administration’s (“BPA”) transmission system to western Montana and the  
13           Pacific Northwest. It is also important to note that there is no substation at  
14           Townsend. The ownership and construction type changes at this point.  
15           NorthWestern contracts for firm transmission rights on the BPA section of  
16           the 500kV system, known as the BPA Eastern Intertie, in order to continue  
17           to deliver energy further west from Townsend to the BPA Garrison  
18           substation. The Garrison substation is also critical to NorthWestern as it is  
19           the largest contributor to the overall transmission interconnection to the  
20           West allowing for both import and export from and to the regional market.  
21           In addition, NorthWestern interconnects at Garrison with 230kV facilities  
22           adding another strong path to serve customers in western Montana. The

1 CTS and the BPA Eastern Intertie are operated as one facility and are  
2 both within NorthWestern’s Balancing Authority Area (“BAA”).



3 **Q. Who owns the CTS?**

4 **A.** As shown in the graphic above, the five entities that have ownership  
5 interests in CU4 also have ownership interests in the CTS. Each CTS  
6 owner’s allocated transmission capacity on each segment corresponds to  
7 its ownership interest percentages listed above. NorthWestern is the  
8 operator of the CTS.

9  
10 **Q. Please provide an overview of the general importance of the CTS to**  
11 **Montana customers.**

12 **A.** The CTS is critical to NorthWestern and its customers because it is fully  
13 integrated into NorthWestern’s transmission system and assures reliability  
14 through the balancing of resources and loads. The CTS serves the critical  
15 role of providing for both exporting energy from Montana and importing  
16 energy into Montana.

17



1 From a historical perspective, the 500kV transmission lines were primarily  
2 constructed to export a portion of the Colstrip-generated power to load  
3 centers in Washington and Oregon and, importantly, to tie NorthWestern's  
4 lower voltage transmission system to the 500kV transmission system from  
5 east to west across Montana adding significant reliability benefits and  
6 assisting NorthWestern in supplying energy to western Montana loads.  
7 These lines provide NorthWestern with the added benefit of vital access to  
8 the regional market that is necessary to import power into Montana to  
9 serve customers. In addition, the CTS is fully integrated into  
10 NorthWestern's transmission system and Balancing Authority. The CTS  
11 and the BPA Eastern Intertie are fully integrated and operated as one  
12 system.

13  
14 **Benefits of the Transmission Acquisition**

15 **Q. Please provide an overview of the Transmission Acquisition.**

16 **A.** In the Transmission Acquisition, NorthWestern will initially purchase a  
17 portion of Puget's ownership interest, representing not less than 95 MW of  
18 transmission capacity on both segments of the CTS. In addition, after  
19 expiration of the Power Purchase Agreement between NorthWestern and  
20 Puget described in the Prefiled Direct Testimony of John D. Hines ("Hines  
21 Direct Testimony"), NorthWestern may exercise an option to acquire an  
22 additional ownership percentage of the CTS representing not less than 90  
23 MW of capacity in both line segments of the CTS. The Colstrip

1 Transmission System Purchase and Sale Agreement is attached as  
2 Exhibit MRC-1.

3

4 **Q. How would the ownership percentages of the CTS change as**  
5 **contemplated by the Transmission Acquisition?**

6 **A.** Following the first purchase of 95 MW of CTS, the ownership interests  
7 would be:

8 <u>Owner</u>	<u>Colstrip - Broadview</u>	<u>Broadview - Townsend</u>
9 NorthWestern	40.6%	29.2%
10 Puget Sound Energy	28.8%	34.4%

11

12 Following the optional additional acquisition of 90 MW, the ownership  
13 interests would be:

14 <u>Owner</u>	<u>Colstrip - Broadview</u>	<u>Broadview - Townsend</u>
15 NorthWestern	44.6%	33.9%
16 Puget Sound Energy	24.8%	29.7%

17

18 **Q. What is the purchase price for these interests in the CTS?**

19 **A.** The purchase(s) will be priced at the depreciated book value of the assets  
20 at the time the Transmission Acquisition is closed, which is currently  
21 estimated to be approximately \$2.5 to \$3.7 million for the initial 95-MW  
22 acquisition and \$2.5 to \$3.7 million for the 90-MW option.

23

1 **Q. How does this purchase price compare to other transmission**  
2 **investment options?**

3 **A.** Because the asset is depreciated, this is likely the most cost effective  
4 transmission that could possibly be added to the NorthWestern  
5 transmission system. In addition, the Transmission Acquisition would  
6 avoid the need to design, site, obtain rights of way and permits, and  
7 construct new transmission capable of serving the same role as the added  
8 CTS capacity. This is a very important consideration due to the difficulty  
9 and cost involved in overall permitting of electric transmission facilities.

10

11 **Q. How would NorthWestern and its customers benefit from the**  
12 **Transmission Acquisition?**

13 **A.** The Transmission Acquisition would provide additional integration and  
14 system reliability capabilities as well as being a step in the overall  
15 preservation of the CTS to assure the asset is available for Montana  
16 customers. In addition, as stated above, it would save Montana  
17 customers from the potential for significant investment in other  
18 transmission line assets, which would certainly be at much higher cost.

19

20 **Q. How would the Transmission Acquisition benefit the integration of**  
21 **the Capacity Acquisition?**

22 **A.** The additional transmission capacity must be utilized to integrate the  
23 Capacity Acquisition into NorthWestern's system. In other words, the

1 Capacity Acquisition and Transmission Acquisition must go together  
2 operationally.

3

4 **Q. How does the CTS benefit export/import capability?**

5 **A.** The CTS provides a means to export potential renewable energy  
6 produced in Montana out of state to western service territories. In  
7 developing the 2018 Montana Renewables Development Action Plan, a  
8 consortium of regional partners led by Montana Governor Steve Bullock  
9 and BPA considered the concept of exporting renewable energy and  
10 recognized the availability of transmission capacity, and specifically the  
11 CTS, as a very important element. NorthWestern played a significant role  
12 in the plan development given its overall transmission system and its  
13 ownership interest in and operation of the CTS.

14

15 The CTS also provides a critical import path from the markets in the West.  
16 As described in the Hines Direct Testimony, NorthWestern remains  
17 severely resource deficient during peak periods and is forced to go to the  
18 market to serve its customers. While the Capacity Acquisition would help  
19 to reduce the peak resource deficiency, transmission capacity facilitates  
20 imports when needed. The closure of Colstrip Units 1 and 2 in January  
21 2020 has aggravated the generation resource problem. In addition, other  
22 customers in Montana, including large industrial customers, have relied on  
23 Colstrip Units 1 and 2 for supply. The shuttering of Colstrip Units 1 and 2

1 will result in more pressure on the transmission system to import to serve  
2 customer load during critical times. Transmission capacity contributes to  
3 import transfer capability and is used to serve electric cooperatives, large  
4 industrial customers, and NorthWestern's retail customers. Any further  
5 reduction in generation capacity in Montana will only aggravate the  
6 resource sufficiency problem and will make NorthWestern's acquisition  
7 and preservation of the CTS increasingly important and valuable.

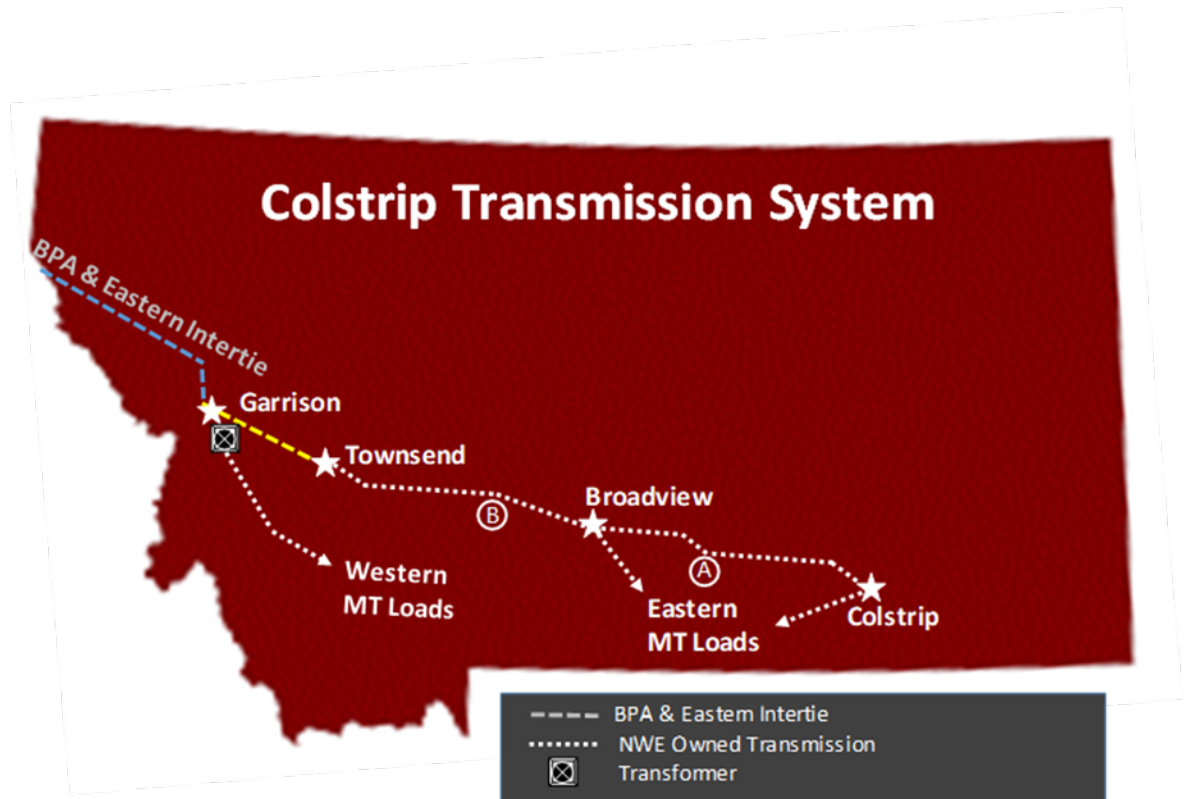
8  
9 It is important to note, however, that the transmission system and  
10 generation system in Montana were planned and built together, and, as a  
11 result, NorthWestern's access to and control of as much of the CTS as  
12 possible is critical. However, it is also critical to have access to  
13 dispatchable generation within Montana. Over-reliance on market  
14 purchases from outside NorthWestern's BAA could result in significant  
15 reliability issues compared to relying on dispatchable capacity resources  
16 within NorthWestern's BAA. This is another reason the Capacity  
17 Acquisition and the Transmission Acquisition are so important to  
18 NorthWestern's customers.

19

20 **Q. How would the Transmission Acquisition benefit system reliability?**

21 **A.** The CTS ties together the lower voltage transmission systems in Montana  
22 at Colstrip, Broadview, and Garrison. As shown in the graphic below,  
23 NorthWestern utilizes the substations at Colstrip, Broadview, and Garrison

1 to serve retail and wholesale loads in eastern, central, and western  
2 Montana and is able to accomplish this by using the CTS and the  
3 underlying transmission systems that are interconnected at each of those  
4 substations.



5 **Q. How would the Transmission Acquisition save Montana customers**  
6 **from the potential for significant investment in other transmission**  
7 **line assets?**

8 **A.** While the CTS is critical to NorthWestern's provision of reliable electric  
9 service to our customers, it is not critical to the other owners of the CTS.

1 As those owners exit Colstrip and Montana, they no longer need the CTS.  
2 As noted previously in this testimony, the CTS is fully integrated into the  
3 overall NorthWestern transmission system. If the CTS were to be  
4 decommissioned, NorthWestern would be forced to make very significant  
5 investments in other transmission and substation assets.

6

7 **Q. Does this conclude your testimony?**

8 **A.** Yes, it does.

**COLSTRIP TRANSMISSION SYSTEM PURCHASE AND SALE AGREEMENT**

**by and between**

**NORTHWESTERN CORPORATION**

**and**

**PUGET SOUND ENERGY, INC.**

**Dated December 9, 2019**



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## **COLSTRIP TRANSMISSION SYSTEM PURCHASE AND SALE AGREEMENT**

THIS COLSTRIP TRANSMISSION SYSTEM PURCHASE AND SALE AGREEMENT (this “*Agreement*”), dated as of December 9, 2019, is by and between NORTHWESTERN CORPORATION, a Delaware corporation (“*Buyer*”), and PUGET SOUND ENERGY, INC., a Washington public utility corporation (“*Seller*”). Buyer and Seller are sometimes referred to herein individually as a “*Party*” and, collectively, as the “*Parties*.”

### **RECITALS**

WHEREAS, Seller owns an undivided interest in the 500 kilovolt Colstrip Project Transmission System (as defined in the Colstrip Project Transmission Agreement), which consists of a thirty-three percent (33%) interest in the Colstrip to Broadview Segment and a thirty-nine and 3/10ths percent (39.3%) interest in the Broadview to Townsend Segment, together with associated switchyards, substations and telecommunications facilities and equipment as further described on Schedule 1 hereto (the “*Puget Transmission Ownership Interest*”).

WHEREAS, Seller desires to sell and convey to Buyer, and Buyer desires to purchase and acquire from Seller, an undivided interest in the Puget Transmission Ownership Interest representing not less than 95 MW, consisting of not less than a four and 2/10ths percent (4.2%) interest in the Colstrip to Broadview Segment and a four and 9/10ths percent (4.9%) interest in the Broadview to Townsend Segment, as further described on Schedule 1(a) hereto (the “*Initial Purchase Assets*”) on the terms and subject to the conditions hereinafter set forth (the “*Initial Purchase*”).

WHEREAS, Seller desires to grant and Buyer desires to accept an option to acquire an undivided ownership interest in the Puget Transmission Ownership Interest representing not less than 90 MW, consisting of not less than a four percent (4%) interest in the Colstrip to Broadview Segment and a four and 2/10ths percent (4.2%) interest in the Broadview to Townsend Segment, as further described on Schedule 1(b) hereto (the “*Option Assets*”) and, together with the Initial Purchase Assets, the “*Puget Transmission Assets*”) on the terms and subject to the conditions hereinafter set forth (the “*Option*”).

WHEREAS, Seller and Buyer are entering into this Agreement to evidence their respective duties, obligations, and responsibilities in respect of the purchase and sale of an undivided interest in the Puget Transmission Assets as contemplated herein.

WHEREAS, certain capitalized terms used herein and not otherwise defined shall have the meanings assigned to them in ARTICLE 1 hereof.

NOW, THEREFORE, in consideration of the foregoing and the representations, warranties, covenants and agreements contained in this Agreement, and intending to be legally bound, the Parties agree as follows:

## ARTICLE 1 DEFINITIONS

**Section 1.1 Certain Defined Terms**. As used in this Agreement, the following terms have the respective meanings set forth below or set forth in the Sections referred to below:

“AAA” is defined in Section 11.2(a).

“*Action*” means any action, suit, investigation of which Seller has Knowledge, proceeding, condemnation, or audit by or before any court or other Governmental Authority or any arbitration proceeding.

“*Affiliate*” means, as to the Person specified, any Person controlling, controlled by or under common control with such specified Person. The concept of control, controlling or controlled by as used in the aforesaid context means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of another, whether through the ownership of voting securities, by contract or otherwise. No Person shall be deemed an Affiliate of any Person solely by reason of the exercise or existence of rights, interests, or remedies under this Agreement.

“*Agreement*” is defined in the preamble.

“*Allocation Schedule*” is defined in Section 2.3.

“*Assignment and Assumption Agreement*” means an Assignment of the Material Contracts from Seller to Buyer to be dated as of each respective Closing Date and substantially in the form set forth on Exhibit A.

“*Assumed Liabilities*” is defined in Section 2.4.

“*Business Day*” means any day which is not a Saturday, Sunday, or legal holiday in the state of Montana.

“*Buyer*” is defined in the preamble.

“*Buyer’s Consents*” means the consents, filings and notices required to be obtained by Buyer and delivered at a Closing as listed on Section 6.5.

“*Buyer Fundamental Representations*” means the representations and warranties of Buyer set forth in Section 6.1 (Organization and Qualification), Section 6.2 (Authority), Section 6.3 (Enforceability), and Section 6.7 (Brokerage Fees and Commissions).

“*Buyer Indemnified Parties*” is defined in Section 9.2.

“*Closing*” means either the Initial Closing or the Option Closing, each a “*Closing*.”

“*Closing Date*” means either the Initial Closing Date or the Option Closing Date, each a “*Closing Date*.”

“*Closing Documents*” means the documents to be delivered by Buyer and Seller at a Closing in accordance with Section 3.2 and Section 3.3 with respect to the Initial Closing and in accordance with Section 4.3 and Section 4.4 with respect to the Option Closing.

“*Code*” means the Internal Revenue Code of 1986, as amended.

“*Colstrip Project Transmission Agreement*” means the Colstrip Project Transmission Agreement, as last dated September 27, 2013 among Buyer, Seller, Avista Corporation, Portland General Electric Company and PacifiCorp, as amended from time to time.

“*Commercially Reasonable Efforts*” means efforts which are reasonably necessary to cause, or assist in, the consummation of the transactions contemplated by this Agreement and which do not require the performing Party to (i) expend funds, incur expenses or assume liabilities other than those which are reasonable in nature and amount within the context of the transactions contemplated by this Agreement in order for the performing Party to satisfy its obligations hereunder or (ii) amend, waive or terminate the material terms of any Material Contract or arrangement to which the performing Party is a party.

“*Confidentiality Agreement*” is defined in Section 7.2.

“*Damages*” is defined in Section 9.2.

“*Debt*” of any Person means at any date, without duplication, (i) all obligations of such Person for borrowed money, (ii) all obligations of such Person evidenced by bonds, debentures, notes or other similar instruments, (iii) all obligations of such Person to pay the deferred purchase price of property or services, except trade accounts payable arising in the ordinary course of business and payable not more than 12 months from the date of incurrence, (iv) all obligations of such Person as lessee under any lease of any property (whether real, personal or mixed) by that Person as lessee that, in conformity with GAAP, has been or would be required to be accounted for as a capital lease on the consolidated balance sheet of that Person, (v) the undrawn face amount of any outstanding letters of credit issued in favor of such Person, and all obligations of such Person to reimburse or prepay any bank or other Person in respect of amounts paid under a letter of credit, banker’s acceptance or similar instrument, (vi) all Debt or other monetary obligations (of such Person or of others) secured by any mortgage, lien, pledge, charge, security interest or encumbrance of any kind on any asset of such Person, whether or not such Debt or other monetary obligation is assumed by such Person, (vii) all obligations of such Person to pay a specified purchase price for assets, goods, securities or services whether or not delivered or accepted (including take-or-pay arrangements and similar obligations), (viii) all obligations of such Person under conditional sale or other title retention agreements (even if the remedies of the sellers or lenders under such agreements in the event of a default thereunder are limited to the repossession or sale of the property or assets covered thereby), and (ix) all Debt or other monetary obligations of others in respect of which such Person has any contingent liability, including without limitation any guarantee.

“*Depreciated Net Book Value*” means the depreciated net book value of the Puget Transmission assets calculated in accordance with GAP and Seller’s past practices.

“*Disclosure Schedule*” is defined in the preamble of ARTICLE 5.

“*Dispute*” is defined in Section 11.1.

“*Dispute Notice*” is defined in Section 11.1.

“*Dispute Notice Response*” is defined in Section 11.1.

“*Employee Benefit Plans*” means any retirement plan, welfare plan, stock option plan, equity or equity based plan, bonus plan, change-in-control, retention, incentive award plan, severance pay plan or policy, deferred compensation plan or policy, executive compensation or supplemental income plan or policy, vacation, sick leave, disability, death benefit, group insurance, hospitalization, medical, dental, life or any other employee benefit plan or program, including, without limitation, each “employee benefit plan” within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended (“*ERISA*”), “multiemployer plan” within the meaning of Section 4001(a)(3) of ERISA and other employee benefit plan, program, policy, practice, agreement or arrangement, whether or not subject to ERISA.

“*Environmental Laws*” means any Law relating to pollution control or the protection of the environment, including: (a) (i) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601 et seq., (ii) the Solid Waste Disposal Act, §§ 6901 et seq., (iii) the Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq., (iv) the Clean Air Act, 42 U.S.C. §§ 7401 et seq., (v) the Hazardous Materials Transportation Act, 49 U.S.C. §§ 1471 et seq., (vi) the Toxic Substances Control Act, 15 U.S.C. §§ 2601 et seq., and (vii) the Safe Drinking Water Act, 42 U.S.C. §§ 300f-300j; and (b) such Laws imposing requirements pertaining to (i) any Hazardous Substance, (ii) the manufacture, possession, presence, use, generation, transportation, treatment, storage, disposal, Release or threatened Release of any Hazardous Substance, (iii) reporting, licensing, permitting, or investigation in connection with such activities or (iv) any abatement, removal, remedial, corrective or other corrective action in connection with any Hazardous Substance.

“*Environmental Liabilities*” means all liabilities involving or arising out of the operation or ownership of the Acquired Assets and arising out of or resulting from or relating to any Environmental Law or any Hazardous Substance.

“*Excluded Assets*” means those assets listed on Exhibit B.

“*FERC*” means the Federal Energy Regulatory Commission, or any successor to its functions.

“*FERC 203 Approval*” means the authorization from FERC to transfer certain of the Puget Transmission Assets to Buyer pursuant to Section 203 of the Federal Power Act.

“*Final Order*” is defined in Section 9.5(b)(iv).

“*GAAP*” means generally accepted accounting principles consistently applied as in effect on the date of this Agreement in the United States.



“*Governmental Authority*” means (i) the federal government of the United States of America, (ii) any state, county, municipality, or other governmental subdivision within the United States of America, and (iii) any executive, legislative or judicial court, department, commission, board, bureau, agency, or other instrumentality of the federal government of the United States of America or of any state, county, municipality, or other governmental subdivision within the United States of America.

“*Hazardous Substance*” means any substance or material listed, defined or classified as a pollutant, contaminant, hazardous substance, toxic substance, hazardous waste or words of similar import under any Environmental Law, including petroleum, polychlorinated biphenyls, and friable asbestos, or any coal combustion materials or by-products.

“*Indemnification Dispute Notice*” is defined in Section 9.5(b).

“*Indemnified Party*” is defined in Section 9.4(a).

“*Indemnifying Party*” is defined in Section 9.4(a).

“*Indemnity Claim Amount*” is defined in Section 9.5(a).

“*Initial Closing*” is defined in Section 3.1.

“*Initial Purchase*” is defined in the recitals.

“*Initial Purchase Assets*” is defined in the recitals.

“*Initial Purchase Price*” is defined in Section 2.2.

“*Intellectual Property Rights*” means all common law and statutory rights associated with patents and industrial designs, copyrights, trademarks, trade names, service marks, service names, know-how, processes, trade secrets, inventions, proprietary rights, formulae, research, databases and computer programs.

“*Knowledge*” means, with respect to Seller, the actual knowledge of any fact, circumstance, or condition, assuming reasonable inquiry of their direct reports, by Ron Roberts, and with respect to Buyer, the actual knowledge of any fact, circumstance, or condition, assuming reasonable inquiry of their direct reports, by Mike Cashell.

“*Labor Laws*” means any and all Laws relating in any manner to employment, employees and/or individuals performing work as consultants or contractors, including employment standards, employment of minors, employment discrimination, health and safety, labor relations, unions, withholding, wages and hours and overtime of any kind, work authorization verification, workplace safety and insurance and pay equity.

“*Law*” means any law, statute, rule, regulation, ordinance, standard, code, order, judgment, decision, writ, injunction, decree, certificate of need, award, or other governmental restriction, including any published and publicly available policy or procedure enforceable by any Governmental Authority.

“*Licenses*” is defined in Section 5.15.

“*Lien*” means any lien, security interest, charge, claim, mortgage, deed of trust, option, warrant, purchase right, lease, pledge, easement, right-of-way, encroachment, building or use restrictions, conditional sales agreement or other encumbrance.

“*Losses*” means any and all claims, liabilities, losses, causes of action, damages, judgments, obligations, deficiencies, demands, fines, penalties, litigation, lawsuits, administrative proceedings, administrative investigations, costs, and expenses and Environmental Liabilities, including reasonable attorneys’ fees, court costs, investigator expenses, and other costs of suit.

“*Material Adverse Effect*” means a material and adverse effect on (i) the ability of Seller or Buyer to consummate the transactions contemplated by this Agreement or otherwise to comply with its obligations hereunder or (ii) the business, assets, financial condition, or results of operations comprising the Puget Transmission Assets, in each case taken as a whole, including without limitation (a) any change in any applicable Law if such change has an effect on the Puget Transmission Assets that is disproportionate to the effect on other electric transmission facilities, (b) the Puget Transmission Assets are substantially damaged or destroyed by any casualty event or a substantial portion of the Puget Transmission Assets are taken, in part or on whole by any Government Authority, (c) changes or developments in national, regional, state, or local wholesale or retail markets for electric power, fuel, or related products, including seasonal changes, (including changes in commodity prices or the effects of actions by competitors), if such matters have an effect on the Puget Transmission Assets that is disproportionate to the effect on other electric transmission facilities; and (d) changes or developments in national, regional, state, or local electric transmission or distribution systems, if such matters have an effect on the Puget Transmission Assets that is disproportionate to the effect on other electric transmission facilities; provided, however, that such determination shall exclude (A) general economic or political conditions; (B) conditions generally affecting the industries in which the Puget Transmission Assets operate; (C) any changes in financial, banking or securities markets in general, including any disruption and any decline in the price of any security or any market index or change in prevailing interest rates; (D) any adverse change or effect principally attributable to the announcement, pendency, or consummation of the transactions contemplated by this Agreement (including any action required or permitted by this Agreement with the written consent of or at the written request of Buyer, decrease in customer demand, any reduction in revenues, any disruption in supplier, partner or similar relationships, or any loss of employees attributable thereto but excluding any failure to obtain Required Regulatory Approvals); (E) any outbreak or escalation of hostilities or the declaration by the United States of a national emergency or war; (F) any failure by the Puget Transmission Assets meet any internal or published projections, forecasts or supply predictions; (G) any matter of which Buyer is aware of on the date hereof; or (H) any acts of terrorism, any other international or domestic calamity or crisis or geopolitical event, except to the extent such matters in subsections (A), (B), (C), (E) or (F) have an effect on the Puget Transmission Assets that is disproportionate to the effect on other electric transmission facilities.

“*Material Contracts*” is defined in Section 2.1(b).

“MPSC” means the Montana Public Service Commission.

“*Notice of Claim*” is defined in Section 9.5(a).

“*Option*” is defined in the Recitals.

“*Option Closing*” is defined in Section 4.2.

“*Option Closing Disclosure Schedules*” is defined in Section 8.12(b).

“*Option Notice*” has the meaning set forth in Section 4.1.

“*Option Purchase Price*” is defined in Section 2.2.

“*Party*” is defined in the preamble.

“*Permits*” means written permits, licenses, franchises, registrations, variances and approvals obtained from any Governmental Authority.

“*Permitted Liens*” means (i) Liens for Taxes not yet due and payable, pledges or deposits made in the ordinary course of business under workers’ compensation legislation, unemployment insurance Laws or similar Laws, good faith deposits made in the ordinary course of business in connection with bids, tenders or contracts, including rent security deposits, (ii) in the case of the Real Property, encumbrances and other restrictions and irregularities to title which exist on the date hereof or on the Closing Date and which were not created by, through or under the Seller, (iii) rights reserved to or vested but not yet asserted respecting any Puget Transmission Assets by any Governmental Authority by the terms of any franchise, grant, license, Permit or provision of applicable Law, to purchase, condemn, appropriate or recapture, or designate a buyer of the real property, (iv) rights reserved to or vested in any municipality or public authority to control or regulate the use of the real property or to use the real property in any manner, including zoning and land use regulations, and (v) mechanic and other similar liens for amounts not yet due or payable.

“*Person*” means any Governmental Authority or any individual, firm, partnership, corporation, limited liability company, joint venture, trust, unincorporated organization or other entity or organization.

“*PPA*” means the Power Purchase Agreement between Buyer and Seller, dated as of the Closing Date.

“*Pre-Closing Periods*” is defined in Section 2.5(a).

“*Prudent Utility Practices*” means the practices, methods and acts generally engaged in or approved by the electric utility industry in the United States for similarly situated facilities in the United States during a particular time period, in a manner consistent with Laws, reliability, safety and environmental protection, and taking into consideration the requirements of this Agreement, the Material Contracts and the other contracts affecting the operation of the Colstrip Transmission System. Prudent Utility Practices are not necessarily intended to require the

optimum or best practices, methods or acts to the exclusion of all others, but rather to include a spectrum of possible practices, methods or acts consistent with the immediately preceding sentence.

“*Puget Transmission Assets*” is defined in the Recitals.

“*Puget Transmission Interests*” is defined in the Recitals.

“*Purchase Price*” is defined in Section 2.2.

“*Real Property*” means the real property interests which are included as part of the Puget Transmission Assets as set forth on Schedule 2.1(a).

“*Records*” means any and all of the books, records, contracts, agreements and files of the Seller existing on the Closing Date and pertaining to the Puget Transmission Assets, excluding any information if disclosure to Buyer would, in Seller’s sole discretion, jeopardize any attorney-client, work-product or other privilege or other information reasonably deemed confidential by Seller.

“*Release*” or “*Released*” means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment.

“*Representatives*” means officers, directors, employees and other agents of a particular Person.

“*Required Regulatory Approvals*” means the FERC 203 Approval and such approvals as may be necessary from the MPSC and the Washington Utilities and Transportation Commission; *provided* that an approval will not be deemed to have been obtained until the date after which all appeals have been fully adjudicated and an appeal may no longer be filed, regardless of whether an appeal is filed.

“*Retained Liabilities*” is defined in Section 2.1.

“*ROFR Resolution Notice*” is defined in Section 8.11.

“*Rules*” is defined in Section 11.2.

“*Seller*” is defined in the preamble.

“*Seller’s Consents*” means the consents, filings and notices required to be obtained by Seller (other than the Required Regulatory Approvals) and delivered at a Closing as listed on Schedule 5.6.

“*Seller Fundamental Representations*” means the representations and warranties of Buyer set forth in Section 5.1 (Organization and Good Standing), Section 5.2 (Authority), Section 5.3 (Enforceability), Section 5.4 (Title to Puget Transmission Assets), Section 5.11 (Brokerage Fees and Commissions), Section 5.13 (Taxes) and Section 5.17 (Environmental Matters).

“*Seller Indemnified Parties*” is defined in Section 9.3.

“*Straddle Period*” is defined in Section 2.5(a).

“*Tax*” or “*Taxes*” means all federal, state, local, foreign and other net income, gross income, estimated, gross receipts, sales, use, ad valorem, transfer, franchise, profits, license, lease, service, service use, withholding, payroll, employment, excise, severance, stamp, occupation, premium, property taxes and levied and pending assessments, windfall profits, value added, commercial rent, customs duties, capital gain, social security, royalty, documentary, environmental or other taxes, or fees, assessments, duties or charges in the nature or taxes, of any kind whatever, together with any interest and any penalties, additions to tax or additional amounts with respect thereto.

“*Tax Return*” means all returns and reports (including elections, declarations, disclosures, attachments, schedules, estimates, information returns, and amended returns and reports) required to be filed with or sent to a taxing authority relating to Taxes.

“*Third Party Claim*” is defined in Section 9.4(a).

“*Transfer Taxes*” means all sales, use, real property transfer, excise, stock, stamp, documentary, filing, recording, permit, license, authorization and other similar Taxes, filing fees and similar charges incurred by either Party in connection with the transactions contemplated hereby.

“*Transmission Owners*” has the meaning assigned to it under the Colstrip Project Transmission Agreement.

“*Unit 4 Acquisition Agreement*” means the Colstrip Unit 4 Purchase and Sale Agreement between Buyer and Seller in connection with Buyer’s purchase of Seller’s undivided interest in the 740MW Colstrip Unit 4, a coal-fired, base-load electric generation facility located in Colstrip, Montana.

“*Update*” is defined in Section 8.12.

**Section 1.2 Interpretation.** This Agreement shall not be construed against either Party, and no consideration shall be given or presumption made, on the basis of who drafted this Agreement or any particular provision hereof or who supplied the form of this Agreement. In construing this Agreement:

(a) all references in this Agreement to an “Article,” “Section,” “subsection,” “Exhibit,” or “Schedule” shall be to an Article, Section, subsection, Exhibit, or Schedule of this Agreement, unless the context requires otherwise;

(b) unless the context otherwise requires, the words “this Agreement,” “hereof,” “hereunder,” “herein,” “hereby” or words of similar import shall refer to this Agreement as a whole and not to a particular Article, Section, subsection, clause or other subdivision hereof;

- (c) whenever the context requires, the words used herein shall include the masculine, feminine and neuter gender, and the singular and the plural;
- (d) examples shall not be construed to limit, expressly or by implication, the matter they illustrate;
- (e) the word “includes” and its derivatives means “includes, but is not limited to” and corresponding derivative expressions;
- (f) a defined term has its defined meaning throughout this Agreement and in each Exhibit and Schedule hereto, regardless of whether it appears before or after the place where it is defined;
- (g) each Exhibit and Schedule to this Agreement is a part of this Agreement, and should be construed in light of each other;
- (h) the headings and titles herein are for convenience only and shall have no significance in the interpretation hereof; and
- (i) references to a Law, rule, regulation, contract, agreement, or other document mean that Law, rule, regulation, contract, agreement, or document as amended, modified, or supplemented, if applicable.

## ARTICLE 2 PURCHASE AND SALE OF THE PUGET TRANSMISSION ASSETS

**Section 2.1 Purchase and Sale of Puget Transmission Interests.** On the terms and subject to the conditions hereof, Seller covenants and agrees to sell, assign and transfer to Buyer all of Seller’s right, title and interest in, and Buyer covenants and agrees to purchase from Seller, effective as of the each Closing, all of Seller’s right, title and interest in, all of the assets, properties and rights of Seller owned and/or used in or relating to the portion of the Puget Transmission Assets to be conveyed at such Closing, free and clear of any and all Liens, other than Permitted Liens and excluding the Excluded Assets (as hereinafter defined). The assets, properties and rights to be purchased or otherwise transferred to Buyer under this Agreement, all of which solely relate to the portion of the Puget Transmission Assets acquired and, except for Excluded Assets, constitute, or will constitute as of a Closing, all of Seller’s interests in or to the respective portion of the Puget Transmission Assets, are as follows:

- (a) all of Seller’s ownership rights to the Real Property;
- (b) all of Seller’s rights under the contracts, leases and agreements related to the Puget Transmission Interest, including the contracts, leases and agreements that are set forth on Schedule 2.1(b), and have not been amended except for such amendments as are set forth therein (the “*Material Contracts*”);
- (c) notwithstanding the provisions of Section 2.1(a)-(c) above, the Puget Transmission Assets shall not include (and the Seller shall retain and the Buyer shall not assume):

- (i) claims arising out of liabilities occurring prior to a Closing, including Environmental Liabilities,
- (ii) any obligation or liability related to or arising out of any of the Excluded Assets;
- (iii) any obligation or liability related to or arising out of (x) any real property lease or sublease not included in the Real Property and (y) any contract not included in the Material Contracts;
- (iv) any obligation or liability related to or arising out of any Real Property or Material Contract to the extent such obligation or liability relates to or arises out of the time period prior to a Closing;
- (v) any obligation or liability related to or arising out of Actions pending as of a Closing Date against the Seller or any of its Affiliates;
- (vi) any obligation or liability (including any future Actions) related to or arising out of the Seller's conduct of the business or ownership of the Puget Transmission Assets prior to a Closing;
- (vii) any obligation or liability of any kind or nature relating to (A) Taxes of the Seller; and (B) Taxes related to the Seller's conduct of the business or ownership of the Puget Transmission Assets prior to the Closing (in the case of real property Taxes, as determined in accordance with Section 2.5(a)); and
- (viii) any obligation or liability of Seller for any Debt.

The foregoing liabilities listed in this Section 2.1(c) are collectively referred to as the "*Retained Liabilities*" and shall remain and be the obligations and liabilities solely of the Seller.

**Section 2.2 Purchase Price.**

- (a) At least three (3) Business Days prior to each of the Initial Closing Date and the Option Closing Date, Seller shall deliver to Buyer a certificate signed by an executive officer of Seller which sets forth in reasonable detail Seller's calculation of the Depreciated Net Book Value of the Initial Purchase Assets and the Option Assets, respectively, which calculations shall be consistent with Schedule 2.2(a).
- (b) Upon receipt of the Depreciated Net Book Value calculation by Buyer, the aggregate purchase price and additional consideration for the sale and conveyance of the Initial Purchase Assets shall be equal to such Depreciated Net Book Value of the Initial Purchase Assets (the "*Initial Purchase Price*") and the aggregate purchase price and additional consideration for the sale and conveyance of the Option Assets shall be equal to such Depreciated Net Book Value of the Option Assets (the "*Option Purchase Price*") and, together with the Initial Purchase Price, the "*Purchase Price*").

**Section 2.3 Allocation of Purchase Price; Tax Filings.**

(a) The amount realized by Seller and the consideration paid by Buyer for the Puget Transmission Assets (taking into account for this purpose the Purchase Price, the Assumed Liabilities, and any other amounts treated as consideration or adjustments to the Purchase Price for federal income Tax purposes) shall be allocated in compliance with section 1060 of the Code and the regulations promulgated thereunder. Buyer shall prepare and deliver to Seller an allocation schedule setting forth Buyer's determination of the allocation (the "*Allocation Schedule*") within thirty (30) days after a Closing, which Allocation Schedule shall be subject to the review, comment and approval of Seller, which approval shall not be unreasonably withheld, delayed, conditioned or delayed. If Seller objects to any item of the Allocation Schedule, Seller shall deliver its written objection to Buyer within 10 days after Seller's receipt of the Allocation Schedule. If Seller does not timely object, in writing, to the Allocation Schedule, Seller shall be deemed to have approved the Allocation Schedule. Buyer and Seller shall negotiate in good faith to resolve any objection timely raised in writing by Seller. If Buyer and Seller are unable to resolve any such dispute within 15 days after Buyer's receipt of Seller's written objection to the Allocation Schedule, such dispute shall be submitted to an independent accounting firm mutually agreed to by Buyer and Seller, and the resolution of such independent accounting firm shall be final and binding.

(b) Each of Buyer and Seller shall (i) be bound by the Allocation Schedule for purposes of determining Taxes, (ii) prepare and file, and, if applicable, cause its Affiliates to prepare and file, Tax Returns and Internal Revenue Service Forms 8594 in a manner consistent with the Allocation Schedule, and (iii) take no position, and cause its Affiliates to take no position, inconsistent with the Allocation Schedule on any applicable Tax Return, in any audit or proceeding before any Governmental Authority, in any report made for Tax, financial accounting or any other purposes, or otherwise, unless required by a "determination," within the meaning of Section 1313(a)(1) of the Code. If the Buyer or the Seller or any of their Affiliates receives notice from any Governmental Authority disputing such allocation, the Party receiving such notice shall promptly notify the other Party of such dispute.

**Section 2.4 Assumption of Liabilities.** Buyer shall assume and agree to pay, perform and discharge the liabilities and obligations of Seller related to the Puget Transmission Assets acquired at each respective closing, including without limitation those liabilities and obligations contained in the Material Contracts, but solely with respect to liabilities or obligations arising solely during periods following a Closing Date (the "*Assumed Liabilities*").

**Section 2.5 Real Property Taxes.**

(a) Seller shall be responsible for all real property Taxes imposed on or with respect to the Real Property for all Tax periods (or portion of any Tax period beginning on or before and ending after the Closing Date (a "*Straddle Period*")) ending on or prior to the Closing Date (the "*Pre-Closing Periods*"). The portion of such Taxes for which Seller shall be liable for a Straddle Period shall be determined by multiplying its pre-Closing Date Project Share of the amount of Taxes for the entire Straddle Period by a



fraction, the numerator of which is the number of days in such Straddle Period prior to and including the Closing Date and the denominator of which is the total number of days in such Straddle Period.

(b) Any real property Tax reductions or refunds with respect to the Real Property for or relating to a Pre-Closing Period (as determined in accordance with Section 2.5(a)) shall be for the account of Seller. If Buyer receives a property Tax refund or credit with respect to the Real Property for or relating to a Pre-Closing Period, Buyer shall promptly remit to Seller the portion of such refund or credit relating to the Pre-Closing Period.

(c) Prior to a Closing Date, Seller shall control and conduct all negotiations, proceedings and communications with the Montana Department of Revenue regarding real property Taxes with respect to the Real Property, shall keep Buyer informed regarding such negotiations, proceedings and communications and shall not agree to any settlement with the Montana Department of Revenue that affects any Tax period or portion of a Straddle Period beginning on or after a Closing Date without Buyer's consent, which consent shall not be unreasonably withheld, conditioned or delayed. From and after a Closing Date, Buyer shall control and conduct all negotiations, proceedings and communications with the Montana Department of Revenue regarding real property Taxes with respect to the Real Property, shall keep Seller informed regarding such negotiations, proceedings and communications, and shall not agree to any settlement with the Montana Department of Revenue that affects any Tax period or Straddle Period ending on or prior to a Closing Date without Seller's consent, which consent shall not be unreasonably withheld, conditioned or delayed. Seller shall reasonably cooperate with all such negotiations, proceeds and communications.

### ARTICLE 3 INITIAL CLOSING; CONDITIONS PRECEDENT

**Section 3.1 Initial Closing.** The closing of the transactions contemplated by this Agreement with regard to the Initial Purchase Assets (the "*Initial Closing*") shall occur at the offices Dorsey & Whitney LLP, 50 South Sixth Street, Suite 1500, Minneapolis, Minnesota, commencing at 9:00 A.M. or at such other location as may be agreed upon by the Parties on either (a) the second (2<sup>nd</sup>) Business Day after the satisfaction of all the conditions precedent to the Initial Closing in accordance with Sections 3.4 and 3.5 hereof, or (b) at such other time or place as may be mutually agreed upon by the Parties in writing. The date on which the Initial Closing occurs is referred to herein as the "*Initial Closing Date*".

**Section 3.2 Initial Closing Deliveries by Buyer.** At the Initial Closing, Buyer shall deliver, or cause to be delivered, to Seller the following:

- (a) The Initial Purchase Price in cash in accordance with Section 2.2 hereof;
- (b) A certificate of an authorized officer of Buyer, dated as of the Initial Closing Date, in the form set forth in Exhibit C, certifying that (i) the representations and warranties of Buyer set forth in ARTICLE 6 are true, correct and complete as of the

Initial Closing Date, except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect, (ii) the conditions set forth in Section 3.4 have been fulfilled or waived and (iii) the covenants of Buyer set forth in ARTICLE 8 to be performed on or before the Initial Closing Date have been fulfilled or waived in writing by Seller.

- (c) A duly executed copy of an Assignment and Assumption Agreement;
- (d) Duly executed copies of each of the Buyer's Consents;
- (e) Such other documents and certificates as Seller may reasonably request and which are customarily and ordinarily delivered in transactions similar to the transactions to be consummated at the Initial Closing.

**Section 3.3 Initial Closing Deliveries by Seller.** At the Initial Closing, Seller shall execute and deliver, or cause to be executed and delivered, to Buyer the following:

- (a) A duly executed copy of an Assignment and Assumption Agreement;
- (b) A certificate of an authorized officer of Seller, dated as of the Initial Closing Date, except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect, in the form set forth in Exhibit D, certifying that (i) the representations and warranties of Seller set forth in ARTICLE 5 are true, correct and complete as of the Initial Closing Date, (ii) the conditions set forth in Section 3.5 have been fulfilled or waived and (iii) the covenants of Seller set forth in ARTICLE 8 to be performed on or before the Initial Closing Date have been fulfilled or waived in writing by Buyer;
- (c) Duly executed copies of each of the Seller's Consents;
- (d) A certificate that Seller is not a "foreign" person within the meaning of Section 1445 of the Code, which certificate shall set forth all information required by, and otherwise be executed in accordance with, Treasury Regulations Section 1.445-2(b)(2);
- (e) A deed in the form attached hereto as Exhibit E conveying Seller's interest in the Real Property subject to Permitted Liens (i.e., a deed (i) in which Seller warrants that the Real Property is free from all encumbrances made by the Seller other than Permitted Liens and that Seller will defend the same to the Buyer against the lawful claims and demands of all persons claiming by, through or under Seller, but against no other persons; and (ii) that conveys any after-acquired title to the Real Property that Seller may subsequently obtain, but reserving for Seller, for so long as the Colstrip Project Transmission Agreement, is in effect, such easements as may be reasonably necessary for the purpose of owning, operating, maintaining, repairing, replacing, or removing any transmission facility and associated equipment in their current locations on the Real Property), all in a form reasonably acceptable to Buyer (which shall include language providing that such easements shall not, other than to a de minimis extent, adversely affect operations on the Real Property as currently conducted); and

(f) Such other documents and certificates as Buyer may reasonably request and which are customarily and ordinarily delivered in transactions similar to the transactions to be consummated at the Initial Closing.

**Section 3.4 Conditions Precedent to the Initial Closing Obligations of Buyer.** The obligation of Buyer to proceed with the Initial Closing contemplated hereby is subject to the fulfillment or waiver (by the Buyer, in its absolute discretion, by written notice to the Seller) on or prior to the Initial Closing Date, or on or prior to such earlier date if specified below, of all of the following conditions:

(a) Seller shall have delivered to Buyer each of the documents described in Section 3.3.

(b) The representations and warranties of Seller in ARTICLE 5 of this Agreement shall be true and correct without regard to any qualification respecting materiality or Material Adverse Effect on and as of the Initial Closing Date except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect, and the covenants and agreements of Seller to be performed on or before the Initial Closing Date shall have been performed in all material respects in accordance with this Agreement.

(c) Seller shall have obtained and provided copies to Buyer of all the Seller's Consents required for the Initial Closing listed in Schedule 5.6.

(d) Seller shall have obtained and provided a copy to Buyer of the Required Regulatory Approvals.

(e) No order or decree by any federal or state court or Governmental Authority which prevents the consummation of the sale of the Puget Transmission Assets contemplated herein shall have been issued and remain in effect (each Party agreeing to use its Commercially Reasonable Efforts to have any such order or decree lifted) and no statute, rule or regulation shall have been enacted by any state or federal government or Governmental Authority which prohibits the consummation of the sale of the Puget Transmission Assets.

(f) All Transmission Owners shall have either declined to exercise or executed a waiver substantially in the form attached hereto as Exhibit F with respect to their rights of first refusal contained in Section 28 of the Colstrip Project Transmission Agreement.

(g) Seller shall have delivered to Buyer evidence of the filing for termination of all Liens that are not Permitted Liens in form and substance reasonably satisfactory to Buyer; *provided* that Seller shall indemnify Buyer for any Losses incurred by Buyer in connection with Seller's failure to terminate any Lien that is not a Permitted Lien.

(h) Seller shall have completed the transactions contemplated by the Unit 4 Acquisition Agreement.

(i) No event causing or constituting a Material Adverse Effect shall have occurred or be occurring.

**Section 3.5 Conditions Precedent to the Initial Closing Obligations of Seller.** The obligation of Seller to proceed with the Initial Closing contemplated hereby is subject to the fulfillment or waiver (by the Seller, in its absolute discretion, by written notice to the Buyer) on or prior to the Initial Closing Date of all of the following conditions:

(a) Buyer shall have delivered the Initial Purchase Price as provided in Section 2.2.

(b) Buyer shall have delivered to Seller each of the documents described in Section 3.2.

(c) The representations and warranties of Buyer contained in ARTICLE 6 of this Agreement shall be true and correct without regard to any qualification respecting materiality or Material Adverse Effect on and as of the Initial Closing Date except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect, and the covenants and agreements of Buyer to be performed on or before the Initial Closing Date shall have been performed in all material respects in accordance with this Agreement.

(d) Buyer shall have obtained and provided copies to Seller of all of Buyer's Consents required for the Initial Closing listed on Schedule 6.5.

(e) Seller shall have obtained the Required Regulatory Approvals and such approvals shall be in form and substance reasonably satisfactory (including no materially adverse conditions) to Seller.

(f) All Transmission Owners shall have either declined to exercise or executed a waiver substantially in the form attached hereto as Exhibit F with respect to their rights of first refusal contained in Section 28 of the Colstrip Project Transmission Agreement.

(g) Buyer shall have completed the transactions contemplated by the Unit 4 Acquisition Agreement.

(h) No order or, decree by any federal or state court or Governmental Authority which prevents the consummation of the sale of the Puget Transmission Assets contemplated herein shall have been issued and remain in effect (each Party agreeing to use its Commercially Reasonable Efforts to have any such order or decree lifted) and no statute, rule or regulation shall have been enacted by any state or federal government or Governmental Authority which prohibits the consummation of the sale of the Puget Transmission Assets.

**Section 3.6 Failure to Close.** In the event of any failure to satisfy or waive the conditions precedent set forth in Section 3.4 or Section 3.5, the termination and other provisions of ARTICLE 10 shall govern to the extent applicable.

## ARTICLE 4 OPTION CLOSING

**Section 4.1 Exercise of Option.** Upon the termination of the PPA according to the terms thereof, Buyer may elect, at its sole option, to provide notice to Seller that it wishes to exercise the Option and acquire the Option Assets (the “*Option Notice*”).

**Section 4.2 Option Closing.** After receipt of the Option Notice by Seller, the closing of the transactions contemplated by this Agreement with regard to the Option Assets (the “*Option Closing*”) shall occur at the offices Dorsey & Whitney LLP, 50 South Sixth Street, Suite 1500, Minneapolis, Minnesota, commencing at 9:00 A.M. or at such other location as may be agreed upon by the Parties on either (a) the second (2<sup>nd</sup>) Business Day after the satisfaction of all the conditions precedent to the Option Closing in accordance with Section 4.5 and Section 4.6 hereof, or (b) at such other time or place as may be mutually agreed upon by the Parties in writing. The date on which the Option Closing occurs is referred to herein as the “*Option Closing Date*”.

**Section 4.3 Option Closing Deliveries by Buyer.** At the Option Closing, Buyer shall deliver, or cause to be delivered, to Seller the following:

- (a) The Option Purchase Price in cash in accordance with Section 2.2 hereof;
- (b) A certificate of an authorized officer of Buyer, dated as of the Option Closing Date, in the form set forth in Exhibit C, certifying that (i) the representations and warranties of Buyer set forth in ARTICLE 6 are true, correct and complete as of the Option Closing Date, (ii) the conditions set forth in Section 3.4 have been fulfilled or waived and (iii) the covenants of Buyer set forth in ARTICLE 8 have been fulfilled or waived in writing by Seller.
- (c) Duly executed copies of each of the Buyer’s Consents;
- (d) Such other documents and certificates as Seller may reasonably request and which are customarily and ordinarily delivered in transactions similar to the transactions to be consummated at the Option Closing.

**Section 4.4 Option Closing Deliveries by Seller.** At the Option Closing, Seller shall execute and deliver, or cause to be executed and delivered, to Buyer the following:

- (a) A duly executed copy of the Assignment and Assumption Agreement;
- (b) A certificate of an authorized officer of Seller, dated as of the Option Closing Date, in the form set forth in Exhibit D, certifying that (i) the representations and warranties of Seller set forth in ARTICLE 5 are true, correct and complete as of the Option Closing Date, except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect, (ii) the conditions set forth in Section 4.6 have been fulfilled or waived and (iii) the covenants of Seller set forth in ARTICLE 8 to be performed on or before the Option Closing Date have been fulfilled or waived in writing by Buyer;

(c) A certificate that Seller is not a “foreign” person within the meaning of Section 1445 of the Code, which certificate shall set forth all information required by, and otherwise be executed in accordance with, Treasury Regulations Section 1.445-2(b)(2);

(d) A deed in the form attached hereto as Exhibit E conveying Seller’s interest in the Real Property subject to Permitted Liens (i.e., a deed (i) in which Seller warrants that the Real Property is free from all encumbrances made by the Seller other than Permitted Liens and that Seller will defend the same to the Buyer against the lawful claims and demands of all persons claiming by, through or under Seller, but against no other persons; and (ii) that conveys any after-acquired title to the Real Property that Seller may subsequently obtain, but reserving for Seller, for so long as the Colstrip Project Transmission Agreement, is in effect, such easements as may be reasonably necessary for the purpose of owning, operating, maintaining, repairing, replacing, or removing any transmission facility and associated equipment in their current locations on the Real Property), all in a form reasonably acceptable to Buyer (which shall include language providing that such easements shall not, other than to a de minimis extent, adversely affect operations on the Real Property as currently conducted);

(e) Duly executed copies of each of the Buyer’s Consents; and

(f) Such other documents and certificates as Buyer may reasonably request and which are customarily and ordinarily delivered in transactions similar to the transactions to be consummated at the Option Closing.

**Section 4.5 Conditions Precedent to the Option Closing Obligations of Buyer.**

The obligation of Buyer to proceed with the Option Closing contemplated hereby is subject to the fulfillment or waiver (by the Buyer, in its absolute discretion, by written notice to the Seller) on or prior to the Option Closing Date, or on or prior to such earlier date if specified below, of all of the following conditions:

(a) Seller shall have delivered to Buyer each of the documents described in Section 4.4.

(b) The representations and warranties of Seller in ARTICLE 5 of this Agreement shall be true and correct without regard to any qualification respecting materiality or Material Adverse Effect on and as of the Option Closing Date, except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect, and the covenants and agreements of Seller to be performed on or before the Option Closing Date shall have been performed in all material respects in accordance with this Agreement.

(c) Seller shall have obtained and provided copies to Buyer of all the Seller’s Consents required for the Option Closing listed in Schedule 5.6.

(d) Seller shall have obtained and provided a copy to Buyer of the Required Regulatory Approvals.

(e) No order or decree by any federal or state court or Governmental Authority which prevents the consummation of the sale of the Puget Transmission Assets contemplated herein shall have been issued and remain in effect (each Party agreeing to use its Commercially Reasonable Efforts to have any such order or decree lifted) and no statute, rule or regulation shall have been enacted by any state or federal government or Governmental Authority which prohibits the consummation of the sale of the Option Assets.

(f) Seller shall have delivered to Buyer evidence of the termination of all Liens that are not Permitted Liens in form and substance reasonably satisfactory to Buyer; *provided* that Seller shall indemnify Buyer for any Losses incurred by Buyer in connection with Seller's failure to terminate any Lien that is not a Permitted Lien.

(g) No event causing or constituting a Material Adverse Effect shall have occurred or be occurring.

**Section 4.6 Conditions Precedent to the Option Closing Obligations of Seller.** The obligation of Seller to proceed with the Option Closing contemplated hereby is subject to the fulfillment or waiver (by the Seller, in its absolute discretion, by written notice to the Buyer) on or prior to the Option Closing Date of all of the following conditions:

(a) Buyer shall have delivered the Option Purchase Price as provided in Section 2.2.

(b) Buyer shall have delivered to Seller each of the documents described in Section 4.3.

(c) The representations and warranties of Buyer contained in ARTICLE 6 of this Agreement shall be true and correct without regard to any qualification respecting materiality or Material Adverse Effect on and as of the Option Closing Date except in such circumstances as shall not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect, and the covenants and agreements of Buyer to be performed on or before the Option Closing Date shall have been performed in all material respects in accordance with this Agreement.

(d) Buyer shall have obtained and provided copies to Seller of all of Buyer's Consents required for the Option Closing listed on Schedule 6.5.

(e) Seller shall have obtained the Required Regulatory Approvals.

(f) No order or, decree by any federal or state court or Governmental Authority which prevents the consummation of the sale of the Puget Transmission Assets contemplated herein shall have been issued and remain in effect (each Party agreeing to use its Commercially Reasonable Efforts to have any such order or decree lifted) and no statute, rule or regulation shall have been enacted by any state or federal government or Governmental Authority which prohibits the consummation of the sale of the Option Assets.

## ARTICLE 5 REPRESENTATIONS AND WARRANTIES OF SELLER

As of the date of this Agreement, Seller hereby represents and warrants to Buyer that the statements contained in this ARTICLE 5 (as modified and supplemented by the disclosure schedule delivered to Buyer by Seller contemporaneously herewith setting forth, among other things, items the disclosure of which is necessary or appropriate either in response to an express informational requirement contained in or requested by a provision of this ARTICLE 5, or as an exception to one or more representations or warranties contained in this ARTICLE 5 (the “*Disclosure Schedule*” or “*Schedule*”)) are true and correct provided that the mere inclusion of an item in a Disclosure Schedule as an exception to a representation or warranty or covenant shall not be deemed an admission by a Party that such item (or any undisclosed item or information of comparable or greater significance) represents a material exception or fact, event or circumstance with respect to the Seller. The Disclosure Schedule shall be arranged in sections and paragraphs corresponding to the numbered and lettered sections and paragraphs contained in this ARTICLE 5; provided, however, the disclosures in any section or paragraph of the Disclosure Schedule shall qualify as disclosures pursuant to any other sections or paragraphs under the Agreement where such disclosure is reasonably apparent on the face of such disclosures, whether or not repeated under any section number where such disclosure might be deemed appropriate.

**Section 5.1 Organization and Good Standing.** Seller is a public utility corporation duly organized and validly existing under the laws of the State of Washington and each other jurisdiction where such qualification is required, except where the failure to be so qualified has not had, and is not reasonably likely to have, individually or in the aggregate, a Material Adverse Effect.

**Section 5.2 Authority.** Seller has all requisite power and authority to own, and to carry on its businesses related to, the Puget Transmission Assets as now being conducted. Seller has all requisite power and authority and as of each Closing will have obtained all other applicable governmental, statutory, regulatory or other consents, licenses, waivers or exemptions necessary to execute and deliver this Agreement and the Closing Documents, and to perform its obligations hereunder and thereunder. The execution, delivery, and performance of this Agreement and the Closing Documents, when executed and delivered in accordance herewith, and the transactions contemplated hereby and thereby have been duly and validly authorized by all requisite action on the part of Seller.

**Section 5.3 Enforceability.** This Agreement has been, and the Closing Documents, when executed and delivered in accordance herewith, will be, duly and validly executed and delivered by Seller and, assuming due and valid authorization, execution and delivery hereof by Buyer, is a valid and binding agreement of Seller, enforceable against it in accordance with their respective terms, subject to (a) applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance and other similar Laws of general application from time to time in effect that affect creditors’ rights generally, (b) general principles of equity, and (c) the power of a court to deny enforcement of remedies generally based upon public policy.



**Section 5.4 Title to Puget Transmission Assets.** Seller owns the Puget Transmission Assets free and clear of all Liens, other than Permitted Liens, those liens set forth on Schedule 5.9(a) and the liens set forth on Schedule 5.4 (which relevant liens will be terminated or released as of each respective Closing).

**Section 5.5 No Violation or Breach.** Except as set forth in Schedule 5.5 and assuming that all of the Required Regulatory Approvals and Seller's Consents have been obtained, neither the execution and delivery of this Agreement nor the Closing Documents, nor the consummation of the transactions contemplated hereby or thereby and performance of the terms and conditions hereof or thereof by Seller will result in a violation or breach of, or default under, (a) any provision of the organizational documents of Seller and any indenture or (b) any Material Contract under which Seller or the assets comprising the Puget Transmission Assets are bound, except with regard solely to clause (b), any violation, breach or default that would not have a Material Adverse Effect.

**Section 5.6 Consents.** No consent, approval, authorization or permit of, or filing with or notification to, any Person is required for or in connection with the execution and delivery of this Agreement or the Closing Documents by Seller or for, or in connection with, the consummation of the transactions and performance of the terms and conditions contemplated hereby and thereby by Seller except for (a) the Required Regulatory Approvals; (b) the third-party consents, filings, and notices set forth on Schedule 5.6, and (c) immaterial consents, approvals, authorizations, permits, filings or notices. Neither the execution and delivery of this Agreement or the Closing Documents nor the consummation of the transactions and performance of the terms and conditions hereof or thereof by Seller requires the consent, approval, authorization or permit of the MPSC or the Montana Consumer Counsel.

**Section 5.7 Actions Pending.** Except as set forth on Schedule 5.7, there is no Action pending, or to Seller's Knowledge, threatened in writing against Seller related to the Puget Transmission Assets, except for Actions that would not have a Material Adverse Effect on the Puget Transmission Assets or operation of the Puget Transmission Assets or have a Material Adverse Effect on Seller's ability to perform its obligations under the Closing Documents.

**Section 5.8 Compliance With Applicable Law.** Except as set forth on Schedule 5.8, Seller has complied in a timely manner and in all material respects with all applicable Laws that specifically apply to the Puget Transmission Assets. Seller is not in material default of any order, decree or judgment of any Governmental Authority or arbitrator related to the Puget Transmission Assets and there are no unsatisfied judgments against the Seller related to the Puget Transmission Assets.

**Section 5.9 Real Property.**

(a) Except as set forth on Schedule 5.9(a), Seller has good and valid title to, or a valid leasehold interest in or a valid and enforceable right to use, all of the Real Property, free and clear of any Liens, except for Permitted Liens. The Real Property includes all of the rights and interests in real property that the Seller has with regard to or relating to the Puget Transmission Assets.

(b) There are no actions pending or, to the Knowledge of the Seller, threatened, that would alter the current zoning classification of the Real Property that would adversely affect the continued use of the Puget Transmission Assets by the Seller. The Seller has not received written notice from any insurance company or Governmental Authority of any defects or inadequacies in the Real Property or the improvements thereon that would adversely affect the insurability or usability of the Real Property or such improvements or prevent the issuance of new insurance policies thereon. To the Knowledge of the Seller, no fact or condition exists that would that would adversely affect the usability of the Real Property or its improvements or result in the termination of current access to and from the Real Property. No portion of the Real Property has been condemned, requisitioned, or otherwise taken by any public authority and there is no pending, or, to the Knowledge of the Seller, threatened or contemplated condemnation actions or special assessments with respect to the Real Property. No Governmental Authority has given notice of an assertion of rights to the Puget Transmission Assets or the Real Property, such as those described in subsection (iii) of the definition of Permitted Liens.

(c) The Seller is not a “foreign person” as that term is defined in § 1445 of the Code, and applicable regulations.

**Section 5.10 Material Changes since December 31, 2018.** Since December 31, 2018, there has been no Material Adverse Effect with respect to the Puget Transmission Assets and, to Seller’s Knowledge, no event, fact or matter has occurred which is likely to give rise to any such change. Since December 31, 2018, and except for the transactions contemplated by this Agreement and as set forth in Schedule 5.10, the ownership and operation of the Puget Transmission Assets and the Puget Transmission Assets has been carried on in the ordinary and usual course.

**Section 5.11 Brokerage Fees and Commissions.** Neither Seller nor any Affiliate of Seller has incurred any obligation or entered into any agreement for any investment banking, brokerage, or finder’s fee or commission in respect of the transactions contemplated by this Agreement or the Closing Documents, except as set forth on Schedule 5.11, which shall be the sole responsibility of Seller.

**Section 5.12 Bankruptcy.** There are no bankruptcy, reorganization, or arrangement proceedings pending against, being contemplated by, or to Seller’s Knowledge, threatened against, Seller or the Puget Transmission Assets.

**Section 5.13 Tax Matters.** With respect to the Puget Transmission Assets, except as set forth in Schedule 5.13.

(a) all Tax Returns required to be filed by the Seller related to the Puget Transmission Assets on or before each Closing Date have been or will be timely filed with the appropriate taxing authorities in all jurisdictions in which such Tax Returns are required to be filed;

(b) such Tax Returns related to the Puget Transmission Assets are or will be true and correct in all material respects, and all Taxes reported on such Tax Returns have been or will be timely paid;

(c) Seller has not extended or waived the application of any statute of limitations of any jurisdiction regarding the assessment or collection of any Tax related to the Puget Transmission Assets;

(d) there are no audits, claims, assessments, levies, administrative proceedings, or lawsuits pending, or to the Knowledge of Seller, threatened against Seller and relating to the Puget Transmission Assets by any Governmental Authority in respect of Taxes, no Governmental Authority has given notice of any intention to assert any deficiency or claim for additional Taxes against Seller in respect of the Puget Transmission Assets, and all deficiencies for Taxes asserted or assessed against Seller in respect of the Puget Transmission Assets have been fully or timely paid or settled;

(e) there are no Liens for Taxes (other than for current Taxes not yet due or payable, or for Taxes being contested in good faith through appropriate proceedings) upon the Puget Transmission Assets;

(f) there are no Tax rulings, requests for rulings, or closing agreements relating to Seller which affect its liability for Taxes relating to the Puget Transmission Assets for any period (or portion of a period) after the date hereof;

(g) Seller has provided to Buyer copies of all Tax audit reports affecting the Puget Transmission Assets that have been issued with respect to the previous five (5) taxable years of Seller; and

(h) none of the Puget Transmission Assets are interests (other than "indebtedness," within the meaning of Section 163 of the Code) in an entity taxable as a corporation, partnership, trust, or real estate mortgage investment conduit for federal income tax purposes.

**Section 5.14 Material Contracts.** The Material Contracts set forth on Schedule 2.1(b) are all of the material agreements, contracts, real and personal property leases arrangements necessary for use and operation of the Puget Transmission Assets, to which Seller or any of its Affiliates is a party, all of which are in full force and effect, except as disclosed on Schedule 5.14. The Material Contracts include all of the agreements necessary for the use and operation of with regard to the Puget Transmission Assets. True and correct copies of the Material Contracts have been provided to Buyer. Except as otherwise set forth in Schedule 4.15, no consent is required with respect to any of the Material Contracts in connection with the execution, delivery and performance of this Agreement and the consummation of the transactions contemplated hereby. The Material Contracts are legal, valid and binding obligations of the Seller, and Seller has performed all obligations required to be performed under the Material Contracts and is not in material default under or in material breach of any Material Contract and to Seller's Knowledge such other party has performed all obligations required to be performed by such other party and to Seller's Knowledge, no other party is in material default

under or in breach of any Material Contract. Except as set forth in Schedule 5.14, to Seller's Knowledge, no Material Contract has been breached or cancelled by any other party thereto.

**Section 5.15 Licenses.** Schedule 5.15 lists all the Permits, material licenses, permissions, authorizations and consents that are required for the ownership and operation of the Puget Transmission Assets in the manner in which it has been owned or operated by the Seller, or which are held by the Seller, in each case related to the Puget Transmission Assets or Seller's ownership of the Puget Transmission Assets (the "*Licenses*"), true and correct copies of which have been provided, or will be provided prior each Closing, to Buyer. Except as set forth in Schedule 5.15, the Licenses are in full force and effect and have been complied with in all material respects. Other than as set forth in Section 4.6, Seller makes no representation regarding the transferability or assignment of the Licenses to Buyer. As of the date of this Agreement, Seller has not received, since January 1, 2016, any written notification from any Governmental Authority alleging that it is in material violation of any of such License.

**Section 5.16 Insurance.** Schedule 5.16 lists all insurance policies maintained by Seller covering the Puget Transmission Assets and/or the Puget Transmission Assets. Seller's insurance policies are in full force and effect and fully paid covering all periods up to and including the date hereof, and it has not received written notice of cancellation of any such insurance policies other than those policies the absence or cancellation of which would not reasonably be expected to have a Material Adverse Effect. Except as set forth on Schedule 5.16, no claim is outstanding against the Seller under any such policy of insurance and, to the Knowledge of Seller, there are no circumstances likely to give rise to such a claim.

**Section 5.17 Environmental Matters.**

(a) Except as disclosed on Schedule 5.17, to the Knowledge of Seller, the Puget Transmission Assets have been operated and maintained in compliance with all Environmental Laws and in a manner that will not give rise to any liability under any Environmental Laws, except where the failure to comply would not, individually or in the aggregate, have a Material Adverse Effect.

(b) Except as disclosed on Schedule 5.17, Seller has not received any written notice at any time that the Puget Transmission Assets are in violation of the provisions of any Environmental Law the violation of which would have a Material Adverse Effect, and there is no pending, or to the Knowledge of the Seller, threatened lawsuit, administrative, governmental or other legal action to that effect.

(c) Except as disclosed on Schedule 5.17, Seller has not used, generated, treated, stored, transported, disposed of, handled or permitted any Hazardous Substances on, under, about or from the Puget Transmission Assets that would, individually or in the aggregate, cause a Material Adverse Effect, and except for quantities of any such Hazardous Substances stored or otherwise held on, under or about the Puget Transmission Assets in material compliance with all Environmental Laws and which are necessary for the operation of the Puget Transmission Assets.

(d) Except as disclosed on Schedule 5.17, there are no present or, to the Knowledge of Seller, past Releases in any way relating to the Real Property.

**Section 5.18 No Employees or Benefits Plans.** Seller does not have any employees that are stationed or provide services at, or with respect to, the Puget Transmission Assets and Seller does not maintain, sponsor, contribute to, is not required or obligated to contribute to, and is not a party to any Employee Benefit Plan related to the Puget Transmission Assets that are being transferred to the Buyer.

**Section 5.19 Labor Matters.**

(a) Seller is not a party to any collective bargaining or other labor union contract relating to the personnel servicing the Puget Transmission Assets exists.

(b) There is no pending or, Seller's Knowledge, threatened, labor dispute, strike, work stoppage, lockout or other labor controversy relating to the employees of Seller that provide services at, or with respect to, the Puget Transmission Assets.

**Section 5.20 Intellectual Property.** To Seller's Knowledge, (a) the conduct of Seller's business in connection with the Puget Transmission Assets, as currently conducted, does not infringe upon or otherwise violate the Intellectual Property Rights of any Person, and (b) no Person is infringing upon or otherwise violating the Intellectual Property Rights of the Seller or the Puget Transmission Assets, in either case of (a) or (b), except which would have a Material Adverse Effect.

**Section 5.21 Books and Records.** The records of the Seller relating to the Puget Transmission Assets have been made available to Buyer prior to the execution of this Agreement.

**Section 5.22 No Options.** There are no outstanding options or other rights or agreements for the purchase from the Seller of any of the Puget Transmission Assets.

**Section 5.23 Undisclosed Liabilities.** Except as set forth on Schedule 5.23, the Puget Transmission Assets are not subject to any liability or obligation (whether absolute, contingent or otherwise), except (a) liabilities arising in the ordinary course of business under any contract or commitment, (b) those liabilities or obligations incurred in the ordinary course of business since December 31, 2018, and (c) liabilities that have not had, and are not reasonably likely to have, individually or in the aggregate, a Material Adverse Effect.

**Section 5.24 Puget Transmission Assets Operations.** To the Knowledge of Seller, the Puget Transmission Assets are currently in operating order consistent with past practices.

**Section 5.25 Affiliate Transactions.** Other than as disclosed by this Agreement, no Affiliate of Seller is a party to any material agreement necessary to the use or operation the Puget Transmission Assets.

## ARTICLE 6 REPRESENTATIONS AND WARRANTIES OF BUYER

As of the date of this Agreement and as of each respective Closing Date, Buyer represents and warrants to Seller as follows and, except as expressly set forth to the contrary herein, acknowledges that the Seller has entered into this Agreement in reliance upon such representations and warranties:

**Section 6.1 Organization and Qualification.** Buyer is a corporation, duly incorporated, validly existing, and in good standing under the laws of the State of Delaware, and has all requisite corporate power and authority and all necessary permits to carry on its business as now being conducted.

**Section 6.2 Authority.** Buyer has all requisite corporate power and authority to execute and deliver this Agreement and the Closing Documents and to perform its obligations hereunder and thereunder. The execution, delivery, and performance of this Agreement and the Closing Documents, when executed and delivered in accordance herewith, and the transactions contemplated hereby and thereby have been duly and validly authorized by all requisite corporate action on the part of Buyer.

**Section 6.3 Enforceability.** This Agreement has been and, when executed and delivered in accordance herewith, the Closing Documents will be, duly and validly executed and delivered by Buyer and constitute valid and binding obligations of Buyer enforceable against it in accordance with their respective terms, subject to (a) applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, and other similar Laws of general application from time to time in effect that affect creditors' rights generally, (b) general principles of equity, and (c) the power of a court to deny enforcement of remedies generally based upon public policy.

**Section 6.4 No Violation or Breach.** Neither the execution and delivery of this Agreement or the Closing Documents nor the consummation of the transactions and performance of the terms and conditions hereof or thereof by Buyer will (a) result in a violation or breach of any provision of the certificate of incorporation, bylaws or other similar governing documents of Buyer or any material agreement, indenture or other instrument under which Buyer is bound or (b) violate any applicable Law other than such violations as would not, individually or in the aggregate, have a Material Adverse Effect.

**Section 6.5 Consents.** No consent, approval, authorization or permit of, or filing with or notification to, any Person is required for or in connection with the execution and delivery of this Agreement or the Closing Documents by Buyer or for, or in connection with, the consummation of the transactions and performance of the terms and conditions contemplated hereby and thereby by Buyer, except for (a) the Required Regulatory Approvals; (b) the third-party consents, filings, and notices set forth on Schedule 6.5, and (c) consents, approvals, authorizations, permits, filings, or notices that, if not obtained or made, would not, individually or in the aggregate, have a Material Adverse Effect.

**Section 6.6 No Disputes; Litigation.** There is no Action pending, or to Buyer's Knowledge, threatened in writing against Buyer, except for Actions that would not have a Material Adverse Effect on Buyer's ability to perform its obligations under the Closing Documents.

**Section 6.7 Brokerage Fees and Commissions.** Neither Buyer nor any Affiliate of Buyer has incurred any obligation or entered into any agreement for any investment banking, brokerage, or finder's fee or commission in respect of the transactions contemplated by this Agreement or the Closing Documents for which Seller or any of the Seller's Affiliates shall incur any liability.

**Section 6.8 Bankruptcy.** There are no bankruptcy, reorganization, or arrangement proceedings pending against, being contemplated by, or to the Knowledge of Buyer threatened against, Buyer.

**Section 6.9 Regulatory Matters.**

(a) Buyer represents that its acquisition of the Puget Transmission Assets would not reasonably be expected to result in (i) a denial of any Required Regulatory Approvals primarily based upon Buyer's ability to exercise horizontal or vertical market power or (ii) a denial of any Required Regulatory Approvals primarily based upon any increase in Buyer's horizontal or vertical market power in the NorthWestern balancing authority area using the standards adopted by FERC in Order No. 697.

(b) Buyer represents that it does not need approval from any Governmental Authority, other than the Required Regulatory Approvals, to acquire the Puget Transmission Assets.

**ARTICLE 7  
ACCESS AND CONFIDENTIALITY**

**Section 7.1 General Access.**

(a) Seller shall, until a respective Closing Date (or the earlier termination of this Agreement), (i) give Buyer and its authorized representatives reasonable access to all books, records, contracts, agreements, files, personnel, offices and other facilities and properties, in each case, of Seller, related to the Puget Transmission Assets, (ii) permit Buyer to make such copies and inspections thereof as Buyer may reasonably request, and (iii) furnish Buyer with such financial and operating data and other information with respect to the Puget Transmission Assets as Buyer may from time to time reasonably request; provided, that any such access shall be conducted at Buyer's expense, at a reasonable time and on reasonable notice, under the reasonable supervision of Seller's personnel and in such a manner as to maintain the confidentiality of such information, this Agreement, and the transactions contemplated hereby and not to interfere with the normal operation of the business of Seller or the Puget Transmission Assets; and provided, further, that Buyer and its representatives shall comply with all applicable safety rules, regulations and procedures implemented by Seller, as the case may be.

(b) In addition to Section 7.1(a) above, Seller specifically agrees to facilitate Buyer's environmental due diligence by promptly providing Buyer copies of any documents prepared by Seller's internal environmental professionals or outside environmental consultants retained by or on behalf of Seller which analyze, quantify, audit, or report on actual or potential environmental issues, conditions, or Environmental Liabilities connected with the Puget Transmission Assets.

(c) Nothing in this ARTICLE 7 shall be construed to permit Buyer or its representatives to have access prior to the Closing to (i) any files, records, contracts, or documents of Seller not relating to the Puget Transmission Assets, (ii) any bids or offers received by Seller for the sale of any of the Puget Transmission Assets, it being agreed that all such bids or offers shall be the sole property of Seller, or (iii) any jeopardize any attorney-client or other privilege as determined by Seller's sole discretion.

**Section 7.2 Confidential Information.** Buyer and Seller agree to maintain in confidence all information made available to it under this Agreement and to cause their respective officers, directors, agents, employees, representatives, consultants, and advisors to maintain in confidence all information made available to them under this Agreement, all as provided in that certain Mutual Non-Disclosure Agreement between Buyer and Seller dated July 19, 2019 (the "Confidentiality Agreement"), and the terms of which are incorporated herein by reference and made a part of this Agreement; provided that the Confidentiality Agreement shall terminate upon each Closing or two years following the date hereof. In the event that terms of the Confidentiality Agreement and this Agreement conflict, the terms of the Confidentiality Agreement shall control.

## **ARTICLE 8 COVENANTS OF SELLER AND BUYER**

**Section 8.1 Conduct of Business Pending Closing.** Seller covenants and agrees that:

(a) *Exclusivity.* Upon execution of this Agreement and except as noted below, Seller grants Buyer the exclusive right to acquire the Puget Transmission Assets until the earlier of the Option Closing or termination of this Agreement. During such exclusivity period, Seller agrees to: (i) deal with Buyer, or its representatives, exclusively with regard to all aspects of the acquisition of the Puget Transmission Assets, and (ii) refrain, directly or indirectly, from soliciting, initiating, encouraging, or engaging in any discussions or negotiations with any Person or entering into any agreement, commitment, understanding or transaction with any Person concerning any proposal regarding the acquisition of the Puget Transmission Assets, or providing any business, financial or other information relating to any such transaction to any person or entity. Notwithstanding the foregoing, Buyer and Seller acknowledge and agree that nothing in this Section 8.1 or elsewhere in this Agreement shall restrict or impair Seller's right or obligation to provide a right of first refusal to the Transmission Owners under the Colstrip Project Transmission Project Agreement pursuant and subject to Section 8.11. Notwithstanding this Section 8.1(a), nothing in this Section 8.1 shall be construed as limiting the termination rights of the Buyer or Seller under ARTICLE 10 or Buyer's or Seller's rights if any party shall exercise such right of first refusal.



(b) *Conduct of Business.* Pending each Closing, and taking into consideration the fact that the Seller is not the operator of the Puget Transmission Assets, and except as provided for in Section 8.1(a) or as reasonably necessary under emergency circumstances (or if required or prohibited pursuant to applicable Law or the Colstrip Transmission Project Agreement), and always subject to and consistent with the extent of Seller's rights and limitations under the Colstrip Transmission Project Agreement, Seller shall comply with the following:

(i) Seller shall conduct its business related to the Puget Transmission Assets, and utilize its Commercially Reasonable Efforts to cause the Puget Transmission Assets to conduct its business, in the ordinary course in accordance with past practice, and not make any material change with respect thereto;

(ii) Seller shall comply in all material respects with the Colstrip Transmission Project Agreement;

(iii) Seller shall take all Commercially Reasonable Efforts to preserve and protect the Puget Transmission Assets, subject to the terms of the Colstrip Transmission Project Agreement and applicable Laws;

(iv) except as set forth on Schedule 8.1, Seller shall not assign, terminate, amend, give any consent with respect to or waive any rights under, in any material respect, any Material Contract;

(v) Seller shall not take any action or enter into any commitment with respect to or in contemplation of any liquidation, dissolution, recapitalization, reorganization, or other winding up of its business or operations related to the Puget Transmission Assets, except as required by applicable Laws;

(vi) Seller shall not grant any express further Lien on any of the Puget Transmission Assets, except for Permitted Liens, those Liens that will be terminated, without cost to Buyer, at each Closing;

(vii) Seller shall provide prompt written disclosure to the Buyer of all relevant information which comes to the attention of the Seller in relation to any fact or matter (whether existing on or before the date of this Agreement or arising afterwards) which may constitute a breach of any of the Seller's representations and warranties set forth in ARTICLE 5; and

**Section 8.2 Public Announcements.** Without the prior written approval of the other Party, no Party shall issue, or permit any agent or Affiliate of such Party to issue, any press releases or otherwise make, or cause any agent or Affiliate of such Party to make, any public statements with respect to this Agreement or the Closing Documents or the transactions contemplated hereby or thereby, except when and to the extent that such release or statement is deemed in good faith by the releasing Party to be required to obtain the Required Regulatory Approvals or by applicable Law or under the applicable rules and regulations of a stock exchange or market on which the securities of the releasing Party or any of its Affiliates are listed. In each case to which such exception applies, the releasing Party will use its reasonable

efforts to provide a copy of such release or statement to the other Party and incorporate any reasonable changes which are suggested by the non-releasing Party prior to releasing or making the statement.

**Section 8.3 Actions by Parties.** Each Party agrees to use Commercially Reasonable Efforts to satisfy the conditions to each respective Closing set forth in Sections 3.4, 3.5; 4.5 and 4.6, provided, however, that neither Buyer nor Seller shall be deemed to have breached its obligations under Section 7.2, Section 8.2 or this Section 8.3 by pursuing the discussions with the MPSC or the Washington Utilities and Transportation Commission or by making any required filings in connection with obtaining the Required Regulatory Approvals.

**Section 8.4 Further Assurances.** Seller and Buyer each agree that from time to time after the Closing, it will execute and deliver or cause its respective Affiliates to execute and deliver such further agreements, certificates, documents or opinions and take (or cause its respective Affiliates to take) such other action, as may be reasonably necessary to carry out the purposes and intents of this Agreement. If at any time any Party shall reasonably request any further action by any other Party to carry out the purposes of this Agreement and the Closing Documents or to further effectuate the transactions contemplated hereby, such other Party, shall promptly take such action (including the prompt execution and delivery of further instruments and documents).

**Section 8.5 Records.**

(a) *Maintenance.* Buyer agrees to maintain the Records in accordance with its records retention policy as maintained in compliance with applicable Laws and Buyer's past practices, or if any of the Records pertain to any claim or dispute pending on the date upon which such records would be destroyed pursuant to Buyer's records retention policy, Buyer shall maintain any of the Records designated by Seller until such claim or dispute is finally resolved and the time for all appeals has been exhausted. Buyer shall give Seller reasonable notice and an opportunity to retain any Records relating to Taxes in the event that Buyer determines to destroy or dispose of them during such period. After a Closing Date, except as might result in a waiver of any attorney/client, work product or like privilege or violate applicable Laws, Buyer shall provide Seller and its representatives during normal business hours, and upon reasonable notice, reasonable access to, and the right to copy, the Records existing as of a Closing Date, at Seller's cost and expense, for the purposes of

(i) complying with any applicable Law affecting Seller's ownership of the Puget Transmission Assets prior to a Closing Date;

(ii) preparing any audit of the books and records of any third party relating to the Puget Transmission Assets prior to a Closing Date, or responding to any audit prepared by such third parties;

(iii) preparing Tax Returns;

(iv) responding to or disputing any audit, examination, claim or other proceeding in respect of Taxes; or

(v) asserting, defending, or otherwise dealing with any inquiry, investigation, claim or dispute under this Agreement or with respect to the Puget Transmission Assets.

(b) *Privilege.* Buyer shall not after a Closing Date intentionally waive the attorney/client, work product, or like privilege of Seller or its Affiliates with respect to any of the Records existing as of a Closing Date, without Seller's prior written consent.

**Section 8.6 Amendment of Colstrip Project Transmission Agreement.** Buyer and Seller shall cooperate in good faith to (i) amend the Colstrip Project Transmission Agreement to reflect the transactions contemplated by this Agreement and (ii) obtain all consents from the other Transmission Owners necessary for such amendment.

**Section 8.7 Regulatory and Other Authorizations and Consents Filings.**

(a) *General.* Each Party shall use Commercially Reasonable Efforts to obtain all authorizations, consents, orders, and approvals of, and to give all notices to and make all filings with, all Governmental Authorities and third parties that may be or become necessary for its execution and delivery of, and the performance of its obligations under, this Agreement and will cooperate fully with the other Party in promptly seeking to obtain all such authorizations, consents, orders, and approvals, giving such notices, and making such filings.

(b) *Required Regulatory Approvals.* Without limiting the generality of the undertakings pursuant to Section 8.7(a) above, each Party shall (i) use its Commercially Reasonable Efforts to: gather and obtain all necessary information to complete its respective filings in connection with the Required Regulatory Approvals (including all reports, studies, and exhibits related thereto); consult with the other Party regarding any such filings, consider and incorporate all reasonable comments (if any) submitted by the other Party or its representatives; and the Parties shall make such filings as soon as practicable following the execution and delivery of this Agreement, if not already completed; (ii) prior to and during the pendency of any notice and approval period with respect to such filings, (A) consult with the other Party prior to providing any supplemental information to the applicable regulatory authority and provide prompt written notice to the other Party of all discussions and correspondence with the applicable regulatory authorities that reasonably relates to or bears upon such filings, and (B) use all Commercially Reasonable Efforts and act in good faith to expedite and obtain the Required Regulatory Approvals. In furtherance and not in limitation of the foregoing, each of the Parties agrees to use its Commercially Reasonable Efforts to file applications with any applicable Governmental Authority whose approval is required in connection with the consummation of the purchase by Buyer of the Puget Transmission Assets as promptly as practicable following the date of this Agreement, the date of which shall be mutually agreed upon by Buyer and Seller.

(c) *Transfer.* If the transfer of any instrument, contract, license, lease, permit, or Material Contract to Buyer hereunder shall require the consent of any party thereto other than Seller, then such item shall not be assigned to or assumed by Buyer, if an

actual or attempted assignment thereof would constitute a breach thereof or default thereunder. In such case, Seller and Buyer shall cooperate and each shall use Commercially Reasonable Efforts to obtain such consents to the extent required by such other parties and, if and when any such consents are obtained, to transfer the applicable instrument, contract, license, lease, permit, or Material Contract. If any such consent cannot be obtained, Seller shall, at Buyer's expense, cooperate in any commercially reasonable arrangement designed to obtain for Buyer all benefits, obligations and privileges of the applicable instrument, contract, license, lease, permit, or document. Buyer shall indemnify and hold harmless the Seller from any and all Losses arising from or related to Seller's actions taken pursuant to the Buyer's request and/or direction (or such non-action as requested and/or directed by the Buyer, as the case may be) pursuant to this Section 8.7(c). Notwithstanding the foregoing, the indemnification provisions of this Section 8.7(c) shall not apply to any actions taken by Seller with regard to the Colstrip Project Transmission Agreement.

(d) *Third Party Consents.* Seller shall use its Commercially Reasonable Efforts, and Buyer shall use its Commercially Reasonable Efforts to assist Seller, in obtaining any and all consents of third parties and Governmental Authorities necessary or advisable in connection with the transactions contemplated by this Agreement and the Closing Documents, including the provision by Buyer to such third parties and Governmental Authorities of such publicly available financial statements and other publicly available financial information with respect to Buyer and its parent company or companies as such third parties or Governmental Authorities may reasonably request.

**Section 8.8 Fees and Expenses.** Except as otherwise expressly provided in this Agreement, all fees and expenses, including fees and expenses of counsel, financial advisors, and accountants, incurred in connection with this Agreement and the Closing Documents and the transactions contemplated hereby, shall be paid by the Party incurring such fee or expense, whether or not the respective Closing shall have occurred.

**Section 8.9 Tax Matters.**

(a) After the Closing Date, Buyer and Seller shall provide each other with such cooperation and information related to the Puget Transmission Assets as the Parties reasonably may request in (i) filing any Tax Return, amending any Tax Return or claiming any Tax refund, (ii) determining any liability for Taxes or any right to Tax refunds or (iii) conducting or defending any audit, examination, claim or other proceeding in respect of Taxes. Seller and Buyer shall retain all Tax Returns, schedules and work papers, and all material records and other documents related thereto until the expiration of the statute of limitations for the taxable years to which such Tax Returns and other documents relate.

(b) Buyer and Seller each shall be responsible under applicable Law for payment of fifty percent (50%) of all Transfer Taxes. The Party responsible for preparing any Tax Returns or other documentation relating to such Transfer Taxes shall prepare and file such Tax Returns or other documentation; *provided, however*, that to the extent required by applicable Law, the other Party shall join in the execution of any such

Tax Returns and other documentation relating to such Transfer Taxes. The Party responsible for preparing and filing any such Tax Return or other documentation shall provide to the other Party copies of each such Tax Return or other documentation at least fifteen (15) days prior to the date on which such Tax Return is required to be filed.

(c) In the event of any conflict between the provisions of ARTICLE 9 of this Agreement and this Section 8.9 or Section 2.5, the provisions of this Section 8.9 and Section 2.5 shall control.

**Section 8.10 Insurance Cooperation.** Seller shall use Commercially Reasonable Efforts to assist Buyer in making arrangements to obtain customary insurance with respect to the Puget Transmission Assets.

**Section 8.11 Right of First Refusal.** Without limiting the generality of the undertakings pursuant to Section 8.3 above, Seller shall use its Commercially Reasonable Efforts to: (a) within five (5) Business Days of the date hereof, notify the Transmission Owners (as such term is defined in the Colstrip Project Transmission Agreement) concerning their execution of a waiver substantially in the form attached hereto as Exhibit F with respect to their rights of first refusal contained in Section 28 of the Colstrip Project Transmission Agreement, (b) use its Commercially Reasonable Efforts to satisfy the condition to the Initial Closing set forth in Section 3.4(f), and (c) keep Buyer reasonably informed in respect of the status and substance of such discussions, including by providing copies of all relevant correspondence to Buyer. Seller shall immediately notify Buyer if at any time any Transmission Owner shall exercise or indicate their intent to exercise any such right of first refusal. Seller shall (x) as soon as practicable, but in any event no later than [date], notify Buyer in writing that the condition set forth in Section 3.4(f) has been satisfied (the “*ROFR Resolution Notice*”), or (y) no later than one hundred twenty (120) days after the date hereof, notify Buyer in writing that the condition set forth in Section 3.4(f) has not yet been satisfied.

**Section 8.12 Updates to Disclosure Schedules.**

(a) From time to time prior to and up to three (3) days prior to the Initial Closing Date, Seller shall provide written notice to Buyer of any fact, matter, condition, event or circumstance that occurs following the date of this Agreement and that, individually or in the aggregate, renders Seller unable, without amending the Disclosure Schedules, to satisfy the condition precedent under Section 3.4(b) (each, an “*Update*”). For the avoidance of doubt, the uploading of documents to the electronic data site of Seller related to the Puget Transmission Assets or other delivery of documents to Buyer or Seller, as applicable, shall not constitute written notice of an Update. In the event that Buyer does not terminate this Agreement pursuant to Section 10.1(d)(i) following delivery of such Update, then Seller shall be permitted to update the applicable Schedule(s) to properly reflect the fact, matter, condition, event or circumstance disclosed to Buyer in such Update, and the applicable representations and warranties of Seller set forth in this Agreement made following the Update shall be subject to the Schedules attached hereto, as modified or amended by such Update, for purposes of satisfying the conditions to the Initial Closing set forth in Section 3.4; provided, that, if the Initial Closing occurs, such Update shall not be deemed to have modified the Schedules for

purposes of determining whether there has been a breach of the applicable representations and warranties related to Seller's indemnification obligations in ARTICLE 9.

(b) At least three (3) days prior to the Option Closing Date, Seller shall provide Buyer with a full, complete and updated copy of the Disclosure Schedules and the Schedules to this Agreement which shall contain such disclosure as is necessary to satisfy the condition precedent under Section 4.5 (the "*Option Closing Disclosure Schedules*"). In the event that Buyer determines, in its sole discretion, that the Option Closing Disclosure Schedules contain material additional disclosures in addition to the Disclosure Schedules, Buyer shall have the right to terminate this agreement upon five (5) days written notice to Seller.

## **ARTICLE 9 INDEMNIFICATION**

**Section 9.1 Survival.** The representations and warranties of Buyer and Seller shall survive until the date that is eighteen (18) months after each respective Closing Date, except that the Seller Fundamental Representations, the Buyer Fundamental Representations shall each survive each respective Closing indefinitely. Claims for breach of any of the covenants and agreements of the Parties set forth herein must be brought no later than sixty (60) days following the expiration of the applicable statute of limitations applicable to such claims.

**Section 9.2 Indemnification By Seller.** Seller shall indemnify, save and hold harmless, Buyer, its Affiliates, and their respective Representatives (collectively, the "*Buyer Indemnified Parties*") from and against any and all costs, losses, liabilities (including liabilities arising under principles of strict or joint and several liability), damages, lawsuits, deficiencies, claims and expenses (whether or not arising out of third-party claims), including interest, penalties, additions, travel expenses, wages allocable to loss of employee time, reasonable attorneys' fees and all amounts paid in investigation, defense or settlement of any of the foregoing (collectively, the "*Damages*"), incurred by Buyer in connection with or arising out of or resulting from:

(a) any breach or inaccuracy in any of the representations or warranties of Seller contained in this Agreement, any Closing Document to which Seller is a party or any certificate delivered by or on behalf of Seller pursuant to this Agreement (any such breach or inaccuracy to be determined without regard to any qualification for "materiality," "in all material respects" or similar qualification);

(b) any breach or violation of any covenant, agreement or other obligation of Seller set forth in this Agreement or any Closing Document to which Seller is a party;

(c) if a Closing has occurred, any failure by Seller to pay, perform or discharge any Retained Liability as and when due;

(d) if a Closing has occurred, any liability, obligation or commitment of Seller of any nature (absolute, accrued, contingent or otherwise) relating to the Puget Transmission Assets and not assumed;

(e) Seller's portion of any Transfer Taxes in accordance with Section 8.9(b);  
or

(f) any fraud, willful misconduct or gross negligence in connection with this Agreement by Seller or its Affiliates.

**Section 9.3 Indemnification By Buyer.** Buyer shall indemnify, save and hold harmless, Seller, its Affiliates, and their respective Representatives (collectively, the "*Seller Indemnified Parties*") from and against any and all Damages incurred in connection with or arising out of or resulting from:

(a) any breach or inaccuracy of any representation or warranty made by Buyer in this Agreement or any Closing Document to which Buyer is a party;

(b) any breach or violation of any covenant, agreement or obligation of Buyer set forth in this Agreement or any Closing Document to which Buyer is a party;

(c) if a Closing has occurred, any failure of Buyer to pay, discharge or perform any of the Assumed Liabilities as and when due;

(d) Buyer's portion of any Transfer Taxes in accordance with Section 8.9(b);  
or

(e) any fraud, willful misconduct or gross negligence in connection with this Agreement by Buyer.

**Section 9.4 Third Party Claims.**

(a) Promptly after receipt by a Party of notice of the commencement of any Action by a third party (a "*Third Party Claim*") with respect to any matter for which indemnification is or may be owing pursuant to Section 9.2 or Section 9.3 hereof (such Party making a claim under this ARTICLE 9, an "*Indemnified Party*"), the Indemnified Party will give notice thereof to Buyer or Seller, as applicable (the "*Indemnifying Party*"); provided, however, that the failure of the Indemnified Party to notify the Indemnifying Party will not relieve the Indemnifying Party of any of its obligations hereunder, except to the extent that the Indemnifying Party demonstrates that the defense of such Third Party Claim has been actually prejudiced by the Indemnified Party's failure to give such notice.

(b) If any Action referred to in Section 9.4 is brought against an Indemnified Party and the Indemnified Party gives notice to the Indemnifying Party of the commencement of such Action, the Indemnifying Party will be entitled to participate in such Action, and (unless (i) the Indemnifying Party is also a party to such Action and the Indemnified Party determines in good faith that joint representation would be inappropriate upon the advice of outside counsel that a conflict of interest exists between the Indemnified Party and the Indemnifying Party with respect to such Action, or (ii) the Indemnifying Party fails to provide reasonable assurance to the Indemnified Party of its financial capacity to defend such Action and provide indemnification with respect to such

Action) may assume the defense of such Action with counsel reasonably satisfactory to the Indemnified Party and, after notice from the Indemnifying Party to the Indemnified Party of its election to assume the defense of such Action, the Indemnifying Party will not, as long as it diligently conducts such defense, be liable to the Indemnified Party under this Section 9.4 for any fees of other counsel with respect to the defense of such Action, in each case subsequently incurred by the Indemnified Party in connection with the defense of such Action.

(c) If the Indemnifying Party is entitled to and assumes the defense of an Action, no compromise or settlement of such claims or Action may be effected by the Indemnifying Party without the Indemnified Party's written consent unless (i) there is no effect on or grounds for the basis of any other claims that may be made against the Indemnified Party, (ii) the sole relief provided is monetary damages that are paid in full by the Indemnifying Party, and (iii) the Indemnified Party will have no liability with respect to any compromise or settlement of such claims or Action. Notwithstanding the assumption by the Indemnifying Party of the defense of any claim or Action, the Indemnified Party will be permitted to join in such defense and to employ counsel at its own expense.

(d) Notwithstanding the foregoing, if the Indemnified Party determines in good faith that there is a reasonable probability that an Action may result in the Indemnified Party or its Affiliates having to pay monetary Damages for which it would not be entitled to indemnification under this Agreement or having to perform specific performance, the Indemnified Party may, by notice to the Indemnifying Party, assume the exclusive right to defend, compromise or settle such Action, but the Indemnifying Party will not be bound by any compromise or settlement thereof effected without its written consent (which consent shall not be unreasonably withheld, delayed or conditioned).

(e) The Indemnifying Party and the Indemnified Party agree to provide each other with reasonable access during regular business hours to the properties, books and records and representatives of the other, as reasonably necessary in connection with the preparation for an existing or anticipated Action involving a Third Party Claim and its obligations with respect thereto pursuant to this ARTICLE 9.

**Section 9.5 Direct Claims.** The following procedures will apply to any claim for indemnification by an Indemnified Party that does not involve a Third Party Claim.

(a) An Indemnified Party will deliver a notice to the Indemnifying Party (a "*Notice of Claim*") as soon as practicable, but in no event later than sixty (60) days, after the Indemnified Party determines that it is or may be entitled to indemnification pursuant to this Agreement; provided, however, that failure to provide notice will not prejudice the Indemnified Party's right to indemnity, except to the extent the Indemnifying Party is prejudiced by the Indemnified Party's failure to give such notice.

(b) If the Indemnifying Party disputes (i) its obligation to indemnify the Indemnified Party in respect of any indemnification claim set forth in a Notice of Claim, or (ii) the amount of such indemnification claim set forth in a Notice of Claim (the



“*Indemnity Claim Amount*”), a dispute notice (“*Indemnification Dispute Notice*”) will be given as soon as practicable, but in no event later than thirty (30) days, after the Notice of Claim. If no Indemnification Dispute Notice is given within such thirty (30) day period, the validity of the claim for indemnification and the amount of such claim, each as set forth in the Notice of Claim, will be deemed to be agreed, effective on the first (1st) day following such thirty (30) day period, and the amount of such claim as set forth in the Notice of Claim will immediately be payable by the Indemnifying Party. If an Indemnification Dispute Notice is given within such thirty (30) day period, then:

(i) The portion, if any, of the amount of such claim which is not disputed in the Indemnification Dispute Notice will immediately be payable by the Indemnifying Party.

(ii) Buyer and Seller will negotiate in good faith to settle the dispute, and the portion, if any, of the claim amount which Buyer and Seller agree in writing is payable will be immediately payable by the Indemnifying Party.

(iii) If Buyer and Seller are unable to resolve any portion of the Indemnity Claim Amount within two (2) months following the date the Indemnification Dispute Notice is given, either Buyer or Seller may initiate proceedings in accordance with Section 9.4 to obtain resolution of the dispute.

(iv) If neither Buyer nor Seller initiates legal proceedings in respect of the dispute within twelve (12) months following the date the Indemnification Dispute Notice is given, the portion of the claim amount which is disputed will not be payable, and the Indemnified Party will have no further right, under this Agreement, to seek to recover such amount from the Indemnifying Party.

(v) If Buyer or Seller initiates legal proceedings within the twelve (12) month period specified in Section 9.5(b)(iv), the amount, if any, determined in a written final order of a court of competent jurisdiction or final non-appealable decision of an arbitrator (“*Final Order*”) as payable by the Indemnifying Party will be payable by the Indemnified Party as of the date of such Final Order.

**Section 9.6 Acknowledgement.** Seller and Buyer each acknowledge that (a) only representations, warranties, covenants or agreements expressly made in this Agreement or the Closing Documents will be deemed to be representations, warranties, covenants or agreements for purposes of this Agreement, and (b) neither Party has relied on any representation, warranty, covenant or agreement not expressly made in this Agreement or the Closing Documents in consummating the transactions herein.

**Section 9.7 Certain Limitations.** Notwithstanding any other provision of this Agreement, including ARTICLE 9:

(a) *Parallel Caps and Thresholds.* The Initial Closing and the Option Closing shall be subject to individual and mutually exclusive (i) caps on liability and (ii) aggregate threshold amounts for each of Buyer and Seller.

(b) *Seller Caps.* The aggregate Damages to which the Buyer Indemnified Parties shall be entitled as a result of indemnification claims related to breaches of representations and warranties under Section 9.2(a) with respect to each respective Closing (other than Damages arising from gross negligence, fraud, willful misconduct, breaches of Seller Fundamental Representations or Seller's liabilities under Sections 9.2(c), or 9.2(d)) shall not exceed fifteen (15) percent of the Initial Purchase Price or the Option Purchase Price, respectively.

(c) *Buyer Caps.* The aggregate Damages to which the Seller Indemnified Parties shall be entitled as a result of indemnification claims related to breaches of representations and warranties under Section 9.3(a) with respect to each respective Closing (other than Damages arising from gross negligence, fraud, willful misconduct or breaches of Buyer Fundamental Representations) shall not exceed ten (10) percent of the Initial Purchase Price or the Option Purchase Price, respectively.

(d) *Seller Thresholds.* No claim for indemnification shall be brought pursuant to Section 9.2(a) until the total Damages for which Seller would be liable under Section 9.2(a) exceeds in the aggregate a threshold amount equal to one (1) percent of the Initial Purchase Price or the Option Purchase Price, respectively, and, once such amount is exceeded, indemnification may be sought for the full aggregate amount of Damages, including indemnification for such amounts of Damages as do not exceed such respective threshold amount; provided, however, that such threshold requirement shall not apply in the case of a claim arising from any breach of the Seller Fundamental Representations.

(e) *Buyer Thresholds.* No claim for indemnification shall be brought pursuant to Section 9.3(a) until the total Damages for which Buyer would be liable under Section 9.3(a) exceeds in the aggregate a threshold amount equal to equal to one (1) percent of the Initial Purchase Price or the Option Purchase Price, respectively, and, once such amount is exceeded, indemnification may be sought for the full aggregate amount of Damages, including indemnification for such amounts of Damages as do not exceed such respective threshold amount; provided, however, that such threshold requirement shall not apply in the case of a claim arising from Buyer's breach of the Buyer Fundamental Representations.

(f) *Tax Treatment.* Any indemnity payment made pursuant to this Agreement will be treated as an adjustment to the Purchase Price for Tax purposes, unless otherwise required by applicable Law.

(g) *Qualifications.* Notwithstanding anything in this Agreement to the contrary, for purposes of the indemnification obligations under this ARTICLE 9, the representations and warranties contained in this Agreement will be considered without regard to any "material," "Material Adverse Effect" or similar non-monetary qualifications (other than Knowledge qualifications) contained therein for purposes of (i) determining the amount of any Damages and (ii) determining whether or not any breaches of such representations or warranties have occurred.

(h) *Representations and Warranties.* Notwithstanding any other provision of this Agreement, Buyer shall be entitled to be indemnified by Seller pursuant to Section 9.2 regardless of: (i) any due diligence done by Buyer and its Representatives prior to the date hereof and (ii) any knowledge or information known or available to Buyer prior to the date hereof from Seller or any other source.

## ARTICLE 10 TERMINATION AND REMEDIES

**Section 10.1 Methods of Termination.** This Agreement and the transactions contemplated hereby may be terminated prior to a Closing Date as follows:

- (a) at any time by mutual written agreement of Seller and Buyer; or
- (b) by either Seller or Buyer upon the material breach of this Agreement by the other, to be effective, if curable, upon the breaching Party's failure to cure within five (5) Business Days of notice given, and if incurable, upon notice given, provided that the Party seeking to terminate has complied with and fulfilled its obligations and undertakings under this Agreement in all material respects; or
- (c) by Seller, in the following events:
  - (i) at any time after any final, non-appealable decision is made by the applicable Governmental Authority denying any Required Regulatory Approval requested by Seller or failing to reasonably meet the request of Seller in all material respects; or
  - (ii) at any time after December 31, 2020 if the Initial Closing has not yet occurred;

*provided further*, that the event triggering Seller's termination right did not result from the failure by Seller to fulfill any undertaking or commitment provided for herein on the part of Seller that is required to be fulfilled on or prior to a Closing Date or any such applicable date.

- (d) by Buyer, in the following events:
  - (i) if a fact, matter, condition, event or circumstance first disclosed in an Update from Seller has had or would reasonably be expected to have a Material Adverse Effect; provided, that (A) Buyer has given Seller at least fifteen (15) Business Days' prior notice of the intent to terminate and (B) Seller has not cured such Material Adverse Effect during such fifteen (15) Business Day period;
  - (ii) at any time after Buyer receives the Option Closing Disclosure Schedules pursuant to Section 8.12(b);
  - (iii) at any time after any final, non-appealable decision is made by the applicable Governmental Authority denying any Required Regulatory Approval

requested by Buyer or failing to reasonably meet the request of Buyer in all material respects;

(iv) at any time after December 31, 2020 if the Initial Closing has not yet occurred;

(v) at any time after December 31, 2020, if any order or decree by any federal or state court or Governmental Authority exists which would delay or otherwise impair the consummation of the sale of the Puget Transmission Assets;

(vi) at any time if any Transmission Owner exercises a right of first refusal offered to it by the Seller (pursuant to the terms of the Colstrip Project Transmission Agreement); or

(vii) if Seller has failed to deliver to the Buyer the ROFR Resolution Notice by the date specified in Section 8.11;

*provided*, that the event triggering Buyer's termination right did not result from the failure by Buyer to fulfill any undertaking or commitment provided for herein on the part of Buyer that is required to be fulfilled on or prior to a Closing Date or any such applicable date.

**Section 10.2 Effect of Termination.** In the event either Party desires to terminate this Agreement pursuant to Section 10.1, written notice thereof shall promptly be given by the terminating Party to the other Party, and this Agreement shall terminate effective as of the later of the date such notice is received (or such later effective date as may be set forth therein) or the expiration of any cure period. If this Agreement is terminated as provided in Section 10.1, all filings, applications and other submissions made to any Governmental Authority with respect to the transactions contemplated by this Agreement and the Closing Documents (other than any filings, applications and other submissions made by Seller that do not involve Buyer) shall, to the extent practicable, be withdrawn from the Governmental Authority to which they were made; and except for those obligations set forth in ARTICLE 7, pursuant to which the Parties shall continue to be bound, no Party shall have any further obligation hereunder; provided, that such termination shall not be construed to limit or waive any right with respect to any breach of this Agreement occurring prior to such termination.

**Section 10.3 No Liability.** There shall be no liability of any shareholder, partner, member, director, officer, employee, advisor or representative of Buyer or Seller or any Affiliate thereof, whether to Buyer or Seller, as the case may be, or any other Person (including any shareholder, partner, member, director, officer, employee, advisor or representative thereof) in connection with any liability or other obligation of Buyer or Seller or any Affiliate thereof, whether hereunder or otherwise in connection with the transactions contemplated hereby.

## ARTICLE 11 DISPUTE RESOLUTION

**Section 11.1 Mutual Discussions.** If any dispute or difference of any kind whatsoever shall arise between the Parties in connection with, or arising out of, this Agreement or the

Closing Documents, or the interpretation, performance, breach, termination or validity hereof or thereof, including without limitation any claim based on contract, text or statute (the “*Dispute*”), the Parties shall attempt to settle such Dispute in the first instance by mutual discussions in accordance with this Section 11.1. Within seven (7) Business Days of the receipt by either Party of a notice from the other Party of the existence of a Dispute referring to this ARTICLE 11 (the “*Dispute Notice*”), the receiving Party shall reply with a written response (a “*Dispute Notice Response*”). Both the Dispute Notice and the Dispute Notice Response shall include (i) a statement of the relevant Party’s position with regard to the Dispute and a summary of arguments supporting such position; and (ii) the name and title of the executive who will represent that Party in attempting to resolve the Dispute pursuant to this Section 11.1. Within seven (7) Business Days of delivery of the Dispute Notice Response, the designated executives shall meet and attempt to resolve the Dispute. All negotiations pursuant to this clause shall be confidential and shall be treated as compromise and settlement negotiations, and no oral or documentary representations or offers made by the Parties during such negotiations shall be admissible for any purpose in any subsequent proceedings.

**Section 11.2 Arbitration**. If any Dispute is not resolved within thirty (30) Days of receipt of a Dispute Notice pursuant to Section 11.1, then, upon either Party’s request, the Dispute shall be finally and exclusively resolved by arbitration as follows:

- (a) The arbitration shall be held accordance with the Commercial Arbitration Rules (the “*Rules*”) of the American Arbitration Association (the “*AAA*”), then in effect, except as modified herein. The arbitration shall be held, and the award shall be issued in Chicago, Illinois.
- (b) The Parties shall appoint an arbitrator satisfactory to both Parties. If the arbitrator is not appointed within the time limit provided herein, such arbitrator shall be appointed by the AAA by using a listing, striking and ranking procedure in accordance with the Rules. Any arbitrator appointed by the AAA shall be a retired judge, preferably from a Federal District Court or Federal Court of Appeals, or a practicing attorney with no less than twenty (20) years of experience and an experienced arbitrator and if possible shall have experience with disputes relating to electric power infrastructure.
- (c) The hearing shall be held, if possible, within four (4) months after the appointment of the arbitrator, or as soon thereafter as is reasonably practicable.
- (d) By agreeing to arbitration, the entities signing this Agreement do not intend to deprive any court of its jurisdiction to issue a pre-arbitral injunction, pre-arbitral attachment, or other order in aid of arbitration proceedings and the enforcement of any award. Without prejudice to such provisional remedies as may be available under the jurisdiction of a court, the arbitrator shall have full authority to grant provisional remedies and to direct the entities signing this Agreement to request that any court modify or vacate any temporary or preliminary relief issued by such court, and to award damages for the failure of any entity signing this Agreement to respect the arbitrator’s orders to that effect.

(e) Any arbitration proceedings, decision or award rendered hereunder and the validity, effect and interpretation of this arbitration agreement shall be governed by the Federal Arbitration Act, 9 U.S.C. §1 et seq. In arriving at their decision, the arbitrator shall be bound by the terms and conditions of this Agreement and the Closing Documents and shall apply the governing law of this Agreement as designated in Section 12.2 hereof.

(f) Any controversy concerning whether a Dispute is an arbitrable Dispute or as to the interpretation or enforceability of this paragraph shall be determined by the arbitrator.

(g) The arbitrator is not empowered to award damages in excess of compensatory damages, and each Party hereby irrevocably waives any right to recover consequential, punitive, exemplary or similar damages with respect to any Dispute. The award, which shall be in writing and shall state the findings of fact and conclusions of Law upon which it is based, shall be final and binding on the Parties and shall be the sole and exclusive remedy among the Parties regarding any claims, counterclaims, issues or accounting presented to the arbitrator. Judgment upon any award may be entered in any court of competent jurisdiction. In appropriate circumstances, the arbitrator shall have the authority to order a termination of this Agreement.

(h) The arbitrator's award shall allocate, in their discretion, among the Parties to the arbitration all costs of the arbitration, including the fees and expenses of the arbitrator and reasonable attorneys' fees, costs and expert witness expenses of the Parties. The award shall be final and binding on the Parties and may be enforced in any court having jurisdiction.

## **ARTICLE 12 OTHER PROVISIONS**

**Section 12.1 Counterparts.** This Agreement may be executed in one or more counterparts, all of which, taken together, shall be considered one and the same agreement, and shall become effective when one or more counterparts have been signed by each of the Parties and delivered to the other Party.

**Section 12.2 Governing Law.** THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER AND THE TRANSACTIONS CONTEMPLATED HEREBY SHALL BE GOVERNED BY, ENFORCED, AND INTERPRETED IN ACCORDANCE WITH THE LAWS OF THE STATE OF DELAWARE WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAWS.

**Section 12.3 Entire Agreement.** This Agreement and the Confidentiality Agreement and the Schedules and Exhibits hereto and thereto contain the entire agreement between the Parties with respect to the subject matter hereof and supersedes any prior agreements, understandings, representations, or warranties between the Parties.

**Section 12.4 Notices.** Any notice, request, instruction or other document to be given hereunder by a Party hereto shall be in writing and shall be deemed to have been given (a) when delivered by hand (with written confirmation of receipt); (b) when received by the addressee if

sent by a nationally recognized overnight courier (receipt requested); (c) on the date sent by e-mail of a PDF document (with confirmation of transmission) if sent during normal business hours of the recipient, and on the next Business Day if sent after normal business hours of the recipient; or (d) on the third (3rd) Business Day after the date mailed, by certified or registered mail, return receipt requested, postage prepaid.

Notices to Seller shall be addressed as follows:

NorthWestern Corporation  
208 North Montana Ave. Suite 205  
Helena, MT 59601  
Attention: Legal Department  
Email: [Heather.Grahame@northwestern.com](mailto:Heather.Grahame@northwestern.com) and [John.Tabaracci@northwestern.com](mailto:John.Tabaracci@northwestern.com)

with copies to:

Dorsey & Whitney LLP  
50 South Sixth Street, Suite 1500  
Minneapolis, MN 55042  
Attention: B. Andrew Brown and David Swanson  
Email: [Brown.Andrew@dorsey.com](mailto:Brown.Andrew@dorsey.com) and [Swanson.Dave@dorsey.com](mailto:Swanson.Dave@dorsey.com)

or at such other address and to the attention of such other Person as Seller may designate by written notice to Buyer.

Notices to Seller shall be addressed to:

Puget Sound Energy, Inc.  
355 110th Avenue NE  
Bellevue, WA 98004  
Attention: Legal Department  
Email: [Steve.Secrist@pse.com](mailto:Steve.Secrist@pse.com) and [Samuel.Osborne@pse.com](mailto:Samuel.Osborne@pse.com)

with copies to:

Perkins Coie LLP  
1201 Third Avenue, Suite 4900  
Seattle, WA 98101  
Attention: Andrew Bor and Stephanie Hirano  
Email: [ABor@perkinscoie.com](mailto:ABor@perkinscoie.com) and [SHirano@perkinscoie.com](mailto:SHirano@perkinscoie.com)

or at such other address and to the attention of such other Person as Buyer may designate by written notice to Seller.

**Section 12.5 Successors and Assigns.** The rights and obligations of the Parties shall not be assigned or delegated by either Party, other than with the written consent of the other Party, which may be withheld in such Party's sole discretion; provided, however, that

notwithstanding the foregoing, Buyer may freely transfer its obligations hereunder to any subsidiary or financing source of Buyer, without Seller's prior consent, provided that Buyer shall remain liable for all obligations of Buyer hereunder that may be assumed by such subsidiary or financing source. Subject to the preceding sentence, this Agreement shall be-binding upon and inure to the benefit of the Parties and their successors and assigns.

**Section 12.6 Amendments.** This Agreement may not be modified or amended except by an instrument or instruments in writing signed by both Parties.

**Section 12.7 Agreement for the Parties' Benefit Only.** This Agreement is not intended to confer upon any Person not a Party hereto any rights or remedies hereunder, and no Person, other than the Parties and the Indemnified Parties is entitled to rely on any representation, warranty, covenant, or agreement contained herein.

**Section 12.8 Severability.** If any term or other provision of this Agreement is invalid, illegal, or incapable of being enforced by any applicable Law or public policy, all other conditions and provisions of this Agreement shall nevertheless remain in full force and effect. Upon such determination that any term or other provision is invalid, illegal, or incapable of being enforced, the Parties shall negotiate in good faith to modify this Agreement so as to give effect to the original intent of the Parties as closely as possible in an acceptable manner to the end that the transactions contemplated hereby are fulfilled to the extent possible.

**Section 12.9 Bulk Sales or Transfer Laws.** Buyer hereby waives compliance by Seller with the provisions of the bulk sales or transfer laws of all applicable jurisdictions. Seller agrees to pay all claims of creditors which could be asserted against Buyer because of such noncompliance. Seller indemnifies Buyer against any liability or expense, including attorneys' fees, incurred by Buyer by reason of the failure of Seller to pay such claims.

**Section 12.10 No Waiver.** No failure or delay by a Party to this Agreement in exercising any right or remedy provided by Law or under or pursuant to this Agreement shall impair such right or remedy or operate or be construed as a waiver or variation of it or preclude its exercise at any subsequent time and no single or partial exercise of any such right or remedy shall preclude any other or further exercise of it or the exercise of any other right or remedy.

**Section 12.11 Cumulative Remedies.** The rights and remedies of the Parties under or pursuant to this Agreement are cumulative, may be exercised as often as such Party considers appropriate and are in addition to its rights and remedies under general law.

**Section 12.12 Further Assurances.** The Parties agree to use Commercially Reasonable Efforts to perform (or procure the performance of) all further acts and things, and execute and deliver (or procure the execution and delivery of) such further documents, and may be required by applicable Law or as either of the Parties may reasonably require, whether on or after a Closing, to implement and/or give effect to this Agreement and the Closing Documents and the transactions contemplated herein and therein and for the purpose of vesting in the Buyer the full benefit of the Puget Transmission Assets, rights and benefits to be transferred to the Buyer under this Agreement and the Closing Documents.



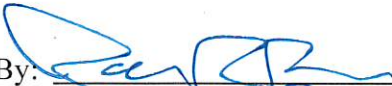
**Section 12.13 Counterparts; Effectiveness.** This Agreement may be executed in counterparts (including by PDF), each of which shall be deemed an original, but all of which together shall constitute one and the same original instrument. This Agreement shall become effective when each Party hereto shall have received a counterpart hereof signed by the other Party hereto.

**Section 12.14 Specific Performance.** Seller hereby acknowledges and agrees that money damages would not be a sufficient remedy for any breach of this Agreement by Seller, that Buyer would suffer irreparable harm as a result of any such breach, and that, in addition to all other remedies available under this Agreement or at Law or in equity, Buyer shall be entitled to specific performance and injunctive or other equitable relief as a remedy for any such breach or threatened breach, without posting any bond, security or other undertaking. In the event of any action by Buyer to enforce this Agreement, Seller hereby waives the defense that there is an adequate remedy at Law.

IN WITNESS WHEREOF, this Agreement has been signed by or on behalf of each of the Parties as of the day first above written.

Buyer:

**NORTHWESTERN CORPORATION**

By:   
Name: Robert C. Rowe  
Title: CEO

Seller:

**PUGET SOUND ENERGY, INC.**

By: \_\_\_\_\_  
Name:  
Title:

IN WITNESS WHEREOF, this Agreement has been signed by or on behalf of each of the Parties as of the day first above written.

Buyer:

**NORTHWESTERN CORPORATION**

By: \_\_\_\_\_

Name:

Title:

Seller:

**PUGET SOUND ENERGY, INC.**

By:  \_\_\_\_\_

Name: Mary Kipp

Title: President

**EXHIBIT A**  
**ASSIGNMENT AND ASSUMPTION AGREEMENT**

ASSIGNMENT AND ASSUMPTION AGREEMENT (this “*Agreement*”), dated as of [•], 2020 (the “*Effective Date*”), between PUGET SOUND ENERGY, INC., a Washington public utility corporation (“*Assignor*”), and NORTHWESTERN CORPORATION, a Delaware corporation (“*Assignee*”).

**RECITALS:**

WHEREAS, Assignor and Assignee are parties to that certain Colstrip Transmission System Purchase and Sale Agreement, dated December 9, 2019 (the “*Purchase Agreement*”);

WHEREAS, Assignor is a party to, or has obligations with respect to the Material Contracts set forth on Schedule 2.1(b) to the Purchase Agreement, each of which Assignor has agreed to assign and, except as otherwise provided herein or in the Purchase Agreement, Assignee has agreed to assume (collectively, the “*Assumed Contracts*”); and

WHEREAS, pursuant to the Purchase Agreement, Assignor agrees to assign the Assumed Contracts to Assignee and, except as otherwise provided herein or in the Purchase Agreement, Assignee agrees to assume the obligations of Assignor under the Assumed Contracts.

NOW, THEREFORE, in consideration of the foregoing, and for other good and valuable consideration, the receipt and sufficiency of which hereby are acknowledged, the parties agree as follows:

**SECTION 1. Sale and Assignment.** Except as otherwise provided herein or in the Purchase Agreement, Assignor, for good and valuable consideration to it, receipt of which is hereby acknowledged, does hereby assign, transfer, sell and convey unto Assignee all of Assignor’s right, title and interest in and to the Assumed Contracts.

**SECTION 2. Assumption.**

(a) Assignee hereby (i) assumes the obligations and liabilities of Assignor under the Assumed Contracts to the extent that such obligation or liability. relates to or arises out of the time period after the Effective Date, (ii) shall, subject to clause (i), hereafter be deemed a party to the Assumed Contracts in the same role formerly held by Assignor, (iii) confirms that it has the requisite corporate power and authority to enter into and carry out the transactions contemplated by the Assumed Contracts, and (iv) agrees that after the Effective Date it shall be bound by all the terms of, and undertake all the obligations of Assignor contained in, the Assumed Contracts, with the same force and effect as if Assignee had executed on the Effective Date each of the Assumed Contracts originally as the contracting party named therein. Each of the foregoing is for the benefit of Assignor and the other parties to the Assumed Contracts.

(b) Assignee and Assignor hereby covenant and agree to execute and to deliver to the other parties to the Assumed Contracts from time to time such other documents, instruments and agreements as they reasonably may request in order to further evidence the assignment,

assumption and substitution effected hereby or otherwise to carry out the purposes and intent of this Agreement.

(c) Upon the Effective Date, Assignor shall be released and discharged from each obligation, liability or duty pursuant to the Assumed Contracts arising or accruing on or after the Effective Date and Assignee shall be substituted in lieu of Assignor as a party to each of the Assumed Contracts to which Assignor is a party.

**SECTION 3. Successors and Assigns.** This Agreement shall be binding upon and inure to the benefit of and shall be enforceable by the parties hereto and their respective successors and assigns and shall inure to the benefit of the other parties to the Assumed Contracts and their respective successors and assigns.

**SECTION 4. Governing Law.** This Agreement, including all matters of construction, validity and performance, shall in all respects be governed by, and construed in accordance with, the law of the State of Delaware applicable to contracts made in such state and to be performed entirely within such state, without giving effect to principles relating to conflicts of law.

**SECTION 5. Counterparts.** This Agreement may be executed by the parties hereto in separate counterparts (or upon separate signature pages bound together into one or more counterparts), each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute but one and the same instrument.

*[Signature page follows]*

**IN WITNESS WHEREOF**, the parties hereto have each caused this Agreement to be duly executed and delivered by their respective officers thereunto duly authorized as of the Effective Date.

**Assignor:**

**PUGET SOUND ENERGY, INC.**

By: \_\_\_\_\_

Name:

Title:

**Assignee:**

**NORTHWESTERN CORPORATION**

By: \_\_\_\_\_

Name:

Title:

**EXHIBIT B**  
**EXCLUDED ASSETS**

None.

**EXHIBIT C  
OFFICER'S CERTIFICATE**

**[•], 2020**

The undersigned, [•], hereby certifies that he/she is the duly elected [•] of NORTHWESTERN CORPORATION, a Delaware corporation (“*Buyer*”), and that he/she is authorized to execute this Certificate on behalf of Buyer. Pursuant to Section 3.2(b) of that certain Colstrip Transmission System Purchase and Sale Agreement, dated December 9, 2019 between and PUGET SOUND ENERGY, INC., a Washington public utility corporations (“*Seller*”), and Buyer (the “*Purchase Agreement*”), the undersigned hereby certifies that:

1. the representations and warranties of Buyer set forth in Article 6 of the Purchase Agreement are true, correct and complete as of the date hereof;
2. the conditions set forth in Section 3.4 of the Purchase Agreement have been fulfilled or waived on or before the date hereof; and
3. the covenants of Buyer set forth in Article 8 of the Purchase Agreement have been fulfilled or waived in writing by Seller.

*[Signature page follows]*



**IN WITNESS WHEREOF**, the undersigned has executed this Certificate the undersigned has executed this Certificate as of the date first written above.

---

Name:

Title:

**EXHIBIT D  
OFFICER'S CERTIFICATE**

**[•], 2020**

The undersigned, [•], hereby certifies that he/she is the duly elected [•] of and PUGET SOUND ENERGY, INC., a Washington public utility corporation (“*Seller*”), and that he/she is authorized to execute this Certificate on behalf of Seller. Pursuant to Section 3.3(b) of that certain Colstrip Transmission System Purchase and Sale Agreement, dated December 9, 2019 between Seller and NORTHWESTERN CORPORATION, a Delaware corporation (“*Buyer*”) (the “*Purchase Agreement*”), the undersigned hereby certifies that:

1. the representations and warranties of Seller set forth in Article 5 of the Purchase Agreement are true, correct and complete as of the date hereof;
2. the conditions set forth in Section 3.5 of the Purchase Agreement have been fulfilled or waived on or before the date hereof; and
3. the covenants of Seller set forth in Article 8 of the Purchase Agreement have been fulfilled or waived in writing by Buyer.

*[Signature page follows]*

**IN WITNESS WHEREOF**, the undersigned has executed this Certificate the undersigned has executed this Certificate as of the date first written above.

---

Name:

Title:

*[Signature page to Seller's Officer's Certificate]*

**EXHIBIT E  
FORM OF DEED**

After Recording Return to:  
Northwestern Corporation  
Attn: Lands and Permitting  
11 East Park Street  
Butte, MT 59701

**DEED**

FOR VALUABLE CONSIDERATION, the receipt of which is acknowledged, the undersigned, Puget Sound Energy, Inc., a Washington Public utility corporation with its offices at 355 110th Avenue NE Bellevue, WA 98004 (“Grantor”) hereby grants unto Northwestern Corporation, a Delaware corporation with its offices at 11 East Park Street, Butte, MT 59701 (“Grantee”) all of Grantor’s right, title and interest in and to the following property situated in Rosebud County, Montana (the “County”):

A tract of land situated in the SE ¼ of Section 27, Township 2 North, Range 41 East, P.M.M., being Tract 1 of Certificate of Survey No. 35013, as filed with the Clerk and Recorder of Rosebud County, Montana, and containing 30.647 acres, more or less.

TOGETHER with all buildings, fixtures and improvements thereon and all rights-of-way, easements, tenements, hereditaments, privileges and appurtenances thereto (the “Property”).

The description (meaning herein both word descriptions and specific descriptions) of the Property shall be construed broadly and as inclusive and there shall be no implied exclusions because of the structure of the description of the Property or otherwise. It is Grantor’s intent to make a full and complete transfer to Grantee of all of Grantor’s right, title and interest in and to any and all real property and interests in real property, located in the County owned or otherwise vested in Grantor as of the date hereof, whatever size, wherever located and whether or not described or inaccurately or inadequately described in Exhibit A, and it is Grantor’s further intent that this deed convey after-acquired rights, titles and interests.

TO HAVE AND TO HOLD unto Grantee, and Grantee’s successors and assigns, forever, SUBJECT TO THOSE MATTERS SET FORTH ON EXHIBIT A (the “Permitted Encumbrances”). Grantor agrees to defend the same to the Grantee against the lawful claims and demands of all persons claiming by, through or under Grantor, but against no other persons.

EXCEPT with reference to the items referred to in paragraphs (a) to (e) inclusive, this deed is given with the usual covenants expressed in Montana Code Annotated § 30-11-110.

Grantor also hereby conveys to Grantee, its successors and assigns, all rights of Grantor, to the extent assignable, in and to all covenants and warranties with respect to the Property made by Grantor's predecessors in title and with full subrogation of all rights accruing under such covenants and warranties and the statutes of limitation, repose or prescription under the laws of Montana and all rights of action of warranty against all former owners of the Property.

Grantor agrees to take all such further action and execute, acknowledge and deliver all such further documents as may be reasonably necessary or useful to accomplish the purposes of this Deed and to evidence Grantee's interests of record.

This Deed shall be binding upon and shall inure to the benefit of Grantor and Grantee and their respective successors, legal representatives and assigns.

[Signature and acknowledgment on the following page]



**EXHIBIT E  
FORM OF DEED**

**EXIBIT B**

**PERMITTED ENCUMBRANCES:**

[To be provided]

**EXHIBIT E  
FORM OF DEED**

After Recording Return to:  
Northwestern Corporation  
Attn: Lands and Permitting  
11 East Park Street  
Butte, MT 59701

**DEED**

FOR VALUABLE CONSIDERATION, the receipt of which is acknowledged, the undersigned, Puget Sound Energy, Inc., a Washington Public utility corporation with its offices at 355 110th Avenue NE Bellevue, WA 98004 (“Grantor”) hereby grants unto Northwestern Corporation, a Delaware corporation with its offices at 11 East Park Street, Butte, MT 59701 (“Grantee”) all of Grantor’s right, title and interest in and to the following property situated in Yellowstone County, Montana (the “County”):

A tract of land situated in Section 34, Township 4 North, Range 23 East, P.M.M., being Tract B of Certificate of Survey No. 1520 Amended, as filed with the Clerk and Recorder of Yellowstone County, Montana, and containing 90.55 acres, more or less.

TOGETHER with all buildings, fixtures and improvements thereon and all rights-of-way, easements, tenements, hereditaments, privileges and appurtenances thereto (the “Property”).

The description (meaning herein both word descriptions and specific descriptions) of the Property shall be construed broadly and as inclusive and there shall be no implied exclusions because of the structure of the description of the Property or otherwise. It is Grantor’s intent to make a full and complete transfer to Grantee of all of Grantor’s right, title and interest in and to any and all real property and interests in real property, located in the County owned or otherwise vested in Grantor as of the date hereof, whatever size, wherever located and whether or not described or inaccurately or inadequately described in Exhibit A, and it is Grantor’s further intent that this deed convey after-acquired rights, titles and interests.

TO HAVE AND TO HOLD unto Grantee, and Grantee’s successors and assigns, forever, SUBJECT TO THOSE MATTERS SET FORTH ON EXHIBIT A (the “Permitted Encumbrances”). Grantor agrees to defend the same to the Grantee against the lawful claims and demands of all persons claiming by, through or under Grantor, but against no other persons.

EXCEPT with reference to the items referred to in paragraphs (a) to (e) inclusive, this deed is given with the usual covenants expressed in Montana Code Annotated § 30-11-110.



Grantor also hereby conveys to Grantee, its successors and assigns, all rights of Grantor, to the extent assignable, in and to all covenants and warranties with respect to the Property made by Grantor's predecessors in title and with full subrogation of all rights accruing under such covenants and warranties and the statutes of limitation, repose or prescription under the laws of Montana and all rights of action of warranty against all former owners of the Property.

Grantor agrees to take all such further action and execute, acknowledge and deliver all such further documents as may be reasonably necessary or useful to accomplish the purposes of this Deed and to evidence Grantee's interests of record.

This Deed shall be binding upon and shall inure to the benefit of Grantor and Grantee and their respective successors, legal representatives and assigns.

[Signature and acknowledgment on the following page]



**EXHIBIT E  
FORM OF DEED**

**EXIBIT B**

**PERMITTED ENCUMBRANCES:**

[To be provided]

**EXHIBIT F**  
**FORM OF WAIVER OF RIGHT OF FIRST REFUSAL**

[Date]

[Owner's Name and Address]

Re: Rights of First Refusal pursuant to the Colstrip Project Transmission Agreement, as last dated September 27, 2013 among NorthWestern Corporation, Puget Sound Energy Inc., Avista Corporation, Portland General Electric Company and PacifiCorp, as amended from time to time

Ladies and Gentlemen:

Any capitalized term not defined in this letter shall have the definition set forth in the Colstrip Project Transmission Agreement.

Puget Sound Energy Inc. ("*PSE*"), has entered into a binding Colstrip Transmission System Purchase and Sale Agreement, dated December 9, 2019 (the "*Purchase Agreement*"), pursuant to which it has agreed to sell to Northwestern Corporation, a Delaware corporation ("*Buyer*") and Buyer has agreed to buy PSE's undivided interest in the Puget Transmission Ownership Interest representing not less than 95 MW, consisting of not less than a four and 2/10ths percent (4.2%) interest in the Colstrip to Broadview Segment and a four and 9/10ths percent (4.9%) interest in the Broadview to Townsend Segment for a price to be determined at the time of closing pursuant to Section 2.2 of the Purchase Agreement (the "*Transaction*"). An execution copy of the Purchase Agreement is enclosed herewith.

Section 28 of the Colstrip Project Transmission Agreement requires PSE to offer its Project Share to the other Transmission Owners "at the amount of, and on terms not less advantageous than, those of a bona fide offer from a buyer able and willing to purchase such Owner's or Transmission Owner's interest." The portion of such interest to be offered to each Transmission Owner must be equal to the proportionate interest of each Transmission Owner in the Project after excluding the interest being offered. Accordingly, PSE hereby formally offers to you the right to purchase your proportionate share of its Project Share. The Colstrip Project Transmission Agreement requires that such offer be held open for a period of 90 days. Further, if at the end of the 90-day period, any Transmission Owner shall have failed to accept such offer, the proportionate interest offered to such Transmission Owner shall be offered on a pro rata basis to the other Transmission Owners, who shall have a further period of 7 days to accept the same. The process shall be repeated until all Transmission Owners then being offered an interest shall have failed to accept such offer.

Should you choose to exercise your right of first refusal, you must submit, and be fully prepared and capable of executing and consummating, a purchase agreement that contains terms no less advantageous than the terms and conditions set forth in the attached Purchase Agreement.

Should you decline to exercise your right of first refusal, PSE respectfully requests that you expressly waive your right of first refusal and/or right of first offer under Section 28 of the Colstrip Project Transmission Agreement with respect to the Transaction in order to expedite PSE's closing of the Transaction with Buyer. If you are willing to waive such right, please countersign a copy of this letter below under "WAIVER" and return it to the undersigned as soon as possible. PSE has made the same request of all other Transmission Owners.

If you do not affirmatively exercise your right to purchase your proportionate share of PSE's Project Share within 90 days of the date of this letter, your rights pursuant to Section 28 of the Colstrip Project Transmission Agreement with respect to the Transaction will be deemed to be waived.

Thank you for your prompt consideration of this matter.

Very truly yours,

PUGET SOUND ENERGY, INC.

By: \_\_\_\_\_

Title: \_\_\_\_\_

Enclosures

**WAIVER**

The undersigned hereby agrees to waive its right of first refusal and/or right of first offer under Section 28 of the Colstrip Project Transmission Agreement in connection with the Transaction described above.

[OWNER'S NAME]

Date: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

[ATTACHMENT: EXECUTED COPY OF PURCHASE AND SALE AGREEMENT]

## DISCLOSURE SCHEDULE

This disclosure schedule (this “Disclosure Schedule”) is delivered in connection with that certain Colstrip Transmission System Purchase and Sale Agreement, dated as of December 9, 2019 (the “Agreement”), by and between NORTHWESTERN CORPORATION, a Delaware corporation (“Buyer”) and PUGET SOUND ENERGY, INC., a Washington public utility corporation (the “Seller”). Capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Agreement.

Any fact or condition disclosed in any section or paragraph of this Disclosure Schedule shall qualify as disclosures pursuant to any other sections or paragraphs under the Agreement where such disclosure is reasonably apparent on the face of such disclosures, whether or not repeated under any section number where such disclosure might be deemed appropriate.

Matters reflected in this Disclosure Schedule are not necessarily limited to matters required by the Agreement to be reflected herein. Such additional matters are set forth for informational purposes and do not necessarily include other matters of a similar informational nature. Any disclosure of a fact or circumstance shall not establish, or constitute an admission of, the materiality of such fact or such circumstance or such fact’s or circumstance’s consequence or relevance to materiality, to a Material Adverse Effect. The information contained herein is disclosed solely for the purposes of the Agreement, and no information contained herein shall be deemed to be an admission by any party hereto to any third party of any matter whatsoever, including any violation of applicable Law or breach of any agreement.

In accordance with Section 12.3 of the Agreement, this Disclosure Schedule is deemed to be part of the entire agreement of the parties with respect to the subject matter of the Agreement. Any item of information disclosed in this Disclosure Schedule shall be subject to the terms of the Confidentiality Agreement.

Headings and numbers (other than numerical references to sections and subsections of the Agreement) have been inserted in some of the sections of this Disclosure Schedule for convenience of reference only, and such headings or numbers (other than numerical references to sections and subsections of the Agreement) shall not have the effect of amending or changing the express description of the section of this Disclosure Schedule as set forth in the Agreement.



## Schedule 1

### Puget Transmission Ownership Interest

The facilities described in this Schedule 1 and related facilities, real property and property rights, including but not limited to the real property described in Schedule 2.1(a).

#### COLSTRIP-BROADVIEW SEGMENT

##### 500 kV Transmission Line Sections

1. One overhead 500 kV line, approximately 116 miles long, extending from the Colstrip 500 kV switchyard to the Broadview 500 kV switchyard NW of Billings, Montana.
2. One existing overhead 500 kV line, that was previously operated as a double circuit 230 kV line and which was converted to a single circuit 500 kV line, extending approximately 113 miles from the Colstrip 500 kV switchyard to the Broadview 500 kV switchyard NW of Billings, Montana.

##### 500kV Switchyards and Substations

3. The Colstrip 500 kV switchyard immediately east of Montana's existing Colstrip 230kV switchyard and substation, including the following major equipment and associated structures and facilities:
  - 7 – 500 kV Power Circuit Breakers
  - 2 Banks – 500 kV Shunt Line Reactors (approx. 100 Mvar. each)
  - 2 Banks – 500/230/34.5 kV, Autotransformers (approx. 300/400/500 Mva. each)
  - 2 – 230 kV 3 Ø Disconnect Switches to Interconnect with Montana's Existing 230 kV Bus
  - 2 Banks – 34.5 kV Switchable Shunt Reactors for System Voltage Control (approx. 45 Mvar. each)
  - 34.5 kV Station Power Transformers
  - Ground Mat, Excluding Underground Ties to the Plant Ground Mat
  - Conduits to Montana's 230 kV Switchyard Control House and to the Generating Units #1, #2, #3, and #4 Extending Only to the First Manhole Outside the Switchyard Fence
  - Control Cables to Montana's 230 kV Switchyard Control House, but Excluding Such Cables to the Generating Units #1, #2, #3, and #4
  - Fencing, Except Immediately Adjacent to Montana's Existing 230 kV Switchyard
  - 1 – Control House, including Supervisory Control, Telemetry, Relaying and Other Equipment and Devices therein
  - 1 – Emergency Internal Combustion Generator Set
4. A portion of the Broadview 500 kV switchyard immediately north of Montana's existing Broadview 230 kV switchyard and substation, including the following major equipment and associated structures and facilities related to the Colstrip-Broadview 500 kV lines and the Broadview 500/230/34.5 kV Autotransformers:

All 500 kV Transmission Line Relays  
2 Banks – 500 kV Shunt Line Reactor (approx. 100 Mvar. each), including relays  
2 Banks – 500 kV Series Capacitors, including relays  
1 Bank – 34.5 kV Switchable Shunt Reactors for System Voltage Control (approx. 90 Mvar.), including relays

\* 1/3 of 2 Banks – 500/230/34.5 kV Autotransformers (approx. 360/480/600 Mva. each), including relays

\*\* 7/18 of the following Common Facilities:

\*\*\* 7 – 500 kV Power Circuit Breakers and 500 kV Buswork  
230 kV Buswork to Interconnect at Two Existing Disconnect Switches in Montana's 230 kV bus  
2 – 34.5 kV Station Power Transformers  
Fencing, Except Immediately Adjacent to Montana's Existing 230 kV Switchyard  
1 – Switchyard Control House  
1 – Warehouse  
1 – Emergency Internal Combustion Generation Set  
Supervisory Control, Telemetry, Relaying and Other Equipment and Devices in the Control House which are Directly Related to the Common Facilities Listed Herein

\* Not including 2/3 owned exclusively by Montana

\*\* Not including 2/9 owned exclusively by Montana

\*\*\* Allocations of Common Facilities are based on the following:

1st level – between line positions and transformer positions:

2/6 to transformers and 4/6 to lines

2nd level – between Transmission System and Montana;

Transformers: 1/3 to Transmission System and 2/3 to Montana

Lines: 100% to Transmission System and 0% to Montana

3rd level – between Segments:

Transmission System: 1/2 to Colstrip-Broadview Segment and

1/2 to Broadview-Townsend Segment

Allocation to Colstrip-Broadview Segment of Transmission System is therefore:

$$1/2 (1 \times 4/6 + 1/3 \times 2/6) = 7/18$$

### Allocation Computer and ATRs

5. One-half (1/2) of the Allocation Computer and ATRs.

The term "Allocation Computer" as used herein refers to the equipment and computer software primarily located at Montana Power Company's Systems Operations Control Center in Butte, Montana, which is used to measure the output of each owners' share of

electrical generation from Colstrip Units 1& 2 and Colstrip Units 3&4 and allocates to each owner the associated transmission losses for their share of the generation output.

The term “ATRs” as used herein refers to the acceleration trend relays, which include equipment and computer systems used to detect acceleration in the generation shafts of Colstrip Units 1&2 and Colstrip Units 3&4, and selectively trips the appropriate Colstrip units(s) and the generation at the Montana One project, so that the electrically connected system meets the stability requirements of WSCC.

## BROADVIEW-TOWNSEND SEGMENT

### 500 kV Transmission Line Sections

1. Two overhead 500 kV lines, each approximately 133 miles long, extending from the Broadview 500 kV switchyard to the interconnection point with Bonneville Power Administration’s 500 kV double-circuit line near Townsend, Montana.

### 500 kV Switchyards and Substations

2. A portion of the Broadview 500 kV switchyard immediately north of Montana’s existing Broadview 230 kV switchyard and substation including the following major equipment and associated structures and facilities related to the Broadview-Townsend 500 kV lines:

All 500 kV Transmission Line Relays

2 Banks – 500 kV Shunt Line Reactors (approx. 225 Mvar. (each))  
including relays

2 – Neutral Reactors for Single Pole Switching, including relays

1 Bank – 34.5 kV Switchable Shunt Reactors for System Voltage  
Control (approx. 90 Mvar.), including relays

\*\* 7/18 of the following Common Facilities:

\*\*\*\* 7 – 500 kV Power Circuit Breakers and 500 kV Buswork

230 kV Buswork to Interconnect at Two Existing Disconnect  
Switches in Montana’s 230 kV Bus

2 – 34.5 kV Station Power Transformers

Fencing, Except Immediately Adjacent to Montana’s Existing 230  
kV Switchyard

1 – Switchyard Control House

1 – Warehouse

1 – Emergency Internal Combustion Generation Set

Supervisory Control, Telemetry, Relaying and Other Equipment  
and Devices in the Control House which are Directly Related to  
the Common Facilities Listed Herein

\*\* Not including 2/9 owned exclusively by Montana

\*\*\* Allocations of Common Facilities are based on the following:

1st level – between line positions and transformer positions:  
2/6 to transformers and 4/6 to lines

2nd level – between Transmission System and Montana:  
Transformers: 1/3 to Transmission System and 2/3 to Montana  
Lines: 100% to Transmission System and 0% to Montana

3rd level – between Segments:  
Transmission System: 1/2 to Colstrip-Broadview Segment and  
1/2 to Broadview-Townsend Segment

Allocation to Broadview-Townsend Segment of Transmission System is therefore:

$$1/2 (1 \times 4/6 + 1/3 \times 2/6) = 7/18$$

### Allocation Computer and ATRs

#### 3. One-half (1/2) of the Allocation Computer and ATRs.

The term “Allocation Computer” as used herein refers to the equipment and computer software primarily located at Montana Power Company’s Systems Operations Control Center in Butte, Montana, which is used to measure the output of each owners’ share of electrical generation from Colstrip Units 1& 2 and Colstrip Units 3&4 and allocates to each owner the associated transmission losses for their share of the generation output.

The term “ATRs” as used herein refers to the acceleration trend relays, which include equipment and computer systems used to detect acceleration in the generation shafts of Colstrip Units 1&2 and Colstrip Units 3&4, and selectively trips the appropriate Colstrip units(s) and the generation at the Montana One project, so that the electrically connected system meets the stability requirements of WSCC.

### OTHER

The SSR Protection Systems are not included in the Transmission System.

The term “SSR Protection Systems” as used herein refers to the plant protection relay equipment that protects Colstrip Units 1&2 and Colstrip Units 3&4 against subsynchronous resonance.

## **Schedule 1(a)**

### **Initial Purchase Assets**

An undivided interest in the Puget Transmission Ownership Interest representing 95 MW, consisting of four and 2/10ths percent (4.2%) interest in the Colstrip to Broadview Segment and a four and 9/10ths percent (4.9%) interest in the Broadview to Townsend Segment.

## **Schedule 1(b)**

### **Option Assets**

An undivided interest in the Puget Transmission Ownership Interest representing 90 MW, consisting of a four percent (4%) interest in the Colstrip to Broadview Segment and a four and 2/10ths percent (4.2%) interest in the Broadview to Townsend Segment.

## Schedule 2.1(a)

### Real Property

1. The Broadview Switchyard is located on the following real property:

A tract of land situated in Section 34, Township 4 North, Range 23 East, P.M.M., being Tract B of Certificate of Survey No. 1520 Amended, as filed with the Clerk and Recorder of Yellowstone County, Montana, and containing 90.55 acres, more or less.

2. The Colstrip Switchyard is located on the following real property:

A tract of land situated in the SE  $\frac{1}{4}$  of Section 27, Township 2 North, Range 41 East, P.M.M., being Tract 1 of Certificate of Survey No. 35013, as filed with the Clerk and Recorder of Rosebud County, Montana, and containing 30.647 acres, more or less.

3. In connection with the operation of the Colstrip Project Transmission System (as defined in the Colstrip Project Transmission Agreement), there are certain leases, subleases and easements held by operators or other service providers of the Colstrip Project Transmission System. As an owner of Colstrip Unit 4, Seller may have certain indirect rights and obligations in connection with these leases, subleases and easements despite Seller not being a party to those leases, subleases and easements.<sup>1</sup>

---

<sup>1</sup> Note to Draft: Seller and Buyer agree to revise this schedule between signing and closing to reflect the various easements in connection with the transmission lines.

**Schedule 2.1(b)**

**Material Contracts**

1. Colstrip Project Transmission Agreement.



## Schedule 5.4

### Title to Puget Transmission Assets

1. Fortieth Supplemental Indenture dated as of September 1, 1954, supplemental to and modifying First Mortgage dated as of June 2, 1924, defining the rights of the holders of Puget Sound Energy, Inc.'s Electric Utility First Mortgage Bonds, as amended, supplemented and modified by the supplemental indentures entered into thereafter (the "Electric Mortgage")
2. Indenture of First Mortgage dated as of April 1, 1957, defining the rights of the holders of Puget Sound Energy, Inc.'s Gas Utility First Mortgage Bonds, as amended, supplemented and modified by the supplemental indentures entered into thereafter (the "Gas Mortgage")
3. Puget Sound Energy, Inc. issued pollution control bonds in May 2013, which are secured by Senior Notes, which are in turn secured by bonds issued under the Electric Mortgage.

**Schedule 5.5**

**No Violation or Breach**

None.

## **Schedule 5.6**

### **Consents**

1. The Colstrip Project Transmission Agreement requires Seller to offer its interest in the Colstrip Project Transmission System to the other Transmission Owners prior to consummation of the transactions contemplated by the Agreement.
2. The Ownership and Operation Agreement, dated May 6, 1981, as amended by Amendment No. 1 dated October 11, 1991, Amendment No. 2 dated July 13, 1998, Amendment No. 3 entered into in 2004, and Amendment No. 4 entered into in 2008, between Buyer, Seller, Portland General Electric Company, the Washington Water Power Company (now Avista) and Pacific Power & Light Company (now PacifiCorp) requires Seller to offer its Project Share (as defined in the Ownership and Operation Agreement) to the other Project Users (as defined in the Ownership and Operation Agreement) prior to consummation of the transactions contemplated by the Agreement Colstrip Unit 4 Purchase and Sale Agreement executed simultaneously with the Agreement.

**Schedule 5.7**  
**Actions Pending**

None.

**Schedule 5.8**

**Compliance with Applicable Law**

None.

## **Schedule 5.9(a)**

### **Real Property**

1. Fortieth Supplemental Indenture dated as of September 1, 1954, supplemental to and modifying First Mortgage dated as of June 2, 1924, defining the rights of the holders of Puget Sound Energy, Inc.'s Electric Utility First Mortgage Bonds, as amended, supplemented and modified by the supplemental indentures entered into thereafter (the "Electric Mortgage")
2. Indenture of First Mortgage dated as of April 1, 1957, defining the rights of the holders of Puget Sound Energy, Inc.'s Gas Utility First Mortgage Bonds, as amended, supplemented and modified by the supplemental indentures entered into thereafter (the "Gas Mortgage")
3. Puget Sound Energy, Inc. issued pollution control bonds in May 2013, which are secured by Senior Notes, which are in turn secured by bonds issued under the Electric Mortgage.

**Schedule 5.10**

**Material Changes since December 31, 2018**

None.

**Schedule 5.14**

**Material Contracts**

See Schedule 2.1(b).



## **Schedule 5.15**

### **Licenses**

In connection with the operation of the Colstrip Project Transmission System (as defined in the Colstrip Project Transmission Agreement), there are certain Permits, licenses, permissions, authorizations and consents held by or obtained by the operators or other service providers of the Colstrip Project Transmission System. As an owner of Colstrip Unit 4, Seller may have certain indirect rights and obligations in connection with these leases, subleases and easements despite Seller not being a party to those Permits, licenses, permissions, authorizations and consents.

## **Schedule 5.16**

### **Insurance**

1. Seller maintains insurance policies on plants and substations it owns, which may cover transmission lines in the Colstrip Project Transmission System (as defined in the Colstrip Project Transmission Agreement) from such plant or substation up to 1,000 feet.
2. To Seller's Knowledge, a general liability insurance policy is maintained on behalf of all of the Transmission Owners, collectively, with respect to the Colstrip Project Transmission System.
3. Seller maintains general liability insurance for its operations.

**Schedule 5.17**  
**Environmental Matters**

None.

**Schedule 8.1**

**Conduct of Business Pending Closing**

None.

9 **PREFILED DIRECT TESTIMONY**

10 **OF ANDREW D. DURKIN**

11 **ON BEHALF OF NORTHWESTERN ENERGY**

12  
13 **TABLE OF CONTENTS**

14	<b><u>Description</u></b>	<b><u>Starting Page No.</u></b>
15	Witness Information	2
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18	Power Costs and Credits Adjustment Mechanism	9
19	Capacity Acquisition Derivation of Rates	10
20	Post-PPA Revenue Requirement and PCCAM	11
21		
22	<b><u>Exhibits</u></b>	
23	Test Period Revenue Requirement	Exhibit ADD-1
24	Proposed Changes to NorthWestern's Annual Power Costs and Credits Adjustment Mechanism Tariff	Exhibit ADD-2
25	Illustrative Derivation of Rates	Exhibit ADD-3
26	Illustrative Customer Bill Impact	Exhibit ADD-4

1 **Witness Information**

2 **Q. Please provide your name, employer, and title.**

3 **A.** My name is Andrew D. Durkin. I am NorthWestern Energy's ("NorthWestern")  
4 Manager of Regulatory Affairs.

5  
6 **Q. Please provide a description of your relevant employment experience  
7 and other professional qualifications.**

8 **A.** I have been with NorthWestern for almost five years. In my current position  
9 as Manager of Regulatory Affairs, I primarily manage the preparation of the  
10 testimony, exhibits, and workpapers in NorthWestern's proceedings before  
11 the Montana Public Service Commission ("Commission") and the Federal  
12 Energy Regulatory Commission. Before serving in this role, I worked in  
13 NorthWestern's Finance Department as a Property Accountant addressing  
14 various utility plant and rate base-related issues. Prior to joining  
15 NorthWestern, I was an accountant for a regional accounting firm based in  
16 Montana. I have a Bachelor of Science in Accounting, a Master of  
17 Professional Accountancy, and am a Certified Public Accountant.

18  
19 **Purpose of Testimony**

20 **Q. What is the purpose of your testimony?**

21 **A.** I explain NorthWestern's ratemaking and regulatory treatment of the  
22 acquisition ("Capacity Acquisition") of Puget Sound Energy, Inc.'s ("Puget")  
23 interest in Colstrip Unit 4 ("CU4"). Specifically, I present the Test Period

1 Revenue Requirement and related calculations. In addition, I present  
2 changes to NorthWestern’s Power Costs and Credits Adjustment Mechanism  
3 (“PCCAM”) tariff to designate certain customer benefits of the Capacity  
4 Acquisition to the environmental compliance, remediation, and  
5 decommissioning fund (“Reserve Fund”). Finally, I present illustrative rate  
6 impacts related to the Test Period Revenue Requirement and the Capacity  
7 Acquisition Offset in the PCCAM, which, overall, result in no immediate  
8 change to customer rates.

9

10 **Test Period Revenue Requirement**

11 **Q. Did you calculate a Test Period Revenue Requirement for the Capacity**  
12 **Acquisition?**

13 **A.** Yes, I calculated a Test Period Revenue Requirement amount of \$7,447,343  
14 for 95 megawatts (“MW”) of the proposed 185-MW acquisition. NorthWestern  
15 is not seeking approval of a revenue requirement for the remaining 90 MW in  
16 this filing because for the approximately five-year term of the Power Purchase  
17 Agreement (“PPA”) with Puget, NorthWestern will recover the revenue  
18 requirement for the 90 MW through the PPA.

19

20 **Q. What is the test period?**

21 **A.** NorthWestern used 2021 as the test period. Assuming the transaction closes  
22 at the end of 2020, 2021 is the first full year the additional resource will be in  
23 rate base.

1 **Q. Have you prepared an exhibit that presents a calculation of the Test**  
2 **Period Revenue Requirement?**

3 **A.** Yes, Exhibit ADD-1 reflects the Test Period Revenue Requirement. Page 1  
4 of this exhibit presents a summary of the cost of service elements that make  
5 up the Test Period Revenue Requirement.

6

7 **Q. What methodology was used to develop the Test Period Revenue**  
8 **Requirement?**

9 **A.** Montana law defines Generation Asset Cost of Service as “a return on  
10 invested capital and all costs associated with the acquisition, construction,  
11 administration, operation, and maintenance of a plant or equipment owned or  
12 leased by a public utility and used for the production of electricity.” § 69-8-  
13 103(13), MCA. Based on this definition and the Commission’s practices  
14 related to utility-owned assets, the standard regulated revenue requirement  
15 formula used to develop the Test Period Revenue Requirement was:

16

$$RR = [(AC - D) * RoR] + E$$

17

RR = Revenue Requirement

18

AC = Asset Cost

19

D = Accumulated Depreciation adjusted for Deferred Income

20

Taxes

21

RoR = Allowed Rate of Return



1 E = Expenses (i.e., Operation and Maintenance, Administrative  
2 and General, Depreciation, Taxes Other than Income and  
3 Income Taxes)  
4

5 NorthWestern's Cost of Service or Standard Test Period Revenue  
6 Requirement Model ("Cost of Service Model") was used to perform this  
7 computation. The detailed elements of the Test Period Revenue  
8 Requirement as they relate to the above equation are explained below and  
9 shown on the pages of Exhibit ADD-1.  
10

11 **Q. Please describe how the 13-Month Average Rate Base on page 1, line**  
12 **21, Column G of Exhibit ADD-1 was derived.**

13 **A.** This value represents the \$1 Capacity Acquisition price, reduced by the  
14 amount of working capital. Cash working capital is the amount of  
15 shareholder-supplied capital required to fund the day-to-day operations of a  
16 company.  
17

18 **Q. Please describe the computation of working capital on line 19 of that**  
19 **same page.**

20 **A.** Cash working capital accounts for the timing differences between when  
21 service is provided to customers and revenues are received and when  
22 NorthWestern receives services from vendors and when it pays for those  
23 services. Cash working capital would typically be an addition to a utility's rate

1 base as shareholder capital would be required to fund day-to-day operations.  
2 However, in NorthWestern's case, the utility's operations provide a source of  
3 cash that offsets capital required from shareholders. This is largely due to the  
4 significant amount of property taxes imposed on NorthWestern that are  
5 recovered from customers and provide a source of cash until those property  
6 tax payments are actually made. The working capital computation is reflected  
7 on page 2 of Exhibit ADD-1.

8

9 **Q. What is the return that NorthWestern is currently requesting related to**  
10 **this asset purchase?**

11 **A.** NorthWestern is using a 6.92% overall rate of return, the computation of  
12 which is presented on page 3 of Exhibit ADD-1. That rate is the most recent  
13 approved rate of return from NorthWestern's 2018 Electric General Rate  
14 Review, Docket No. 2018.02.012. However, NorthWestern is actually  
15 calculating a negative return in the Test Period Revenue Requirement. Since  
16 the purchase price of this acquisition is only \$1, NorthWestern will, initially,  
17 only include \$1 of net plant in rate base. Another component of rate base is  
18 working capital, which, for NorthWestern, is a negative amount. Therefore,  
19 the negative rate base leads to a negative return of (\$122,232), which is  
20 shown on page 1, line 25 of Exhibit ADD-1.

21

22 **Q. Please describe the Operation and Maintenance ("O&M") Expense on**  
23 **page 1, line 42 of Exhibit ADD-1.**

1 **A.** The O&M Expense is the estimated cost to operate and maintain the 95-MW  
2 portion of the Capacity Acquisition. The Prefiled Direct Testimony of Michael  
3 J. Barnes explains how costs were derived for CU4. Twenty-five percent of  
4 those total cost amounts represents the 185-MW portion of CU4. Then a  
5 95/185 ratio was applied to those amounts to arrive at the total costs for the  
6 95-MW portion of the Capacity Acquisition.

7  
8 **Q. Describe the Property Taxes included on page 1, line 43 of Exhibit**  
9 **ADD-1.**

10 **A.** NorthWestern obtained actual 2017-2018 property taxes from Puget related  
11 to Puget's ownership interest in CU4. NorthWestern then estimated property  
12 taxes for the test period by adjusting Puget's amounts for estimated inflation.

13  
14 **Q. What are the Montana Consumer Counsel ("MCC") and Montana Public**  
15 **Service Commission ("MPSC") taxes on page 1, line 31 of Exhibit ADD-1**  
16 **and how were they computed?**

17 **A.** The MCC and MPSC taxes are levied by the Montana Department of  
18 Revenue and fund the operation of these agencies. These taxes were  
19 computed based on the latest tax rates from October 1, 2019 and approved  
20 through Notices of Commission Action in Docket Nos. 2019.09.070 and  
21 2019.09.071. These tax rates are applied to the Test Period Revenue  
22 Requirement which is shown on page 1, line 36 of Exhibit ADD-1 to derive the

1 amount of taxes. These taxes are included in the Total Cost of Service  
2 amount on line 34.

3

4 **Q. Please describe the computation of Current Income Tax Expense shown**  
5 **on page 1, line 33 of Exhibit ADD-1.**

6 **A.** Current federal and state income tax rates were applied to the estimated test  
7 period taxable income for this filing. Taxable income was computed by  
8 subtracting O&M Expenses, Property Taxes, and MPSC/MCC Taxes from the  
9 revenues associated with the Test Period Revenue Requirement. Normally,  
10 an interest expense would have been subtracted from revenues to arrive at  
11 taxable income; however, in this case, since NorthWestern is only seeking \$1  
12 of net plant to add to rate base, the negative amount of cash working capital  
13 led to a negative rate base value. As a result, the interest expense was  
14 calculated by applying NorthWestern's debt portion of the overall rate of  
15 return, 2.16% as approved in Docket No. 2018.02.012, to the average rate  
16 base. Since rate base was negative, the interest expense was also negative.  
17 The result was a negative current income tax expense amount of (\$30,077).

18

19 **Q. What is the Total Cost of Service on page 1, line 34 of Exhibit ADD-1?**

20 **A.** This is the sum of the expenses shown on page 1, lines 28 through 33.

21

22 **Q. What is the Test Period Revenue Requirement shown on page 1, line 36**  
23 **of Exhibit ADD-1?**

1 **A.** This total includes the Total Cost of Service reduced by the negative return  
2 associated with cash working capital.

3

4 **Power Costs and Credits Adjustment Mechanism**

5 **Q. Will the Test Period Revenue Requirement result in an overall rate  
6 increase for customers?**

7 **A.** No. As explained in the Prefiled Direct Testimony of Kevin J. Markovich, the  
8 Test Period Revenue Requirement will be offset by the Capacity Acquisition  
9 Offset in the PCCAM, holding overall customer costs constant. In addition, if  
10 NorthWestern's actual purchased power costs are lower than the base power  
11 costs and credits ("PCC"), 90% of those savings will flow to the Reserve  
12 Fund.

13

14 **Q. Does the PCCAM tariff provide for customers to receive 90% of the  
15 savings below the base PCC?**

16 **A.** Yes. The current tariff provides for a 90/10 sharing ratio between customers  
17 and NorthWestern for costs above and below the base PCC. In this docket,  
18 NorthWestern proposes to flow 90% of the savings into the Reserve Fund,  
19 instead of providing customers with a direct rebate. To allow these customer  
20 benefits to flow into the Reserve Fund, NorthWestern has proposed revisions  
21 to the PCCAM tariff, which is presented as Exhibit ADD-2.

22

23

1 **Capacity Acquisition Derivation of Rates**

2 **Q. When does NorthWestern propose to adjust the rates to include the Test**  
3 **Period Revenue Requirement and the Capacity Acquisition Offset?**

4 **A.** NorthWestern proposes that rates be adjusted to implement the approved  
5 Test Period Revenue Requirement and Capacity Acquisition Offset in  
6 conjunction with the acquisition date which is anticipated to be October 1,  
7 2020.

8  
9 **Q. What load data does NorthWestern propose to use to compute and**  
10 **implement final rates following a Commission order in this docket?**

11 **A.** Since NorthWestern used the budgeted 2021 data to develop the first Test  
12 Period Revenue Requirement, NorthWestern proposes to use the forecasted  
13 2021 loads to compute rates.

14  
15 **Q. Has NorthWestern computed illustrative rates as part of this filing?**

16 **A.** Yes. Please refer to Exhibit ADD-3. Page 1 of this exhibit summarizes the  
17 estimated total electric supply rates that include the 95-MW portion of the  
18 Capacity Acquisition in Columns R and T. The Capacity Acquisition fixed  
19 rates are based on the total Test Period Revenue Requirement as reflected  
20 on Exhibit ADD-1 page 1, line 36, and forecasted 2021 loads. After applying  
21 the Capacity Acquisition Offset, the base PCC was divided by estimated 2021  
22 loads to arrive at the proposed base PCCAM rates in Column D.

23

1 **Q. Do the current rates in Exhibit ADD-3 reflect actual rates at the time of**  
2 **this filing?**

3 **A.** The current rates reflect Commission-approved rates that are anticipated to  
4 be effective March 1, 2020. Those rates reflect the Commission-approved  
5 rates from the Rate Review Order and the current tax rates that went into  
6 effect January 1, 2020 in Docket No. 2019.11.089 by operation of law.  
7 Therefore, the proposed change in rates shown in Exhibit ADD-3 reflects the  
8 change in rates as a result of the Capacity Acquisition as compared to rates  
9 that will be in effect on March 1, 2020.

10

11 **Q. Has NorthWestern computed customer bill impacts of this transaction**  
12 **as part of this filing?**

13 **A.** Yes. Please refer to Exhibit ADD-4. This illustrates that there will be no bill  
14 impact to electric customers after reflecting both the increase in fixed rates  
15 associated with the Test Period Revenue Requirement and the Capacity  
16 Acquisition Offset to PCCAM supply rates.

17

18 **Post-PPA Revenue Requirement and PCCAM**

19 **Q. Will NorthWestern make a rate adjustment after the PPA expires?**

20 **A.** Yes. In this filing, NorthWestern requests approval for the Test Period  
21 Revenue Requirement and the Capacity Acquisition Offset with regards to 95  
22 MW of the 185-MW acquisition. After the 90-MW PPA expires, NorthWestern

1 will make filings to adjust rates to reflect the revenue requirement for the 90  
2 MW and the corresponding savings in the PCCAM.

3

4 **Q. Does this conclude your testimony?**

5 **A.** Yes.



A	B	C	D	E	F	G	H	I
1	<b>NorthWestern Energy</b>							
2	<b>185MW Capacity Acquisition</b>							
3	<b>Docket 2019.12.101</b>							
4	<b>Revenue Requirement Analysis</b>							
5								
6								
7								
8						<b>2021</b>		
9						<b>Year End</b>		<b>13-Month Ave</b>
10	<b>Electric Utility Plant in Service</b>							
11	Electric Plant				\$ 1 *			\$ 1 *
12	Accumulated Depreciation				-			-
13	Total Net Plant				<u>\$ 1</u>			<u>\$ 1</u>
14	Less: Customer Contributed Capital							
15	Deferred Income Taxes							
16	Accelerated Tax Depreciation Deferred Tax Liability				\$ - *			\$ - *
17								
18	Plus: Working Capital							
19	Gross Cash Requirements				\$ (1,766,367)			\$ (1,766,367)
20								
21	Total Year End Rate Base				<u>\$ (1,766,366)</u>			<u>\$ (1,766,366)</u>
22								
23	<b>Rate of Return</b>							6.92%
24								
25	<b>Authorized Return (Avg. Rate Base * Rate of Return)</b>							\$ (122,232)
26								
27	<b>Cost of Service:</b>							
28	Operation & Maintenance Expense				\$ 6,205,658			
29	Depreciation				-			
30	Property Taxes				1,351,842			
31	MPSC & MCC Revenue Tax	0.566%			42,152			
32	Deferred Income Taxes				-			
33	Current Income Taxes				<u>(30,077)</u>			
34	<b>Total Cost of Service</b>							<u>\$ 7,569,575</u>
35								
36	<b>Total Revenue Requirement</b>							<u>\$ 7,447,343</u>
37								
38								
39								
40	<b>Income Tax Computation:</b>							
41	Revenues				\$ 7,447,343			
42	Operation & Maintenance Expense				6,205,658			
43	Property & Other Taxes				1,351,842			
44	MPSC & MCC Revenue Tax				42,152			
45	Tax Depreciation				-			
46	Montana Corporate Income Tax				(7,710)			
47	Interest Expense (Based on Avg. Rate Base)				<u>(38,090)</u>			
48	Federal Taxable Income				<u>\$ (106,509)</u>			
49								
50	Federal Income Tax @ 21%	21.00%			(22,367)			
51								
52	Federal Taxable Income				\$ (106,509)			
53	Montana Corporate Income Tax				(7,710)			
54	Montana Corporate Taxable				<u>\$ (114,219)</u>			
55								
56	Montana Corporate Income Tax @ 6.75%	6.75%			(7,710)			
57								
58	Total Current Income Tax Expense				<u>\$ (30,077)</u>			
59								
60	<b>Deferred Income Tax Computation:</b>							
61	<b>Accelerated Tax Depreciation</b>							
62	Tax Depreciation				\$ -			
63	Less Book Depreciation				-			
64	Net Deferred Taxable Income				\$ -			
65	Federal Income Tax Rate				21%			
66	Federal Deferred Income Tax-Accelerated Depreciation				<u>\$ -</u>			
67								
68								
69	* 2021 actual balances are not reflected on this sheet due to the fact that NWE is initially							
70	seeking a rate base increase of \$1 associated with the capacity acquisition.							

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**NorthWestern Energy  
 185MW Capacity Acquisition  
 Docket 2019.12.101  
 Calculation of Cash Working Capital**

Line No.		12-Month Ended Expenses	<sup>1</sup> Net Lag Days	Cash Working Capital
1	Operation & Maintenance Expense	\$ 6,205,658		
2	Property & Other Taxes	1,351,842		
3	Montana Corporate Income Taxes	-7,710		
4	Federal Income Taxes	-22,367		
5	Subtotal	\$ 7,527,423	-85.65	\$ (1,766,367)
8	13-Month Ave. Rate Base without Working Capital	\$ -		
10	<sup>2</sup> Weighted Cost of Debt	2.16%		
12	Interest Expense in Return	\$ -	-54.08	0
14	Total Cash Working Capital			\$ (1,766,367)

<sup>1</sup>Net Lag Days from Management Application Corp. 2018 Lead/Lag Update  
 Per MPSC Final Order No. 7604u Docket No. 2018.02.012

<sup>2</sup>Weighted Cost of Debt based on proposed capital structure in this filing.

	A	B	C	D	E	F	G
1	<b>NorthWestern Energy</b>						
2	<b>185MW Capacity Acquisition</b>						
3	<b>Docket 2019.12.101</b>						
4	<b>Capital Structure</b>						
5							
6							
7							
8				<b>Percent</b>			
9		<b><u>Capital Structure</u></b>	<b><u>Rate</u></b>	<b><u>Capitalization</u></b>		<b><u>Rate of</u></b>	
10		Equity	9.65%	49.38%		4.77%	
11		Debt	4.26%	50.62%		2.16%	
12							
13		Total		100.00%		6.92%	

## ELECTRIC TARIFF



	2 <sup>nd</sup>	Revised	Sheet No.	67.1
Canceling	1 <sup>st</sup>	Revised	Sheet No.	67.1

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Schedule No. EPCC-1

### ANNUAL POWER COSTS AND CREDITS ADJUSTMENT MECHANISM

**APPLICABILITY:** Applicable to Power Costs and Credits, and their related Revenues, for all electricity supply customers of the utility.

**PURPOSE:** This Mechanism sets forth the criteria and accounting provisions that permit the Utility to adjust for differences between:

1. Its recovered Base Power Costs and Credits (Base Power Costs and Credits rates multiplied by actual loads resulting in Base Power Costs and Credits Rate Revenues) and actual Power Costs and Credits for the applicable tracking period, as set forth below. The Power Costs and Credits Deferred Account (Account 191) shall reflect the difference between rate revenues and actual costs and credits for the applicable period subject to application of the sharing provisions as described below.
2. Its recovered Transitional Costs (Transitional Costs rates multiplied by actual loads resulting in Transitional Costs Rate Revenues) and actual Transitional Costs as set forth below. The Power Costs and Credits Deferred Account (Account 191) shall reflect the difference between rate revenues and actual costs for the applicable period as described below. This difference is not subject to sharing provisions.
3. Its recovered QF Costs (QF Costs rates multiplied by actual loads resulting in QF Costs Rate Revenues) and actual QF Costs as set forth below. The Power Costs and Credits Deferred Account (Account 191) shall reflect the difference between rate revenues and actual costs for the applicable period as described below. The difference is not subject to sharing provisions.

The Utility also recovers the Montana Public Service Commission (“MPSC” or “Commission”) and Montana Consumer Counsel (“MCC”) taxes associated with the Base Power Costs and Credits revenues, Transitional Costs revenues, and QF Costs revenues in conjunction with this Mechanism that are not subject to sharing provisions as described below.

**COSTS AND RATES:** The costs and rates established under this Mechanism shall be incorporated and filed as part of a revision to all applicable rate schedules as follows:

- A. **Base Power Costs and Credits:** Base Power Costs and Credits are identified as follows, with each including the applicable Federal Energy Regulatory Commission (“FERC”) account numbers:
  1. Power Costs:
    - a) Fuel – FERC Accounts 547 and 501
    - b) Purchases excluding QF – FERC Account 555
    - c) Other Power Supply Expenses – FERC Account 557
    - d) Transmission – FERC Account 565

(continued)

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## ELECTRIC TARIFF



	<del>2<sup>nd</sup></del> 3 <sup>rd</sup>	Revised	Sheet No.	<u>67.2</u>
Canceling	1 <sup>st</sup> <del>2<sup>nd</sup></del>	Revised	Sheet No.	<u>67.2</u>

Schedule No. EPCC-1

### ANNUAL POWER COSTS AND CREDITS ADJUSTMENT MECHANISM

2. Credits:

- a) Sales – FERC Account 447
- b) Production Tax Credits – FERC Account 409.1
- c) Yellowstone National Park Contract Sales – FERC Account 442.1
- d) Revenue Credits – FERC Account 555
- e) 20% Dave Gates Generating Stations FERC (Allocation) – FERC Account 547

Base Power Costs and Credit Rates: Base Power Costs and Credits rates are developed from the Base Power Costs and Credits described in Part A above at the time such costs, credits, and rates are reviewed and approved by the Commission. These rates are fixed until adjusted as part of the Utility's next electric utility general rate filing or otherwise upon Commission approval.

B. Transitional Costs: Transitional Costs are incurred from July 1, 2017 until the effective date of final rates ordered in Docket No. D2018.2.12 and identified as follows, with each including the applicable FERC account numbers:

1. Demand Side Management (DSM) costs – FERC Account 930.2
2. Administrative and General – FERC Accounts 920-930.2

C. Transitional Costs Rates are developed and based on Transitional Costs described in Part C above at the time such costs and rates are reviewed and approved by the Commission. These rates are adjusted annually in conjunction with the Utility's annual filings under this Mechanism.

D. QF Costs: Subject to the STIPULATIONS section below, QF costs are identified as follows, including the applicable FERC account number:

1. QF Purchases – FERC Account 555

E. QF Costs Rates are developed and based on QF costs described in Part E above at the time such costs and rates are reviewed and approved by the Commission. These rates are adjusted annually in conjunction with the Utility's annual filing under this Mechanism.

F. Power Costs and Credits Mechanism Annual Adjustment: The Mechanism's annual adjustment shall be derived by:

1. Computing the difference between Base Power Costs and Credits Rates Revenues and actual Power Costs and Credits for the period. 90% of the difference is recorded as a deferral and ~~rebated to customers-~~ deposited into the Reserve Fund, established in Docket

(continued)

ELECTRIC TARIFF



	<del>2<sup>nd</sup></del> 3 <sup>rd</sup>	Revised	Sheet No.	<u>67.3</u>
Canceling	1 <sup>st</sup> <del>2<sup>nd</sup></del>	Revised	Sheet No.	<u>67.3</u>

Schedule No. EPCC-1

ANNUAL POWER COSTS AND CREDITS ADJUSTMENT MECHANISM

2. 2019.12.101, (when costs are less than revenues), or surcharged to customers (when costs are greater than revenues). Upon the expiration of the power purchase agreement between NorthWestern and Puget Sound Energy, Inc. approved in Docket 2019.12.101, 90% of the difference will be rebated or surcharged to customers.
3. Computing the difference between Transitional Costs Rate Revenues and actual Transitional Costs for the period. One hundred percent of the difference is recorded as a deferral and rebated to customers (when costs are less than revenues) or surcharged to customers (when costs are greater than revenues). Deferrals will end for these costs upon the effective date of final rates ordered in Docket No. D2018.2.12.
4. Computing the difference between QF Costs Rate Revenues and actual QF Costs for the period. One hundred percent of the difference is recorded as a deferral and rebated to customers (when costs are less than revenues) or surcharged to customers (when costs are greater than revenues).
5. The annual adjustment shall also include a true-up of the remaining deferred account balance(s) for prior period(s).
6. While MPSC and MCC taxes (FERC Account 408.1) associated with the Base Power Costs and Credits revenues, Transitional Costs revenues, and QF Costs revenues are not included in Base Power Costs and Credits, Transitional Costs, or QF Costs, these taxes are separately tracked and recovered in conjunction with this Mechanism. One hundred percent of the actual MPSC and MCC tax expenses for the previous period will be recorded as a deferral and surcharged to customers.

ACCOUNTING: The deferred accounting for this Mechanism shall be as follows:

- A. Current Period Power Costs and Credits Deferred Account Balance: The deferred account balance shall reflect adjustments described in Part G under the Costs and Rates section above for the Accounting Period.
- B. Accounting Period: The Accounting Period shall be for the 12-month period beginning July 1 of each year through June 30 of the following year.
- C. Deferred Account Rates: The Deferred Account Rates shall be derived to reflect amortization of the associated current deferred account balance, including any prior period(s) deferred account balances, over the succeeding 12 months

(continued)

## ELECTRIC TARIFF



	<del>1<sup>st</sup></del> <sup>2<sup>nd</sup></sup>	Revised	Sheet No.	<u>67.4</u>
Canceling	<u>Original</u> <sup>1<sup>st</sup></sup>	Revised	Sheet No.	<u>67.4</u>

Schedule No. EPCC-1

### ANNUAL POWER COSTS AND CREDITS ADJUSTMENT MECHANISM

#### STIPULATIONS

Related to QF Tier II resources, for the purpose of establishing base costs and actual costs, in Order No. 7563d, ¶¶ 9 - 11, Docket No. D2017.5.39 (January 9, 2019) the Montana Public Service Commission accepted NorthWestern's use of the scheduled volumes and prices found in Appendix D to the stipulation the Commission approved in Consolidated Dockets D97.7.90 & D2001.1.5, Order No. 5986w/6353c, (January 31, 2002) ("First Stipulation"). The Commission further accepted the methodology stated in the stipulation the Commission approved in Consolidated Dockets D2003.6.77 & D2004.6.90, Order No6496f/6574e. (December 16, 2005).

To compute actual costs when QF Tier II resources produce less than the annual volume specified in the First Stipulation for the actual year, the energy by which production is short, or the replacement energy, is valued using one of two criteria below.

1. Normal Performance Replacement Energy Criteria – The annual adjusted value of Normal Replacement Energy shall be determined by multiplying the annual replacement MWhs by the lower of i.) the Mid Columbia base-load (combination of On-Peak and Off-Peak) Dow Jones Index; or ii) the average short-term market purchase price for the PCCAM year. For purposes of computing actual costs, except for Extended Outage Replacement Energy described in section B below, this dollar amount shall then be removed from base costs and replaced at the price level specified for the actual year in the First Stipulation.
2. Extended Outage Replacement Energy Criteria – "Extended Outage" shall mean any QF Tier II resource outage in which the Utility can reasonably be assured will last more than 90 days and cause the production to be less than the volume specified for the actual year in the First Stipulation. If it becomes known that one or more of the QF Tier II resources will experience an Extended Outage period, the Utility shall have the right, but not the obligation, at the point the Extended Outage is determined, to prospectively procure replacement energy equivalent to the expected QF Tier II resource energy output (or remaining portion thereof) at a specific price for the same period as the outage (or remaining portion thereof). Accordingly, Extended Outage Replacement Energy is not subject to the treatment identified for Normal Performance Replacement Energy in section A above. If the Utility elects to procure replacement energy for an Extended Outage, it shall, at the point an Extended Outage is determined, inform the Commission and the Montana Consumer Counsel in a timely manner of the term, price and quantity of such energy. For purposes of computing actual costs, the value of Extended Outage Replacement Energy shall be determined by multiplying the MWhs by the price specified for the actual year in the First Stipulation.

POWER COSTS AND CREDITS RATE FILINGS: By September 1 of each year, the Utility shall file its Power Costs and Credits Adjustment for interim rates effective on October 1. The filing shall reflect and

(continued)

ELECTRIC TARIFF



Canceling	<del>Original</del> <sup>1<sup>st</sup></sup>	Revised	Sheet No.	<u>67.5</u>
	<u>Original</u>	Revised	Sheet No.	<u>67.5</u>

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Schedule No. EPCC-1

ANNUAL POWER COSTS AND CREDITS ADJUSTMENT MECHANISM

support the previous period's actual Power Costs and Credits, Transitional Costs, and QF Costs, and related revenues; actual MCC and MPSC taxes; the accounting transactions supporting the deferred account balance(s); and the necessary calculations and rates in support of the upcoming period's adjustments.

SERVICE AND RATES SUBJECT TO COMMISSION JURISDICTION: All rates and service conditions under this Rate Schedule are governed by the rules and regulations of the Public Service Commission of Montana and are subject to revision as the Commission may duly authorize in the exercise of its jurisdiction.

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**NorthWestern Energy  
 Electric Utility  
 Total Proposed Supply Rate  
 \*\*\*Illustrative Rates \*\*\* 3/1/2020**

	Less Capacity Acquisition		Transitional	Generation		Two Dot		Capacity Acquisition		Total Supply
	PCCAM	QF		Total	Total	Total	Total	Total	Total	Proposed
	Proposed	Proposed	Current	Proposed	Current	Proposed	Current	Proposed	Proposed	Proposed
	W/O Tax & QF	W/O Tax	W/O Tax	Fixed W/O Tax	Tax Portion	Fixed W/O Tax	Tax Portion	Fixed W/O Tax	Tax Portion	Proposed
	Rates [1]	Rates [2]	Rates [3]	Rates [4]	Rates [5]	Rates [4]	Rates [5]	Rates [6]	Rates [7]	Rates
<b>Residential</b>										
Residential	0.008729	0.012380	0.001586	0.035913	0.004453	0.000447	0.000015	0.000981	0.000218	0.064722 -
Residential Employee	0.005238	0.007427	0.000952	0.021548	0.002672	0.000268	0.000009	0.000588	0.000131	0.038833 -
Total Residential										
<b>General Service 1</b>										
GS-1 Sec Non-Demand	0.008729	0.012380	0.001586	0.037215	0.004481	0.000415	0.000016	0.000981	0.000218	0.066021 -
GS-1 Sec Demand	0.008729	0.012380	0.001586	0.037215	0.004481	0.000415	0.000016	0.000981	0.000218	0.066021 -
GS-1 Pri Non-Demand	0.008536	0.012106	0.001551	0.034380	0.004400	0.000401	0.000016	0.000959	0.000213	0.062563 -
GS-1 Pri Demand	0.008536	0.012106	0.001551	0.034380	0.004400	0.000401	0.000016	0.000959	0.000213	0.062563 -
Total GS-1										
<b>General Service 2</b>										
GS-2 Substation	0.008428	0.011952	0.001531	0.035184	0.004331	0.000390	0.000016	0.000947	0.000210	0.062989 -
GS-2 Transmission	0.008362	0.011859	0.001519	0.033888	0.004307	0.000395	0.000015	0.000940	0.000209	0.061494 -
Total GS-2										
<b>Irrigation</b>										
Irrigation	0.008729	0.012380	0.001586	0.040874	0.004501	0.000317	0.000010	0.000981	0.000218	0.069596 -
Total Irrigation										
<b>Lighting</b>										
Lighting	0.008729	0.012380	0.001586	0.035902	0.004421	0.000444	0.000016	0.000981	0.000218	0.064677 -
Total Lighting										
<b>Average Billed Rate</b>	<b>0.008699</b>	<b>0.012337</b>	<b>0.001581</b>	<b>0.036427</b>	<b>0.004455</b>	<b>0.000425</b>	<b>0.000015</b>	<b>0.000978</b>	<b>0.000217</b>	<b>0.065134</b>
<b>Total Supply Rate</b>	<b>8.699</b>	<b>12.337</b>	<b>1.581</b>	<b>36.427</b>	<b>4.455</b>	<b>0.425</b>	<b>0.015</b>	<b>0.978</b>	<b>0.217</b>	<b>65.134</b>

[1] Source: Docket No. 2019.12.101, Exhibit\_(ADD-3), pg. 8

[2] Source: Docket No. 2019.12.101, Exhibit\_(ADD-3), pg. 9

[3] Source: Docket No. 2019.09.058, Exhibit\_\_(JS-2), pg. 3

[4] Source: Docket No. 2018.02.012 Statement M- per final order

[5] Source: Docket No. 2019.11.089, sum of equals tax portion in Appendix A

[6] Source: Docket No. 2019.12.101, Exhibit\_(ADD-3), pg. 10

[7] Source: Docket No. 2019.12.101, Exhibit\_(ADD-3), pg. 11



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## NorthWestern Energy

## Electric Utility

## Total Supply Revenue (\$000)

\*\*\*Illustrative\*\*\*

	Jan21 to Dec21 Supply Retail mWh Sales	Current Total Supply Rates 01/1/2020[1]	Current Total Supply Revenue	Proposed Total Supply Rates 3/1/2020	Proposed Total Supply Revenue	Revenue Difference Proposed vs Current	% Change
<b>Residential</b>							
Residential	2,551,638	0.067153	\$ 171,350	0.064722	\$ 165,147	\$ (6,203)	-3.62%
Residential Employee	2,810	0.040292	\$ 113	0.038833	\$ 109	\$ (4)	-3.62%
Total Residential			\$ 171,463		\$ 165,256	\$ (6,207)	
<b>General Service 1</b>							
GS-1 Sec Non-Demand	289,362	0.067153	\$ 19,432	0.066021	\$ 19,104	\$ (328)	-1.69%
GS-1 Sec Demand	2,555,891	0.067153	\$ 171,636	0.066021	\$ 168,743	\$ (2,893)	-1.69%
GS-1 Pri Non-Demand	611	0.065323	\$ 40	0.062563	\$ 38	\$ (2)	-4.23%
GS-1 Pri Demand	338,740	0.065323	\$ 22,128	0.062563	\$ 21,192	\$ (935)	-4.23%
Total GS-1			\$ 213,235		\$ 209,078	\$ (4,157)	
<b>General Service 2</b>							
GS-2 Substation	238,808	0.064754	\$ 15,464	0.062989	\$ 15,042	\$ (421)	-2.73%
GS-2 Transmission	111,331	0.064360	\$ 7,165	0.061494	\$ 6,846	\$ (319)	-4.45%
Total GS-2			\$ 22,629		\$ 21,889	\$ (740)	
<b>Irrigation</b>							
Irrigation	93,342	0.067153	\$ 6,268	0.069596	\$ 6,496	\$ 228	3.64%
Total Irrigation			\$ 6,268		\$ 6,496	\$ 228	
<b>Lighting</b>							
Lighting	54,427	0.067153	\$ 3,655	0.064677	\$ 3,520	\$ (135)	-3.69%
Total Lighting			\$ 3,655		\$ 3,520	\$ (135)	
<b>Total Rate Schedule</b>	<b>6,236,962</b>		<b>\$ 417,250</b>		<b>\$ 406,239</b>	<b>\$ (11,011)</b>	<b>-2.64%</b>

[1] Source: Docket No. 2019.09.058, Exhibit\_\_(JS-2), pg. 5 of 9

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**NorthWestern Energy  
 Electric Utility**

**Total Proposed Supply Rate- Without State & Local Taxes and Fees**

**\*\*\*Illustrative Rates \*\*\* 3/1/2020**

	Less Capacity Acquisition						
	PCCAM	QF	Transitional	Generation	Two Dot	Capacity Acquisition	Total Supply
	Proposed	Proposed	Current	Proposed	Proposed	Proposed	Proposed
	Supply W/O QF	Supply W/O QF	Supply W/O QF	Fixed	Fixed	Fixed	Fixed
	W/O Taxes	W/O Taxes	W/O Taxes	W/O Taxes	W/O Taxes	W/O Taxes	W/O Taxes
	Rates [1]	Rates [2]	Rates [3]	Rates [4]	Rates [4]	Rates [5]	Rates
<b>Residential</b>							
Residential	0.008729	0.012380	0.001586	0.035913	0.000447	0.000981	0.060036
Residential Employee	0.005238	0.007427	0.000952	0.021548	0.000268	0.000588	0.036021
Total Residential							
<b>General Service 1</b>							
GS-1 Sec Non-Demand	0.008729	0.012380	0.001586	0.037215	0.000415	0.000981	0.061306
GS-1 Sec Demand	0.008729	0.012380	0.001586	0.037215	0.000415	0.000981	0.061306
GS-1 Pri Non-Demand	0.008536	0.012106	0.001551	0.034380	0.000401	0.000959	0.057934
GS-1 Pri Demand	0.008536	0.012106	0.001551	0.034380	0.000401	0.000959	0.057934
Total GS-1							
<b>General Service 2</b>							
GS-2 Substation	0.008428	0.011952	0.001531	0.035184	0.000390	0.000947	0.058432
GS-2 Transmission	0.008362	0.011859	0.001519	0.033888	0.000395	0.000940	0.056963
Total GS-2							
<b>Irrigation</b>							
Irrigation	0.008729	0.012380	0.001586	0.040874	0.000317	0.000981	0.064867
Total Irrigation							
<b>Lighting</b>							
Lighting	0.008729	0.012380	0.001586	0.035902	0.000444	0.000981	0.060022
Total Lighting							
<b>Average Billed Rate</b>	<b>0.008699</b>	<b>0.012337</b>	<b>0.001581</b>	<b>0.036427</b>	<b>0.000425</b>	<b>0.000978</b>	<b>0.060447</b>
	-	-	-	-	-	-	-
<b>Total Supply Rate</b>	<b>8.699</b>	<b>12.337</b>	<b>1.581</b>	<b>36.427</b>	<b>0.425</b>	<b>0.978</b>	<b>60.447</b>

These rates represent the amount charged to customers not including state and local taxes and fees.

[1] Source: Docket No. 2019.12.101, Exhibit\_(ADD-3), pg. 8

[2] Source: Docket No. 2019.12.101, Exhibit\_(ADD-3), pg. 9

[3] Source: Docket No. 2019.09.058, Exhibit\_(JS-2), pg. 3

[4] Source: Docket No. 2018.02.012 Statement M- per final order

[5] Source: Docket No. 2019.12.101, Exhibit\_(ADD-3), pg. 11

NorthWestern Energy  
 Electric Utility

Total Supply Revenue Summary by Rate Component- Without State & Local Taxes and Fees

\*\*\*Illustrative\*\*\*

	Current Total Supply Revenue W/O Tax 01/1/2020 [1]	Proposed Supply Revenue					CU4 Acquisition Proposed W/O Taxes Fixed Revenue	Proposed Total Supply Revenue W/O Tax 3/1/2020
		PCCAM Proposed W/O Tax/QF Revenue	QF Proposed W/O Tax Revenues	Transitional Proposed W/O Tax Revenue	Generation Proposed W/O Taxes Fixed Revenue	Two Dot Proposed W/O Taxes Fixed Revenue		
<b>Residential</b>								
Residential	\$ 160,220	\$ 22,273	\$ 31,589	\$ 4,047	\$ 91,636	\$ 1,141	\$ 2,503	\$ 153,190
Residential Employee	\$ 106	\$ 15	\$ 21	\$ 3	\$ 61	\$ 1	\$ 2	\$ 101
Total Residential	\$ 160,326	\$ 22,288	\$ 31,610	\$ 4,050	\$ 91,697	\$ 1,142	\$ 2,505	\$ 153,292
<b>General Service 1</b>								
GS-1 Sec Non Demand	\$ 18,169	\$ 2,526	\$ 3,582	\$ 459	\$ 10,769	\$ 120	\$ 284	\$ 17,740
GS-1 Sec Demand	\$ 160,487	\$ 22,310	\$ 31,642	\$ 4,054	\$ 95,117	\$ 1,061	\$ 2,507	\$ 156,692
GS-1 Pri Non Demand	\$ 37	\$ 5	\$ 7	\$ 1	\$ 21	\$ 0	\$ 1	\$ 35
GS-1 Pri Demand	\$ 20,691	\$ 2,891	\$ 4,101	\$ 525	\$ 11,646	\$ 136	\$ 325	\$ 19,624
Total GS-1	\$ 199,384	\$ 27,733	\$ 39,332	\$ 5,039	\$ 117,553	\$ 1,318	\$ 3,117	\$ 194,091
<b>General Service 2</b>								
GS-2 Substation	\$ 14,460	\$ 2,013	\$ 2,854	\$ 366	\$ 8,402	\$ 93	\$ 226	\$ 13,954
GS-2 Transmission	\$ 6,700	\$ 931	\$ 1,320	\$ 169	\$ 3,773	\$ 44	\$ 105	\$ 6,342
Total GS-2	\$ 21,160	\$ 2,944	\$ 4,175	\$ 535	\$ 12,175	\$ 137	\$ 331	\$ 20,296
<b>Irrigation</b>								
Irrigation	\$ 5,861	\$ 815	\$ 1,156	\$ 148	\$ 3,815	\$ 30	\$ 92	\$ 6,055
Total Irrigation	\$ 5,861	\$ 815	\$ 1,156	\$ 148	\$ 3,815	\$ 30	\$ 92	\$ 6,055
<b>Lighting</b>								
Lighting	\$ 3,418	\$ 475	\$ 674	\$ 86	\$ 1,954	\$ 24	\$ 53	\$ 3,267
Total Lighting	\$ 3,418	\$ 475	\$ 674	\$ 86	\$ 1,954	\$ 24	\$ 53	\$ 3,267
Total Rate Schedule	\$ 390,148	\$ 54,254	\$ 76,946	\$ 9,858	\$ 227,194	\$ 2,651	\$ 6,097	\$ 377,001
								-
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[1] Source: Docket No. 2019.09.058, Exhibit\_\_(JS-2), pg. 6 of 9 rates multiplied by current load forecast.

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	Generation Current	Two Dot Current	Capacity Acquisition Proposed	Total Supply Proposed
	Tax Portion Rates [1]	Tax Portion Rates [1]	Tax Portion Rates [2]	Tax Portion Rates
<b>Residential</b>				
Residential	0.004453	0.000015	0.000218	0.004686
Residential Employee	0.002672	0.000009	0.000131	0.002812
Total Residential				
<b>General Service 1</b>				
GS-1 Sec Non-Demand	0.004481	0.000016	0.000218	0.004715
GS-1 Sec Demand	0.004481	0.000016	0.000218	0.004715
GS-1 Pri Non-Demand	0.004400	0.000016	0.000213	0.004629
GS-1 Pri Demand	0.004400	0.000016	0.000213	0.004629
Total GS-1				
<b>General Service 2</b>				
GS-2 Substation	0.004331	0.000016	0.000210	0.004557
GS-2 Transmission	0.004307	0.000015	0.000209	0.004531
Total GS-2				
<b>Irrigation</b>				
Irrigation	0.004501	0.000010	0.000218	0.004729
Total Irrigation				
<b>Lighting</b>				
Lighting	0.004421	0.000016	0.000218	0.004655
Total Lighting				
<b>Average Billed Rate</b>	<b>0.004455</b>	<b>0.000015</b>	<b>0.000217</b>	<b>0.004687</b>
<b>Total Supply Rate</b>	<b>4.4550</b>	<b>0.0150</b>	<b>0.2170</b>	<b>4.687</b>

These rates represent the amount charged to customers for state and local taxes and fees and are separately disclosed on customer's bill.

[1] Source: Docket No. 2019.11.089, sum of equals tax portion in Appendix A

[2] Source: Docket No. 2019.12.101, Exhibit \_(ADD-3), pg. 11

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**NorthWestern Energy  
 Electric Utility**

**Total Supply Revenue Summary by Rate Component- Tax Portion**

\*\*\*Illustrative\*\*\*

	Current Total Supply Revenue Tax Portion 01/1/2020 [1]	Proposed Supply Revenue			Proposed Total Supply Revenue Tax Portion 3/1/2020
		Generation	Two Dot	Capacity Acquisition	
		Tax Portion Revenue	Tax Portion Revenue	Tax Portion Revenue	
<b>Residential</b>					
Residential	\$ 11,130	\$ 11,362	\$ 38	\$ 556	\$ 11,957
Residential Employee	\$ 7	\$ 8	\$ 0	\$ 0	\$ 8
Total Residential	\$ 11,138	\$ 11,370	\$ 38	\$ 557	\$ 11,965
					\$ -
<b>General Service 1</b>					\$ -
GS-1 Sec Non Demand	\$ 1,262	\$ 1,297	\$ 5	\$ 63	\$ 1,364
GS-1 Sec Demand	\$ 11,149	\$ 11,453	\$ 41	\$ 557	\$ 12,051
GS-1 Pri Non Demand	\$ 3	\$ 3	\$ 0	\$ 0	\$ 3
GS-1 Pri Demand	\$ 1,437	\$ 1,490	\$ 5	\$ 72	\$ 1,568
Total GS-1	\$ 13,851	\$ 14,243	\$ 51	\$ 693	\$ 14,986
					\$ -
<b>General Service 2</b>					\$ -
GS-2 Substation	\$ 1,004	\$ 1,034	\$ 4	\$ 50	\$ 1,088
GS-2 Transmission	\$ 465	\$ 480	\$ 2	\$ 23	\$ 504
Total GS-2	\$ 1,469	\$ 1,514	\$ 5	\$ 73	\$ 1,593
					\$ -
<b>Irrigation</b>					\$ -
Irrigation	\$ 407	\$ 420	\$ 1	\$ 20	\$ 441
Total Irrigation	\$ 407	\$ 420	\$ 1	\$ 20	\$ 441
					\$ -
<b>Lighting</b>					\$ -
Lighting	\$ 237	\$ 241	\$ 1	\$ 12	\$ 253
Total Lighting	\$ 237	\$ 241	\$ 1	\$ 12	\$ 253
Total Rate Schedule	\$ 27,102	\$ 27,787	\$ 97	\$ 1,355	\$ 29,239
					\$ -

[1] Source: Docket No. 2019.09.058, Exhibit\_\_(JS-2), pg. 8 of 9 rates multiplied by current load forecast.

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**NorthWestern Energy  
 Electric Utility Rates  
 Derivation of Power Cost and Credits Base Rates  
 Base Costs less Capacity Acquisition  
 \*\*\*Illustrative\*\*\***

	Loss Factor	Jan21 to Dec21 Supply Retail kWh Sales	Sales Adjusted for Employee Discount	Sales Weighted by Losses	Power Costs and Credits Base Rate After Losses	Power Costs and Base Credits Revenue Check
Customer Rate Class						
Residential	7.3200%	2,551,638,396	2,551,638,396	2,738,418,327	\$ 0.008729	\$ 22,273,252
Residential Employee	7.3200%	2,809,894	1,685,936	1,809,347	\$ 0.005238	\$ 14,718
GS 1 Secondary NonDemand	7.3200%	289,362,307	289,362,307	310,543,628	\$ 0.008729	\$ 2,525,844
GS 1 Secondary Demand	7.3200%	2,555,891,453	2,555,891,453	2,742,982,707	\$ 0.008729	\$ 22,310,376
GS 1 Primary NonDemand	4.9400%	610,832	610,832	641,007	\$ 0.008536	\$ 5,214
GS 1 Primary Demand	4.9400%	338,740,168	338,740,168	355,473,932	\$ 0.008536	\$ 2,891,486
General Service Substation	3.6100%	238,808,459	238,808,459	247,429,444	\$ 0.008428	\$ 2,012,678
General Service Transmission	2.8000%	111,331,007	111,331,007	114,448,275	\$ 0.008362	\$ 930,950
Irrigation	7.3200%	93,342,400	93,342,400	100,175,064	\$ 0.008729	\$ 814,786
Lighting	7.3200%	54,427,000	54,427,000	58,411,056	\$ 0.008729	\$ 475,093
YNP Contract		6,236,961,917	6,235,837,959	6,670,332,788	\$ 0.008700	\$ 54,254,397
Total Electricity Supply Load		22,628,000			Rounding Adjustment	\$ 1,758
		6,259,589,917				\$ 54,256,155

**Power Costs and Credits Base Rate Design Revenues less Capacity Acquisition[1] \$ 54,256,155** Includes \$7,447,343 reduction is base

Power Costs and Credits Base Rate Before Losses \$ 0.008134  
 Power Costs and Credits Base Rate After Losses \$ 0.008699

[1] Source: D2018.2.12 Stipulation- Markovich Rebuttal Costs, base cost only

\$ 54,256,155	Base @90-10 less \$7,447,343
\$ 76,952,205	QF @100%
\$ 131,208,360	
\$ 6,095,501	Capacity Acquisition W/O Tax
\$ 1,351,842	Capacity Acquisition Tax Portion
\$ 7,447,343	
\$ 138,655,703	Base approved in D2018.2.12



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**NorthWestern Energy  
 Electric Utility Rates  
 Derivation of Power Cost and Credits QF Rates**

**QF Costs**

\*\*\*Illustrative\*\*\*

	<u>Loss Factor</u>	<u>Jan21 to Dec21 Supply Retail kWh Sales</u>	<u>Sales Adjusted for Employee Discount</u>	<u>Sales Weighted by Losses</u>	<u>QF Costs Rates After Losses</u>	<u>QF Costs Revenue Check</u>
<b>Customer Rate Class</b>						
Residential	7.3200%	2,551,638,396	2,551,638,396	2,738,418,327	\$ 0.012380	\$ 31,589,283
Residential Employee	7.3200%	2,809,894	1,685,936	1,809,347	\$ 0.007427	\$ 20,869
GS 1 Secondary NonDemand	7.3200%	289,362,307	289,362,307	310,543,628	\$ 0.012380	\$ 3,582,305
GS 1 Secondary Demand	7.3200%	2,555,891,453	2,555,891,453	2,742,982,707	\$ 0.012380	\$ 31,641,936
GS 1 Primary NonDemand	4.9400%	610,832	610,832	641,007	\$ 0.012106	\$ 7,395
GS 1 Primary Demand	4.9400%	338,740,168	338,740,168	355,473,932	\$ 0.012106	\$ 4,100,788
General Service Substation	3.6100%	238,808,459	238,808,459	247,429,444	\$ 0.011952	\$ 2,854,239
General Service Transmission	2.8000%	111,331,007	111,331,007	114,448,275	\$ 0.011859	\$ 1,320,274
Irrigation	7.3200%	93,342,400	93,342,400	100,175,064	\$ 0.012380	\$ 1,155,579
Lighting	7.3200%	54,427,000	54,427,000	58,411,056	\$ 0.012380	\$ 673,806
		<u>6,236,961,917</u>	<u>6,235,837,959</u>	<u>6,670,332,788</u>	\$ 0.012339	\$ 76,946,475
YNP Contract		22,628,000			Rounding Adjustment	\$ 5,730
Total Electricity Supply Load		<u>6,259,589,917</u>				<u>\$ 76,952,205</u>

**QF Power Costs and Credits Rate Design Revenues [1] \$ 76,952,205**

QF Power Costs and Credits Base Rate Before Losses \$ 0.011536  
 QF Power Costs and Credits Base Rate After Losses \$ 0.012337

[1] Source: D2018.2.12 Stipulation- Markovich Rebuttal Costs, QF only

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**NorthWestern Energy  
 Electric Utility Rates  
 Derivation of Capacity Acquisition Fixed Rates  
 Capacity Acquisition W/O Tax**

\*\*\*Illustrative\*\*\*

	Loss Factor	Jan21 to Dec21 Supply Retail kWh Sales	Sales Adjusted for Employee Discount	Sales Weighted by Losses	Capacity Acquisition Fixed After Losses	Capacity Acquisition Fixed Revenue Check
<b>Customer Rate Class</b>						
Residential	7.3200%	2,551,638,396	2,551,638,396	2,738,418,327	\$ 0.000981	\$ 2,503,157
Residential Employee	7.3200%	2,809,894	1,685,936	1,809,347	\$ 0.000588	\$ 1,652
GS 1 Secondary NonDemand	7.3200%	289,362,307	289,362,307	310,543,628	\$ 0.000981	\$ 283,864
GS 1 Secondary Demand	7.3200%	2,555,891,453	2,555,891,453	2,742,982,707	\$ 0.000981	\$ 2,507,330
GS 1 Primary NonDemand	4.9400%	610,832	610,832	641,007	\$ 0.000959	\$ 586
GS 1 Primary Demand	4.9400%	338,740,168	338,740,168	355,473,932	\$ 0.000959	\$ 324,852
General Service Substation	3.6100%	238,808,459	238,808,459	247,429,444	\$ 0.000947	\$ 226,152
General Service Transmission	2.8000%	111,331,007	111,331,007	114,448,275	\$ 0.000940	\$ 104,651
Irrigation	7.3200%	93,342,400	93,342,400	100,175,064	\$ 0.000981	\$ 91,569
Lighting	7.3200%	54,427,000	54,427,000	58,411,056	\$ 0.000981	\$ 53,393
		6,236,961,917	6,235,837,959	6,670,332,788	\$ 0.000978	\$ 6,097,206
YNP Contract		22,628,000			Rounding Adjustment	\$ (1,705)
Total Electricity Supply Load		6,259,589,917				\$ 6,095,501

**Capacity Acquisition W/O Tax Revenue Requirement [1] \$ 6,095,501**

Capacity Acquisition W/O Tax Rate Before Losses \$ 0.000914  
 Capacity Acquisition W/O Tax Rate After Losses \$ 0.000978

[1] Docket No. 2019.12.101, Exhibit (ADD-1), page 1, G36 less D30

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**NorthWestern Energy  
 Electric Utility Rates  
 Derivation of Capacity Acquisition Fixed Rates  
 Capacity Acquisition Tax Portion**


\*\*\*Illustrative\*\*\*


	<u>Loss Factor</u>	<u>Jan21 to Dec21 Supply Retail kWh Sales</u>	<u>Sales Adjusted for Employee Discount</u>	<u>Sales Weighted by Losses</u>	<u>Capacity Acquisition Fixed Tax Portion After Losses</u>	<u>Capacity Acquisition Fixed Tax Portion Revenue Check</u>
<b>Customer Rate Class</b>						
Residential	7.3200%	2,551,638,396	2,551,638,396	2,738,418,327	\$ 0.000218	\$ 556,257
Residential Employee	7.3200%	2,809,894	1,685,936	1,809,347	\$ 0.000131	\$ 368
GS 1 Secondary NonDemand	7.3200%	289,362,307	289,362,307	310,543,628	\$ 0.000218	\$ 63,081
GS 1 Secondary Demand	7.3200%	2,555,891,453	2,555,891,453	2,742,982,707	\$ 0.000218	\$ 557,184
GS 1 Primary NonDemand	4.9400%	610,832	610,832	641,007	\$ 0.000213	\$ 130
GS 1 Primary Demand	4.9400%	338,740,168	338,740,168	355,473,932	\$ 0.000213	\$ 72,152
General Service Substation	3.6100%	238,808,459	238,808,459	247,429,444	\$ 0.000210	\$ 50,150
General Service Transmission	2.8000%	111,331,007	111,331,007	114,448,275	\$ 0.000209	\$ 23,268
Irrigation	7.3200%	93,342,400	93,342,400	100,175,064	\$ 0.000218	\$ 20,349
Lighting	7.3200%	54,427,000	54,427,000	58,411,056	\$ 0.000218	\$ 11,865
		<u>6,236,961,917</u>	<u>6,235,837,959</u>	<u>6,670,332,788</u>	\$ 0.000217	\$ 1,354,804
YNP Contract		<u>22,628,000</u>			Rounding Adjustment	\$ (2,962)
Total Electricity Supply Load		6,259,589,917				\$ 1,351,842


**Capacity Acquisition Tax Portion Revenue Requirement [1] \$ 1,351,842**


Capacity Acquisition Tax Portion Rate Before Losses \$ 0.000203  
 Capacity Acquisition Tax Portion Rate After Losses \$ 0.000217

[1] Docket No. 2019.12.101, Exhibit (ADD-1), page 1, D30

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6	<b>Typical Bill Calculation</b>											
7	***ILLUSTRATIVE***											
8	<b>\$138.6 million base</b>											
9	<b>Electric Residential Service</b>						<b>Docket 2018.02.012 Rate Review Stipulation</b>			<b>Capacity Acquisition</b>		
10	<b>Current Rates</b>						<b>Proposed Rates</b>			<b>Proposed Rates</b>		
11	kWh per month		<b>750</b>			<b>Date</b>		<b>Date</b>		<b>Date</b>		<b>Total Bill</b>
12						<b>Effective</b>		<b>Effective</b>		<b>Effective</b>		<b>Amount</b>
13						<b>1/1/2020</b>		<b>3/1/2020</b>		<b>3/1/2020</b>		<b>Amount</b>
14	Res. Dist.-Service Charge					\$ 4.25	\$ 4.25	\$4.20	\$ 4.20	\$4.20	\$ 4.20	
15												
16	<b>Plus:</b>											
17	Res. Supply-Energy					\$ 0.062791	\$ 47.09	\$ 0.060036	\$ 45.03	\$ 0.060036	\$ 45.03	
18	Res. Deferred Supply Costs					\$ 0.003856	\$ 2.89	\$ 0.003856	\$ 2.89	\$ 0.003856	\$ 2.89	
19	Res. Supply Taxes					\$ 0.004468	\$ 3.35	\$ 0.004686	\$ 3.51	\$ 0.004686	\$ 3.51	
20	Res. CTC-QF					\$ 0.003317	\$ 2.49	\$ 0.003317	\$ 2.49	\$ 0.003317	\$ 2.49	
21	Res. Transmission-Energy					\$ 0.007581	\$ 5.69	\$ 0.006966	\$ 5.22	\$ 0.006966	\$ 5.22	
22	Res. Distribution-Energy					\$ 0.023601	\$ 17.70	\$ 0.022630	\$ 16.97	\$ 0.022630	\$ 16.97	
23	Res. Delivery Taxes					\$ 0.015009	\$ 11.26	\$ 0.015721	\$ 11.79	\$ 0.015721	\$ 11.79	
24	Res. USBC					\$ 0.001334	\$ 1.00	\$ 0.001334	\$ 1.00	\$ 0.001334	\$ 1.00	
25	Res. BPA-Credit					\$ (0.002225)	\$ (1.67)	\$ (0.002225)	\$ (1.67)	\$ (0.002225)	\$ (1.67)	
26	Total Kwh Charge					\$ 0.119110	\$ 89.80	\$ 0.116321	\$ 87.23	\$ 0.116321	\$ 87.23	
27												
28	<b>Total Bill</b>					<b>\$ 0.124777</b>	<b>\$ 94.05</b>	<b>\$ 0.121921</b>	<b>\$ 91.43</b>	<b>\$ 0.121921</b>	<b>\$ 91.43</b>	
29												
30						Monthly Increase (Decrease)		\$ (2.62)				\$ -
31						Annual Increase (Decrease)		\$ (31.44)				\$ -
32						<b>Percent Change</b>		<b>-2.79%</b>				<b>0.00%</b>


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6	<u>Typical Bill Calculation</u>														
7															
8	<b>General Service - Secondary Non-Demand</b>							***ILLUSTRATIVE***							
9								\$138.6 million base							
10								Docket 2018.02.012 Rate Review Stipulation		Capacity Acquisition					
11								<b>Current Rates</b>		<b>Proposed Rates</b>		<b>Proposed Rates</b>			
12	kWh per month		3500								Date		Date		
13								Effective 1/1/2020		Total Bill Amount		Effective 3/1/2020		Total Bill Amount	
14								\$ 6.10		\$ 6.10		\$6.00		\$ 6.00	
15	GS-1 Dist.-Service Charge			\$ 6.10		\$ 6.10		\$6.00		\$ 6.00		\$6.00		\$ 6.00	
16															
17	Plus:														
18	GS-1 Supply-Energy			\$ 0.062791		\$ 219.77		\$ 0.061306		\$ 214.57		\$ 0.061306		\$ 214.57	
19	GS-1 Deferred Supply Costs			\$ 0.003856		\$ 13.50		\$ 0.003856		\$ 13.50		\$ 0.003856		\$ 13.50	
20	GS-1 Supply Taxes			\$ 0.004497		\$ 15.74		\$ 0.004715		\$ 16.50		\$ 0.004715		\$ 16.50	
21	GS-1 CTC-QF			\$ 0.003317		\$ 11.61		\$ 0.003317		\$ 11.61		\$ 0.003317		\$ 11.61	
22	GS-1 Transmission-Energy			\$ 0.006602		\$ 23.11		\$ 0.005909		\$ 20.68		\$ 0.005909		\$ 20.68	
23	GS-1 Distribution-Energy			\$ 0.030567		\$ 106.98		\$ 0.029414		\$ 102.95		\$ 0.029414		\$ 102.95	
24	GS-1 Delivery Taxes			\$ 0.015345		\$ 53.71		\$ 0.015914		\$ 55.70		\$ 0.015914		\$ 55.70	
25	GS-1 USBC			\$ 0.001143		\$ 4.00		\$ 0.001143		\$ 4.00		\$ 0.001143		\$ 4.00	
26	Total Kwh Charge			\$ 0.130961		\$ 448.42		\$ 0.125574		\$ 439.51		\$ 0.125574		\$ 439.51	
27															
28	<b>Total Bill</b>			<b>\$ 0.129860</b>		<b>\$ 454.52</b>		<b>\$ 0.127290</b>		<b>\$ 445.51</b>		<b>\$ 0.127290</b>		<b>\$ 445.51</b>	
29															
30								Monthly Increase (Decrease)		\$ (9.01)		\$ -			
31								Annual Increase (Decrease)		\$ (108.12)		\$ -			
32								<b>Percent Change</b>		<b>-1.98%</b>		<b>0.00%</b>			


	A	B	C	D	E	F	G	H	I	J	K	L	
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6	<u>Typical Bill Calculation</u>												
7													
8	<b>General Service - Secondary Demand</b>							***ILLUSTRATIVE***					
9								<b>\$138.6 million base</b>					
10								Docket 2018.02.012 Rate Review Stipulation		<b>Capacity Acquisition</b>			
11	<b>Kw</b>		<b>12</b>	<b>Current Rates</b>			<b>Proposed Rates</b>		<b>Proposed Rates</b>				
12	kWh per month		<b>3500</b>	<b>Date</b>			<b>Date</b>		<b>Date</b>				
13				<b>Effective</b>		Total Bill	<b>Effective</b>		Total Bill	<b>Effective</b>		Total Bill	
14				<b>1/1/2020</b>		Amount	<b>3/1/2020</b>		Amount	<b>3/1/2020</b>		Amount	
15	GS-1 Dist.-Service Charge			\$ 7.65		\$ 7.65	\$8.70		\$ 8.70	\$8.70		\$ 8.70	
16													
17	Plus:												
18	GS-1 Supply-Energy			\$ 0.062791		\$ 219.77	\$ 0.061306		\$ 214.57	\$0.061306		\$ 214.57	
19	GS-1 Deferred Supply Costs			\$ 0.003856		\$ 13.50	\$ 0.003856		\$ 13.50	\$0.003856		\$ 13.50	
20	GS-1 Supply Taxes			\$ 0.004497		\$ 15.74	\$ 0.004715		\$ 16.50	\$0.004715		\$ 16.50	
21	GS-1 CTC-QF			\$ 0.003317		\$ 11.61	\$ 0.003317		\$ 11.61	\$0.003317		\$ 11.61	
22	GS-1 Transmission-Demand			\$ 2.522188		\$ 30.27	\$ 1.845754		\$ 22.15	\$1.845754		\$ 22.15	
23	GS-1 Distribution-Demand			\$ 5.141424		\$ 61.70	\$ 6.096524		\$ 73.16	\$6.096524		\$ 73.16	
24	GS-1 Demand Delivery Taxes			\$ 2.958460		\$ 35.50	\$ 3.159801		\$ 37.92	\$3.159801		\$ 37.92	
25	GS-1 Distribution-Energy			\$ 0.004078		\$ 14.27	\$ 0.002932		\$ 10.26	\$0.002932		\$ 10.26	
26	GS-1 Energy Delivery Taxes			\$ 0.001114		\$ 3.90	\$ 0.001076		\$ 3.77	\$0.001076		\$ 3.77	
27	GS-1 USBC			\$ 0.001143		\$ 4.00	\$ 0.001143		\$ 4.00	\$0.001143		\$ 4.00	
28	Subtotal			\$ 410.26			\$ 407.44			\$ 407.44			
29													
30	<b>Total Bill</b>			<b>\$ 0.119400</b>		<b>\$ 417.91</b>	<b>\$ 0.118900</b>		<b>\$ 416.14</b>	<b>\$ 0.118900</b>		<b>\$ 416.14</b>	
31													
32								Monthly Increase (Decrease)		\$ (1.77)		\$ -	
33								Annual Increase (Decrease)		\$ (21.24)		\$ -	
34								<b>Percent Change</b>		<b>-0.42%</b>		<b>0.00%</b>	

	A	B	C	D	E	F	G	H	I	J	K	L			
1															
2															
3															
4															
5															
6	<u>Typical Bill Calculation</u>														
7															
8	<b>General Service - Primary Non-Demand</b>							***ILLUSTRATIVE***							
9								<b>\$138.6 million base</b>							
10								<b>Docket 2018.02.012 Rate Review Stipulation</b>		<b>Capacity Acquisition</b>					
11					<b>Current Rates</b>			<b>Proposed Rates</b>			<b>Proposed Rates</b>				
12	kWh per month		2000			Date		Date		Date					
13						Effective		Effective		Effective					
14						1/1/2020		3/1/2020		3/1/2020					
15	GS-1 Dist.-Service Charge				\$ 6.55		\$ 6.55		\$8.80		\$ 8.80		\$8.80		\$ 8.80
16															
17	Plus:														
18	GS-1 Supply-Energy				\$ 0.061081		\$ 122.16		\$ 0.057934		\$ 115.87		\$0.057934		\$ 115.87
19	GS-1 Deferred Supply Costs				\$ 0.003770		\$ 7.54		\$ 0.003770		\$ 7.54		\$0.003770		\$ 7.54
20	GS-1 Supply Taxes				\$ 0.004416		\$ 8.83		\$ 0.004629		\$ 9.26		\$0.004629		\$ 9.26
21	GS-1 CTC-QF				\$ 0.003226		\$ 6.45		\$ 0.003226		\$ 6.45		\$0.003226		\$ 6.45
22	GS-1 Transmission-Energy				\$ 0.006905		\$ 13.81		\$ 0.005594		\$ 11.19		\$0.005594		\$ 11.19
23	GS-1 Distribution-Energy				\$ 0.015832		\$ 31.66		\$ 0.014674		\$ 29.35		\$0.014674		\$ 29.35
24	GS-1 Delivery Taxes				\$ 0.008989		\$ 17.98		\$ 0.009228		\$ 18.46		\$0.009228		\$ 18.46
25	GS-1 USBC				\$ 0.001143		\$ 2.29		\$ 0.001143		\$ 2.29		\$0.001143		\$ 2.29
26	Total Kwh Charge				\$ 0.107093		\$ 210.72		\$ 0.100198		\$ 200.41		\$0.100198		\$ 200.41
27															
28	<b>Total Bill</b>				<b>\$ 0.108640</b>		<b>\$ 217.27</b>		<b>\$ 0.104610</b>		<b>\$ 209.21</b>		<b>\$0.104610</b>		<b>\$ 209.21</b>
29															
30									Monthly Increase (Decrease)		\$ (8.06)		\$ -		
31									Annual Increase (Decrease)		\$ (96.72)		\$ -		
32									<b>Percent Change</b>		<b>-3.71%</b>		<b>0.00%</b>		

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	<b>NorthWestern</b>											
3	<b>Energy</b>											
4												
5												
6	<u>Typical Bill Calculation</u>											
7												
8	<b>General Service - Primary Demand</b>							***ILLUSTRATIVE***				
9								<b>\$138.6 million base</b>				
10								<b>Docket 2018.02.012 Rate Review Stipulation</b>			<b>Capacity Acquisition</b>	
11		<b>Kw</b>	<b>400</b>		<b>Current Rates</b>			<b>Proposed Rates</b>			<b>Proposed Rates</b>	
12		<b>kWh per month</b>	<b>200000</b>		<b>Date</b>			<b>Date</b>			<b>Date</b>	
13					<b>Effective</b>	<b>Total Bill</b>		<b>Effective</b>	<b>Total Bill</b>		<b>Effective</b>	<b>Total Bill</b>
14					<b>1/1/2020</b>	<b>Amount</b>		<b>3/1/2020</b>	<b>Amount</b>		<b>3/1/2020</b>	<b>Amount</b>
15	GS-1 Dist.-Service Charge				\$ 20.65	\$ 20.65		\$27.70	\$ 27.70		\$27.70	\$ 27.70
16												
17	Plus:											
18	GS-1 Supply-Energy				\$ 0.061081	\$ 12,216.20		\$ 0.057934	\$ 11,586.73		\$0.057934	\$ 11,586.73
19	GS-1 Deferred Supply Costs				\$ 0.003770	\$ 754.00		\$ 0.003770	\$ 754.00		\$0.003770	\$ 754.00
20	GS-1 Supply Taxes				\$ 0.004416	\$ 883.20		\$ 0.004629	\$ 925.80		\$0.004629	\$ 925.80
21	GS-1 CTC-QF				\$ 0.003226	\$ 645.20		\$ 0.003226	\$ 645.20		\$0.003226	\$ 645.20
22	GS-1 Transmission-Demand				\$ 3.065570	\$ 1,226.23		\$ 2.113250	\$ 845.30		\$2.113250	\$ 845.30
23	GS-1 Distribution-Demand				\$ 3.366174	\$ 1,346.47		\$ 3.802412	\$ 1,520.96		\$3.802412	\$ 1,520.96
24	GS-1 Demand Delivery Taxes				\$ 2.090592	\$ 836.24		\$ 2.174367	\$ 869.75		\$2.174367	\$ 869.75
25	GS-1 Distribution-Energy				\$ 0.005897	\$ 1,179.40		\$ 0.006659	\$ 1,331.85		\$0.006659	\$ 1,331.85
26	GS-1 Energy Delivery Taxes				\$ 0.001811	\$ 362.20		\$ 0.001970	\$ 394.07		\$0.001970	\$ 394.07
27	GS-1 USBC				\$ 0.001143	\$ 228.60		\$ 0.001143	\$ 228.60		\$0.001143	\$ 228.60
28	Subtotal					\$ 19,677.74			\$ 19,102.26			\$ 19,102.26
29												
30	<b>Total Bill</b>				<b>\$ 0.098490</b>	<b>\$ 19,698.39</b>		<b>\$ 0.095650</b>	<b>\$ 19,129.96</b>		<b>\$ 0.095650</b>	<b>\$ 19,129.96</b>
31												
32								Monthly Increase (Decrease)			\$ (568.43)	\$ -
33								Annual Increase (Decrease)			\$ (6,821.16)	\$ -
34								<b>Percent Change</b>			<b>-2.89%</b>	<b>0.00%</b>



	A	B	C	D	E	F	G	H	I	J	K	L		
1														
2														
3														
4														
5														
6	<u>Typical Bill Calculation</u>													
7														
8	<b>Irrigation &amp; Sprinkling Service</b>							***ILLUSTRATIVE***						
9	<b>Non-Demand</b>							<b>\$138.6 million base</b>						
10								Docket 2018.02.012 Rate Review Stipulation		Capacity Acquisition				
11	<b>Current Rates</b>							<b>Proposed Rates</b>		<b>Proposed Rates</b>				
12	kWh per month		1342	Date		Date		Date						
13				Effective		Effective		Effective		Total Bill				
14				1/1/2020		1/1/2020		3/1/2020		Amount				
15	Irr. Dist.-Service Charge			(a)	\$ 7.46		\$ 7.46		\$7.90		\$ 7.90		\$7.90	\$ 7.90
16														
17	Plus:													
18	Irr. Supply-Energy				\$ 0.062791		\$ 84.27		\$ 0.064867		\$ 87.05		\$ 0.064867	\$ 87.05
19	Irr. Deferred Supply Costs				\$ 0.003856		\$ 5.17		\$ 0.003856		\$ 5.17		\$ 0.003856	\$ 5.17
20	Irr. Supply Taxes				\$ 0.004511		\$ 6.05		\$ 0.004729		\$ 6.35		\$ 0.004729	\$ 6.35
21	Irr. CTC-QF				\$ 0.003317		\$ 4.45		\$ 0.003317		\$ 4.45		\$ 0.003317	\$ 4.45
22	Irr. Transmission-Energy				\$ 0.009619		\$ 12.91		\$ 0.006168		\$ 8.28		\$ 0.006168	\$ 8.28
23	Irr. Distribution-Energy				\$ 0.019599		\$ 26.30		\$ 0.008487		\$ 11.39		\$ 0.008487	\$ 11.39
24	Irr. Delivery Taxes				\$ 0.026665		\$ 35.78		\$ 0.027168		\$ 36.46		\$ 0.027168	\$ 36.46
25	Irr. USBC				\$ 0.001144		\$ 1.54		\$ 0.001144		\$ 1.54		\$ 0.001144	\$ 1.54
26	Irr. BPA Credit				\$ (0.002225)		\$ (2.99)		\$ (0.002225)		\$ (2.99)		\$ (0.002225)	\$ (2.99)
27	Total Kwh Charge				\$ 0.129277		\$ 173.48		\$ 0.117511		\$ 157.70		\$ 0.117511	\$ 157.70
28														
29	<b>Total Bill</b>				<b>\$ 0.134830</b>		<b>\$ 180.94</b>		<b>\$ 0.123400</b>		<b>\$ 165.60</b>		<b>\$ 0.123400</b>	<b>\$ 165.60</b>
30														
31								Monthly Increase (Decrease)		\$ (15.34)		\$ -		
32								Season Incr (Decr) (6 Months)		\$ (92.03)		\$ -		
33								<b>Percent Increase</b>		<b>-8.48%</b>		<b>0.00%</b>		
34														
35														
36	(a) The seasonal charge is divided by 6 months to compute a monthly average.													

	A	B	C	D	E	F	G	H	I	J	K	L		
1														
2														
3														
4														
5														
6	<u>Typical Bill Calculation</u>													
7														
8	<b>Irrigation &amp; Sprinkling Service Demand</b>				***ILLUSTRATIVE***									
9					<b>\$138.6 million base</b>									
10					<b>Docket 2018.02.012 Rate Review Stipulation</b>				<b>Capacity Acquisition</b>					
11	<b>Kw</b>		<b>41</b>	<b>Current Rates</b>				<b>Proposed Rates</b>		<b>Proposed Rates</b>				
12	<b>kWh per month</b>		<b>12260</b>	<b>Date</b>				<b>Date</b>		<b>Date</b>				
13					<b>Effective</b>	<b>Total Bill</b>			<b>Effective</b>	<b>Total Bill</b>			<b>Effective</b>	<b>Total Bill</b>
14					<b>1/1/2020</b>	<b>Amount</b>			<b>3/1/2020</b>	<b>Amount</b>			<b>3/1/2020</b>	<b>Amount</b>
15	Irr. Dist.-Service Charge			(a)	\$ 17.57	\$ 17.57			\$18.60	\$ 18.60			\$18.60	\$ 18.60
16														
17	<u>Plus:</u>													
18	Irr. Supply-Energy				\$ 0.062791	\$ 769.82			\$ 0.064867	\$ 795.27			\$ 0.064867	\$ 795.27
19	Irr. Deferred Supply Costs				\$ 0.003856	\$ 47.27			\$ 0.003856	\$ 47.27			\$ 0.003856	\$ 47.27
20	Irr. Supply Taxes				\$ 0.004511	\$ 55.30			\$ 0.004729	\$ 57.98			\$ 0.004729	\$ 57.98
21	Irr. CTC-QF				\$ 0.003317	\$ 40.67			\$ 0.003317	\$ 40.67			\$ 0.003317	\$ 40.67
22	Irr. Transmission-Demand				\$ 1.650254	\$ 67.66			\$ 1.419834	\$ 58.21			\$ 1.419834	\$ 58.21
23	Irr. Distribution-Demand				\$ 6.013965	\$ 246.57			\$ 3.880566	\$ 159.10			\$ 3.880566	\$ 159.10
24	Irr. Demand Delivery Taxes				\$ 4.873694	\$ 199.82			\$ 5.020787	\$ 205.85			\$ 5.020787	\$ 205.85
25	Irr. Distribution-Energy				\$ 0.003258	\$ 39.94			\$ 0.002101	\$ 25.76			\$ 0.002101	\$ 25.76
26	Irr. Energy Delivery Taxes				\$ 0.002416	\$ 29.62			\$ 0.002428	\$ 29.77			\$ 0.002428	\$ 29.77
27	Irr. USBC				\$ 0.001144	\$ 14.03			\$ 0.001144	\$ 14.03			\$ 0.001144	\$ 14.03
28	Irr. BPA Credit				\$ (0.002225)	\$ (27.28)			\$ (0.002225)	\$ (27.28)			\$ (0.002225)	\$ (27.28)
29	Subtotal				\$ 1,483.42				\$ 1,406.63				\$ 1,406.63	
30														
31	<b>Total Bill</b>				<b>\$ 0.122430</b>	<b>\$ 1,500.99</b>			<b>\$ 0.116250</b>	<b>\$ 1,425.23</b>			<b>\$ 0.116250</b>	<b>\$ 1,425.23</b>
32														
33					Monthly Increase				\$ (75.76)				\$ -	
34					Season Increase (6 Months)				\$ (454.54)				\$ -	
35					<b>Percent Increase</b>				<b>-5.05%</b>				<b>0.00%</b>	
36														
37														
38	(1) The seasonal charge is divided by 6 months to compute a monthly average.													

9 **PREFILED DIRECT TESTIMONY OF**

10 **CRYSTAL D. LAIL**

11 **ON BEHALF OF NORTHWESTERN ENERGY**

12  
13 **TABLE OF CONTENTS**

14	<b><u>Description</u></b>	<b><u>Starting Page No.</u></b>
15	Witness Information	2
16	Purpose of Testimony	2
17	Rate Base	3
18	Reserve Fund	4
19	Taxes	8
20		
21	<b><u>Exhibit</u></b>	
22	Annual Report Reserve Fund Schedule	Exhibit CDL-1
23		

1 **Witness Information**

2 **Q. Please provide your name, employer, and title.**

3 **A.** My name is Crystal D. Lail. I am NorthWestern Energy's ("NorthWestern") Vice  
4 President and Controller.

5  
6 **Q. Please provide a description of your relevant employment experience and  
7 other professional qualifications.**

8 **A.** I have been with NorthWestern since January 2003. In my current position, my  
9 primary responsibilities include overseeing compliance with financial reporting  
10 requirements established by the Securities and Exchange Commission and  
11 other regulatory agencies, reviewing NorthWestern's financial statements, and  
12 implementing and overseeing accounting policies and procedures. Before  
13 joining NorthWestern, I was an auditor with KPMG. I have a Bachelor of  
14 Science in Business Administration and am a Certified Public Accountant.

15  
16 **Purpose of Testimony**

17 **Q. What is the purpose of your testimony?**

18 **A.** I explain NorthWestern's accounting treatment of its acquisition of Puget  
19 Sound Energy, Inc.'s ("Puget") interest in Colstrip Unit 4 ("CU4") ("Capacity  
20 Acquisition"), specifically the effect on rate base. In addition, I explain the  
21 establishment and accounting treatment of the environmental compliance,  
22 remediation, and decommissioning fund ("Reserve Fund"). Finally, I explain

1 the income tax impact of the Power Purchase Agreement (“PPA”) with Puget  
2 offset by the contribution to the Reserve Fund.

3

4

**Rate Base**

5 **Q. Please describe the accounting associated with the proposed Capacity**  
6 **Acquisition.**

7 **A.** Per the Federal Energy Regulatory Commission’s (“FERC”) Electric Plant  
8 Accounting instructions, the amounts included in the accounts for electric  
9 plant acquired as an operating unit or system shall be stated at the cost  
10 incurred by the party that first devoted the property to utility service (i.e.  
11 original cost). The difference between original cost and net book value at the  
12 time of acquisition is offset in accumulated depreciation. The difference  
13 between the purchase price and the net book value at the time of the  
14 acquisition is recorded as an acquisition adjustment. If the acquisition  
15 adjustment is positive (i.e. the purchase price exceeds net book value), it is  
16 amortized over the remaining life of the asset. If the acquisition adjustment is  
17 negative (i.e. the purchase price is less than net book value), it is recorded to  
18 accumulated depreciation. NorthWestern expects to record a negative  
19 acquisition adjustment due to the purchase price of \$1.00.

20

21 **Q. How does NorthWestern propose to amortize the acquisition**  
22 **adjustment?**

1 **A.** As NorthWestern expects to record a negative acquisition adjustment, it will  
2 not be amortized.

3

4

### **Reserve Fund**

5 **Q. What is the Reserve Fund?**

6 **A.** The proposed Reserve Fund establishes a fund for environmental  
7 compliance, remediation, and decommissioning costs, as described in the  
8 Prefiled Direct Testimony of Michael J. Barnes (“Barnes Direct Testimony”),  
9 and other post-closure costs. As explained in the Prefiled Direct Testimony of  
10 Kevin J. Markovich, there are two sources of revenue for the fund. The first  
11 source is 90% of the savings beyond the new proposed base power costs  
12 and credits in the Power Costs and Credits Adjustment Mechanism  
13 (“PCCAM”). The second source is the net revenue from the PPA with Puget.

14

15 **Q. Why is NorthWestern proposing to create the Reserve Fund?**

16 **A.** The Capacity Acquisition creates an opportunity to set aside funding with  
17 capitalization for environmental compliance, remediation, and  
18 decommissioning of our current interest in CU4, without a rate increase.  
19 Costs for environmental compliance, remediation, and decommissioning of  
20 generation facilities are typically requested for recovery from customers once  
21 incurred through either capital investment or, as environmental compliance,  
22 remediation, and closure costs are incurred, they can be captured in a  
23 regulatory asset and amortized in customer rates.

1 Use of the proceeds from the PPA and savings in the PCCAM will allow for  
2 the Reserve Fund to grow over time and then be drawn down as needed to  
3 pay environmental compliance, remediation, and decommissioning costs,  
4 reducing future requests for customer funding while maintaining rate stability.

5  
6 **Q. Why is NorthWestern proposing to use the Reserve Fund for its current  
7 ownership interest in CU4, but not for the Capacity Acquisition?**

8 **A.** The Capacity Acquisition does not increase these costs as Puget remains  
9 responsible for its existing obligations with regard to CU4's operational  
10 compliance with coal combustion residuals environmental regulations and for  
11 its existing share of decommissioning and closure costs of all existing  
12 facilities. This includes the Administrative Order on Consent entered into  
13 between PPL Montana, LLC, now Talen Montana, LLC, and the Montana  
14 Department of Environmental Quality.

15  
16 **Q. Are there additional benefits to utilities and customers of a pre-funded  
17 reserve?**

18 **A.** Yes. Funded reserves reduce utilities' potential borrowing costs that may be  
19 incurred if the utility relied solely on post-event financing. In addition, a well-  
20 funded reserve, capable of covering some portion of expected costs and  
21 providing rate stability for customers, would likely increase investor  
22 confidence in the utility. To the extent this reduces NorthWestern's cost of  
23 capital (debt and/or equity) customers would benefit.

1 **Q. Please describe how NorthWestern proposes to establish the Reserve**  
2 **Fund.**

3 **A.** NorthWestern will establish the Reserve Fund in a similar manner to a pre-  
4 funded storm reserve account, although the funding source will be different.  
5 NorthWestern will credit the Reserve Fund with net revenue from the PPA  
6 and savings from the PCCAM with the same amount set aside in an escrow  
7 account.

8

9 **Q. How does NorthWestern propose to reflect the use of the Reserve**  
10 **Fund?**

11 **A.** NorthWestern proposes to capture the operations and maintenance expenses  
12 (“O&M”) for compliance with the 2012 Administrative Order on Consent and  
13 coal combustion ash residuals regulations, as described in the Barnes Direct  
14 Testimony, in a regulatory asset as incurred. Costs captured in the regulatory  
15 asset will be limited to amounts in excess of any environmental compliance  
16 and remediation costs included in NorthWestern’s recent rate review, Docket  
17 No. 2018.02.012. NorthWestern will also capture future decommissioning  
18 and post-closure costs in the regulatory asset.

19

20 Following the expiration of the PPA between Puget and NorthWestern, (4  
21 years and 364 days), NorthWestern will submit a request to charge the costs  
22 accumulated in the regulatory asset against the Reserve Fund and be  
23 reimbursed, subject to the fund balance. Then, on an annual basis,



1 NorthWestern proposes to submit a compliance filing requesting to charge  
2 any costs in the regulatory asset against the Reserve Fund, subject to the  
3 fund balance.

4

5 **Q. What if the Reserve Fund is not sufficient to cover the compliance,  
6 remediation, decommissioning, and closure costs?**

7 **A.** NorthWestern will seek amortization of the regulatory asset.

8

9 **Q. What if the Reserve Fund exceeds the amount necessary for  
10 compliance, remediation, decommissioning, and closure costs?**

11 **A.** That is a “problem” we would love to have. At that time, NorthWestern will  
12 come to the Commission for the proper regulatory treatment of the funds.

13

14 **Q. Will the Commission be able to review the balance of the Reserve Fund?**

15 **A.** Yes. NorthWestern proposes to add an additional schedule to its Montana  
16 Public Service Commission Annual Report detailing the regulatory asset  
17 amount, beginning and ending balance of the reserve, and any related activity  
18 for that annual period. The new schedule will describe the charges  
19 against the Reserve Fund. An example of the new schedule is attached as  
20 Exhibit CDL-1.

21

1 Taxes

2 **Q. How is the income from the PPA with Puget reflected for income tax**  
3 **purposes?**

4 **A.** Revenue from the PPA will be taxable to NorthWestern and therefore  
5 statutory income tax expense will be computed.  
6

7 **Q. How will the contribution to the Reserve Fund be reflected for income**  
8 **tax purposes?**

9 **A.** A statutory income tax benefit will be recorded in NorthWestern's financial  
10 statements for the contribution to the Reserve Fund with a corresponding  
11 deferred tax asset. The deferred tax asset must be recorded because the  
12 contribution to the Reserve Fund will not be deductible for tax purposes until  
13 the proceeds are utilized.  
14

15 **Q. How does NorthWestern propose to reflect the deferred tax impact of**  
16 **the PPA?**

17 **A.** The deferred tax asset recorded relating to the contribution to the Reserve  
18 Fund will be an addition to rate base in future rate reviews to reflect the future  
19 benefit to customers that NorthWestern has not yet realized for income tax  
20 purposes.  
21

22 **Q. Does this conclude your testimony?**

23 **A.** Yes, it does.

Sch. 37	RESERVE FUND		
		December 31,	
		Current Year	Previous Year
1			
	<b>REGULATORY LIABILITY</b>		
2	<b>Balance at January 1, 20__</b>	<b>\$0</b>	<b>\$0</b>
3			
4	PCCAM Savings	\$0	\$0
5			
6	90 MW Puget Sale	\$0	\$0
7			
8	Costs Applied to Reserve Fund	\$0	\$0
9			
10	<b>Balance at December 31, 20__</b>	<b>\$0</b>	<b>\$0</b>
11			
12	<b>REGULATORY ASSET</b>		
13			
14	<b>Balance at January 1, 20__</b>	<b>\$0</b>	<b>\$0</b>
15			
16	Operating & Maintenance Costs		
17			
18			
19			
20			
21			
22			
23			
24			
25	Total Operating & Maintenance Costs	-	-
26			
27	<b>Balance at December 31, 20__</b>	<b>\$0</b>	<b>\$0</b>
28			
29			
30			