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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

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IDAHO PUBLIC
UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES IN IDAHO AND APPROVAL OF PROPOSED ELECTRIC SERVICE SCHEDULES AND REGULATIONS

CASE NO. PAC-E-21-07

TESTIMONY OF MIKE VEILE

Direct Testimony of

MIKE VEILE

On Behalf of

P4 Production, L.L.C. an affiliate of Bayer Corporation

November 8, 2021

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Direct Testimony of Mike Veile**

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I. INTRODUCTION

Q PLEASE STATE YOUR NAME, EMPLOYER AND BUSINESS ADDRESS.

A My name is Mike Veile. I am employed by P4 Production, L.L.C. (“P4”), an affiliate of Bayer Corporation, at its Soda Springs plant. My business address is P.O. Box 816, Soda Springs, Idaho 83276.

Q PLEASE PROVIDE YOUR EDUCATIONAL BACKGROUND, WORK EXPERIENCE, AND CURRENT POSITION AT BAYER.

A I graduated from Utah State University with a B.S. in 1992 and an M.S. in 1994 in Mechanical Engineering. I began working in 1998 as a Mechanical Engineer at the Soda Springs plant. Monsanto and P4 were acquired in 2018 by Bayer and now operate as part of the Bayer Corporation group of companies. While the Soda Spring plant is owned by P4, I refer to P4 and Bayer Corporation collectively as “Bayer.” I have continued to work for Bayer in various capacities. I am currently the Site Energy Manager for the Soda Springs plant.

Q WHAT RESPONSIBILITIES DO YOU HAVE AT THE SODA SPRINGS PLANT?

A My responsibilities include the procurement of electricity as well as lean manufacturing and production systems and site optimization. Electricity is the single largest input cost of producing elemental phosphorus. For the past several years I have been directly involved in negotiations and management decisions pertaining to existing and future electrical contracts between Bayer and Rocky Mountain Power (the “Company”). I have also reviewed and am generally familiar with prior

1 electricity contracts for the Soda Springs plant along with documents submitted to,
2 and orders issued by, the Idaho Public Utilities Commission.

3 **Q WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

4 A The purposes of my testimony are to: (1) explain Bayer’s support for the Commis-
5 sion to enter an order approving the Settlement Stipulation entered into between the
6 Company, Staff, and Intervenors filed October 25, 2021, including approval of the
7 new Electric Service Agreement (“ESA”) between Bayer and the Company at-
8 tached to the Settlement Stipulation as Attachment 2; (2) review the new ESA be-
9 tween Bayer and the Company and describe the differences between the existing
10 ESA and new ESA; (3) provide insight into the operational impacts that the curtail-
11 ment products under the new ESA have on operation of the Soda Springs plant; (4)
12 provide relevant history and information concerning the operation of the Soda
13 Springs plant; and (5) review the history of electric service agreements between the
14 Company and Monsanto.

15 **II. SUPPORT OF SETTLEMENT STIPULATION AND APPROVAL OF**
16 **THE NEW ELECTRIC SERVICE AGREEMENT BETWEEN ROCKY**
17 **MOUNTAIN POWER AND P4 PRODUCTION, L.L.C.**

18
19 **Q PLEASE EXPLAIN WHY BAYER SUPPORTS THE SETTLEMENT STIP-**
20 **ULATION.**

21 As PacifiCorp’s largest customer in Idaho, and because electricity is the largest
22 single cost of producing phosphorus, Bayer takes an active role in all Rocky Moun-
23 tain Power rate proceedings.

24 Commencing on September 13, 2021, the parties held several meetings
25 which culminated in a settlement agreement, the details of which are set forth in

1 the Settlement Stipulation submitted to the Commission for approval. The Settle-
2 ment Stipulation includes an \$8 million rate increase and an increase of the Bayer
3 interruptible credit from \$[REDACTED] million to \$[REDACTED] million. All things considered and
4 recognizing that the settlement is a compromise of disputed claims, Bayer believes
5 that the terms and conditions of the Settlement Stipulation are fair, just, reasonable,
6 and in the public interest.

7 **Q HOW WAS BAYER'S [REDACTED] MILLION CURTAILMENT PRODUCT**
8 **VALUE ARRIVED AT AND WHY SHOULD THE COMMISSION AP-**
9 **PROVE IT AS PART OF THE SETTLEMENT?**

10 The [REDACTED] million value for Bayer's interruptible products, along with the \$8 mil-
11 lion rate increase, were arrived at as a compromise. The methodology applied by
12 the Company to value Bayer's interruptible product resulted a credit of \$[REDACTED] mil-
13 lion, as explained in the testimony of Craig Eller. The methodology applied by
14 Bayer resulted in a credit between \$[REDACTED] million and \$[REDACTED] million, as explained in
15 the testimony of Brian Collins. The settlement value of \$[REDACTED] million is based on a
16 compromise. Bayer supports the settlement as fair, just, and reasonable under the
17 circumstances.

18 **III. PROPOSED NEW 2022 ELECTRIC SERVICE AGREEMENT**

19 **Q HAS ROCKY MOUNTAIN POWER AND BAYER NEGOTIATED THE**
20 **TERMS OF A NEW ESA?**

21 **A** Yes. After a period of extensive negotiations, Bayer and the Company agreed on
22 terms of a new ESA, excluding the value of Bayer's interruptible products, to be-
23 come effective January 1, 2022. On September 16, 2021, the Company and Bayer

1 filed a Partial Stipulation on Terms of P4's Energy Service Agreement ("Partial
2 Stipulation") as Supplemental Confidential Exhibit No. 36 to Craig Eller's testi-
3 mony. A copy of the new ESA is attached to the Partial Stipulation as confidential
4 Attachment 1. The Partial Stipulation allows the Commission to determine the
5 value of Bayer's interruptible products in the absence of an agreement between the
6 parties. (Partial Stipulation, p. 2, ¶ 4.)

7 **Q: HAS AN AGREEMENT BEEN REACHED TO ESTABLISH BAYER'S IN-**
8 **TERRUPTIBLE CREDIT VALUE?**

9 Yes. Pursuant to the Settlement Stipulation, the Company, Staff, and all Intervenors
10 settled all pending issues in this proceeding, including a \$ [REDACTED] million value for
11 Bayer's curtailment products. Attached as Bayer Exhibit 301 is a copy of the final
12 ESA as signed by Bayer with the Company's signature page in progress and ex-
13 pected by the hearing date.

14
15 **Q: PLEASE SUMMARIZE THE TERMS OF BAYER'S NEW ESA.**

16 The ESA is for a two-year term commencing January 1, 2022, and ending Decem-
17 ber 31, 2023. Thereafter, the ESA automatically renews for successive one-year
18 terms until either party gives 180-day notice of termination. The charges for electric
19 service will be set forth in Schedule 400 for demand and energy, less the curtailment
20 credit, spread equally over the twelve monthly bills. All parties agree that the terms
21 and conditions of the new ESA are fair, just, reasonable, and in the public interest.
22 (Settlement Stipulation, ¶ 14.)

1 **Q PLEASE DESCRIBE THE DIFFERENCES BETWEEN THE CURTAIL-**
2 **MENT PRODUCTS UNDER THE EXISTING ESA AND THE NEW ESA?**

3 **A Under the current ESA, the Company has the right to interrupt Bayer a total of**
4 1,000 hours annually, consisting of 12 hours of system integrity interruptions at 162
5 MW (all three furnaces), 188 hours of operating reserves interruptions at 95 MW,
6 and 800 hours of economic interruptions at 67 MW. These curtailment scenarios
7 can be accomplished through any combination of shutting down or reducing load
8 on the three furnaces.

9 Significantly, Bayer has had the right to buy-through economic curtailment
10 at market prices versus the Schedule 400 rate, which it has regularly done to meet
11 production requirements or safeguard the plant operations. As a result of these eco-
12 nomic curtailment events, the Company does not have to plan resources to supply
13 Bayer with buy-through power coming from the market.

14 Under the new ESA, the system integrity curtailment product has been elim-
15 inated, the operating reserves curtailment product continues with slight changes,
16 and the economic curtailment product continues with significant changes.

17 Operating reserve interruptions will continue to be directed by the Company
18 in its sole discretion when it determines that curtailment is needed to meet operating
19 reserve requirements. The Company may interrupt Bayer a maximum of 188 hours
20 per calendar year for operating reserves. The Company is required to give Bayer
21 not less than six minutes notice of curtailment. Historically, when Bayer receives a
22 curtailment notice it has shut down the furnaces within 1-2 minutes. The current
23 ESA and the new ESA both provide operating reserve curtailment based upon a

1 95MW load; however, under the current ESA Bayer can utilize a combination of
2 furnace nos. 7, 8 and 9,¹ which allows Bayer some operational flexibility, whereas
3 the new ESA requires that furnace nos. 7 and 8 will always be curtailed.

4 The economic curtailment product has changed considerably under the new
5 ESA. Previously, Bayer was subject to 800 hours of economic curtailment based
6 on one-hour intervals—i.e. up to 800 interruptions annually. Under the new ESA,
7 Bayer is subject to 1,600 interruptions annually based on 15-minute intervals. Sig-
8 nificantly, Bayer no longer has the right to buy-through economic curtailments.
9 When the marginal price at the Monsanto Price Node exceeds \$250 per MWh,
10 Bayer is automatically interrupted. Bayer and the Company have developed an op-
11 erating procedure so that interruptions will be hard-wired into Bayer's plant opera-
12 tions. The Company will no longer call economic interruptions at its discretion.
13 Economic curtailment shuts down furnace no. 9.

14 The new ESA identifies each furnace as its own specific curtailment re-
15 source and no longer calls a MW value for curtailment. This significant change
16 reduces operational flexibility.

17 In addition, the Company can simultaneously curtail furnace nos. 7 and 8
18 for operating reserves and furnace no. 9 for economic curtailment, resulting in a
19 complete shut-down of the Soda Springs plant. This creates significant operational
20 risk for Bayer, as explained below.

21 **Q HOW DO THE CHANGES TO ECONOMIC CURTAILMENT AFFECT**
22 **BAYER'S OPERATIONS?**

¹ Monsanto's furnace numbers 1-6 were in Columbia, Tennessee, and were shut down in 1986.

1 The inability to buy-through economic curtailment is a significant operational risk
2 since Bayer is required to interrupt regardless of plant operation conditions at the
3 time of the interruptions and regardless of Bayer's need to produce phosphorous.

4 In addition, the inability to buy-through means that economic curtailment
5 and operating reserves curtailment may occur simultaneously. Under the current
6 ESA, the Company cannot call operating reserve curtailment that results in two
7 furnaces being off while the third furnace is off for economic curtailment. The only
8 time that all furnaces can be curtailed simultaneously is under the 12 hours of sys-
9 tem emergency curtailment.

10 By contrast, under the new ESA the inability to buy-through economic cur-
11 tailments, combined with the large number of economic curtailment instances and
12 the potential for simultaneous curtailment of all three furnaces, introduces signifi-
13 cant operational risk to the plant due to the high temperature operating parameters
14 for the plant.

15 An integral feature of the plant is the kiln, which is a very large refractory
16 lined piece of equipment that calcines phosphate ore prior to it being fed into the
17 furnaces. The kiln is fueled by carbon monoxide off-gas from the furnaces. If all
18 three the furnaces are shut down, the kiln becomes inoperable due to the lack of
19 fuel and triggers a cascade of harmful consequences to the plant. Losing fuel con-
20 tributes to a "thermal shock" of the kiln by reducing kiln temperature. Thermal
21 shock may in turn cause kiln refractory failure depending upon the severity and/or
22 number of instances of shock. Kiln refractory failure causes serious damage, result-
23 ing in a minimum of 7 days downtime and significant repair costs.

1 Another adverse consequence of not being able to buy-through economic
2 curtailments and of being forced to take down specific furnaces is the interruption
3 of metal tapping. Furnaces must be operating to complete certain operations. One
4 of these is known as a metal tap, removing the built-up molten metal within the
5 furnace. This operation can take 3-4 hours to execute and involves numerous oper-
6 ators. If Bayer is curtailed in the middle of the operation it must be suspended and
7 restarted when the furnace is back online in a steady state operation. The current
8 ESA, which gives Bayer flexibility to curtail MWs versus specific furnaces, has
9 allowed sufficient flexibility to avoid this scenario in most cases.

10 Thus, in addition to production loss from curtailment, the new ESA intro-
11 duces additional risks to the plant. Bayer has accepted this additional risk in order
12 to provide a curtailment product that has greater value to the Company.

13 **Q WHY DID BAYER AGREE TO ASSUME THESE NEW ECONOMIC CUR-**
14 **TAILMENT RISKS?**

15 For two primary reasons. First, the Company expressed a desire for economic cur-
16 tailment product to function as a capacity resource, which would provide greater
17 value to the Company given its growth of renewable wind and solar resources that
18 are not always available. Bayer's buy-through option undermined the ability of eco-
19 nomic curtailment to provide capacity value. Second, to provide greater value to
20 Bayer by increasing the value of its curtailment products.

21 **Q PLEASE EXPLAIN WHY BAYER'S LOAD CURTAILMENT HOURS ARE**
22 **UNIQUE?**

1 A Bayer is unlike any other non-firm customer on the PacifiCorp system because of
2 the magnitude of the curtailable load, the number of curtailment hours, and the short
3 response time. Bayer provides 188 hours of operating reserves which can be taken
4 in a matter of seconds, The curtailment Bayer's load is quicker than any peaker
5 resource. Economic interruptions provide up to 1,600 instances of 15-minute inter-
6 ruptions that can be taken within 22.5 minutes notice. Bayer's three furnaces can
7 be curtailed separately as well as collectively in combination. The increased benefit
8 of these products to the Rocky Mountain Power system is undisputed and warrants
9 an increased credit for the losses and risks newly incurred by Bayer, though the
10 value of Bayer's interruptible credit was a matter of substantial disagreement.

11 **IV. HISTORY AND OPERATIONS OF SODA SPRINGS PLANT**

12 **Q PLEASE PROVIDE A BRIEF HISTORY AND OVERVIEW OF THE OP-**
13 **ERATION OF BAYER'S SODA SPRINGS PLANT.**

14 A The Soda Springs plant began operations in 1952 and has since operated continu-
15 ously—for nearly 70 years. The plant produces one product: elemental phosphorus.
16 Elemental phosphorous is identified as "P" in the Periodic Table of Elements.
17 Bayer's product "P4" is a molecule of 4 phosphorus atoms. Phosphorous is an es-
18 sential building block for many products. Its primary use is the production of
19 glyphosate, the active ingredient in Roundup® herbicide.

20 **Q DESCRIBE HOW PHOSPHORUS IS MANUFACTURED.**

21 A Phosphate ore is mined in the mountains east of Soda Springs and transported by
22 truck to the plant. The phosphate ore is calcined in a kiln and then combined with
23 coke, most of which is manufactured at our sister plant in Rock Springs, Wyoming,

1 and with quartzite which we mine from a quarry west of the plant. The mixture is
2 placed into one of three electric furnaces where electrical energy creates the heat to
3 drive a chemical reaction liberating the phosphorus as a gas. The phosphorus gas is
4 cleaned, condensed, and then shipped to other locations. The phosphorus manufac-
5 turing process is capital intensive, with electricity being the single largest variable
6 cost.

7 **Q WHERE IS THE PHOSPHORUS SHIPPED AND HOW IS IT USED?**

8 A Most of the phosphorus produced in Soda Springs is transported to Bayer's Louisi-
9 ana facility by railcar or to its Brazil facility by railcar and ocean freightliner. There
10 phosphorous is converted into glyphosate. Small amounts of phosphorus are sold
11 to other entities for use in a variety of products.

12 **Q DESCRIBE THE ELECTRICAL SERVICES AT THE SODA SPRINGS**
13 **PLANT.**

14 A Bayer has a total load of approximately 191 MW. This load consists of 162 MW of
15 non-firm power which is provided to furnace no. 7 (46 MW), furnace no. 8 (49
16 MW) and furnace no. 9 (67 MW), approximately 20 MW of auxiliary load, and 9
17 MW of firm load. The Soda Springs plant utilizes in excess of [REDACTED] KWh of
18 energy annually and is Rocky Mountain Power's largest single-point customer.
19 Bayer's load has been relatively stable since furnace no. 9 came on-line in 1966.

20 **Q ARE OTHER ELECTRIC FURNACES USED TO MANUFACTURE PHOS-**
21 **PHORUS?**

1 A Not in the United States. Monsanto's first six electric furnaces to manufacture phosphorus were built and operated in Columbia, Tennessee. That plant closed in 1986
2 when its costs were no longer competitive—primarily due to rising electricity costs.
3 Monsanto constructed furnace nos. 7 and 8 at Soda Springs which began operating
4 in 1952. Furnace no. 9 became operational in 1966, and is the last and largest electric
5 furnace phosphorous constructed in North America. At that time there were 31
6 electric phosphorous furnaces in operation in North America. Bayer's three furnaces
7 are all that remain. Outside of North America there are electric furnaces operating
8 to produce phosphorous in China, Vietnam, and Kazakhstan, which supply
9 competitors.
10

11 V. **HISTORY OF ELECTRIC SERVICE CONTRACTS**

12 Q **PLEASE PROVIDE A HISTORY OF THE ELECTRIC SERVICE CONTRACTS SUPPLYING THE SODA SPRINGS PLANT.**
13

14 A Bayer and its predecessor Monsanto have been a special contract customer of
15 Rocky Mountain Power and its predecessor, Utah Power & Light Company, since
16 1951. Electric Service Agreements were entered into in 1951, 1965, 1991, 1995,
17 2000, 2003, 2007, 2008, 2011, 2014 and 2016. Each ESA provided a non-firm load
18 for the furnaces and a small firm load for auxiliary power. Each contract contained
19 varying curtailment hours and terms of curtailment. In many of the contracts Monsanto
20 had the option of buying through curtailments at replacement energy costs.
21 The rates and terms of all special contracts were arrived at by agreement negotiated
22 between the parties and approved by the Commission, with the exception of 2003
23 and 2011.

1 Each of these contracts provided the Company with the right to curtail the
2 delivery of electricity for operating reserves, system integrity interruptions, and for
3 economic purposes. Each curtailment product provided unique features designed to
4 provide capacity and energy benefits to the Company and billing credits to Mon-
5 sonto to enable it to remain competitive and in business.

6 Until 2004, rates were based upon a single flat all-in energy rate for both
7 firm and interruptible power. These rates were designed to cover the Company's
8 variable energy costs and make a reasonable contribution to fixed costs. In 2004
9 Monsanto began paying demand and energy charges and began receiving a credit
10 for interruptible products.

11 **Q PLEASE EXPLAIN THE LAST CONTESTED RATE CASE AND THE EF-**
12 **FECT ON MONSANTO'S CONTRACT?**

13 **A**On May 28, 2010, Rocky Mountain Power filed Case No. PAC-E-10-07. The val-
14 ues of Monsanto's economic curtailment, non-spinning operating reserves, and sys-
15 tem integrity curtailment products were hotly contested. This case was concluded
16 by Order No. 32196 issued February 28, 2011. This was the first time the Commis-
17 sion settled upon a definitive methodology for valuing Monsanto's interruptible
18 products, establishing energy and capacity values for all three products totaling \$■
19 million. This total included \$■ million for operating reserves with a capacity value
20 based upon the average of the capacity costs of the Company's Currant Creek gas
21 turbine and an Aero-derivative gas turbine from the IRP. (Order No. 32196, p. 57.)
22 The Commission established a value of \$■ million for the economic curtailment
23 product based on market prices. *Id.* at 57. The value of the system integrity product

1 was established at \$█ million. *Id.* at 57. In establishing the value of interruptible
2 products, the Commission stated:

3 Arriving at a specific value for Monsanto credit is at least as much
4 art as science. The cost of service for firm load customers is an em-
5 phasized science and establishing the cost of service for an inter-
6 ruptible load is even more difficult, requiring considerable judg-
7 ment. *Id.* at 12.

8
9

10 The Commission finds that the ability to curtail Monsanto load, one
11 of Rocky Mountain Power's largest, provides a direct benefit to
12 Rocky Mountain Power's system as a whole. Similarly, we find that
13 while Rocky Mountain Power might replace the interruptible ser-
14 vices currently purchased from Monsanto using its other existing re-
15 sources in the short term, the long-term cost of the system would be
16 higher. Rocky Mountain Power's 2008 IRP recognizes Monsanto
17 interruptibility as a firm capacity resource. If it were not recognized
18 in such a manner, the Company would have significantly larger ca-
19 pacity deficits . . . *Id.* at 56.

20
21 The Commission directed "that the parties will execute a five-year contract
22 ... to promote greater price certainty and stability for Monsanto." *Id.* at 57. Accord-
23 ingly, Monsanto and Rocky Mountain Power entered into a new ESA for the five-
24 year period 2011-2016.

25 **Q HAS BAYER'S INTERRUPTIBLE PRODUCT CREDIT CHANGED**
26 **SINCE THE 2011 COMMISSION ORDER?**

27
28 Yes. As a result of a 2011 settlement stipulation in Case No. PAC-E-11-12, Mon-
29 sonto's interruptible credit increased to \$█ million in 2012 and \$█ million in
30 2013. (Order No. 32432, ¶ 7.) The \$█ million credit has not changed since then.

31 **Q HAVE NEW CONTRACTS BEEN ENTERED INTO CONTINUING THE**
32 **CREDIT AT \$20 MILLION?**

33 Yes. Rocky Mountain Power and Monsanto entered into new ESAs effective Janu-
34 ary 1, 2014, followed by the current ESA effective January 1, 2016, which

1 automatically renewed for successive one-year terms with electric service provided
2 as specified in Schedule No. 400. Rocky Mountain Power gave the required 180-
3 day notice of termination of the current ESA.

4 **Q DOES THIS CONCLUDE YOUR TESTIMONY?**

5 **A Yes.**

Exhibit 301 - Electric Service Agreement

**ELECTRIC SERVICE AGREEMENT
BETWEEN
ROCKY MOUNTAIN POWER
AND
P4 PRODUCTION**

This Electric Service Agreement (“Agreement”) is entered into by and between PacifiCorp, an Oregon corporation doing business as Rocky Mountain Power (“Rocky Mountain Power”), and P4 Production, L.L.C., a Delaware limited liability company (“Customer”). Rocky Mountain Power and Customer are referred to herein individually as a “Party” and jointly as “Parties.”

RECITALS

A. Rocky Mountain Power provides retail electric service to Customer’s elemental phosphorous production facilities located at 1853 Highway 34, Soda Springs, Idaho 83276 (the “Plant”).

B. PacifiCorp and Customer’s predecessor in interest, Monsanto Company, entered into an Electric Service Agreement with respect to the Plant effective January 1, 2016, which expires on December 31, 2021.

C. Customer desires to purchase electric service for the Plant under this Agreement beginning January 1, 2022.

D. Rocky Mountain Power has agreed, subject to regulatory approvals, to provide electric service to the Plant in accordance with this Agreement.

AGREEMENT

The Parties agree as follows:

Section 1: Definitions

As used in this Agreement, the following terms have the meanings specified:

1.1 Average Kilovar Demand means the average of the Daily Kilovar Demands for that Billing Period.

1.2 Billing Period means the period of approximately thirty (30) days intervening between regular successive meter reading dates.

1.3 Curtailed Products means the Operating Reserve and Economic Curtailment products as described and set forth in Exhibit A.

1.4 Curtailement Products Credit means the credit to Customer for the Curtailement Products as calculated and set forth in Exhibit A.

1.5 Customer Charge means the “Customer Charge” amount set forth in the then-current version of Idaho Electric Service Schedule No. 400 or its successor.

1.6 Customer Electrical Facilities means all facilities and equipment within Customer’s 138 kV substation at its Plant except for Rocky Mountain Power’s metering equipment, under-frequency relays, capacitors and any other equipment owned by Rocky Mountain Power and installed in Customer’s substation under the terms and conditions of this Agreement or any other agreement.

1.7 Daily Kilovar Demand means, as to any day, the kilovar demand measured during the 15-minute interval corresponding to the 15-minute interval during which Customer’s Demand occurs for the Billing Period which includes that day.

1.8 Demand means Customer’s greatest use during the Billing Period in kilowatts averaged over a fifteen (15) minute period of time during which electric energy is delivered by Rocky Mountain Power to Customer’s Point of Delivery.

1.9 Demand Charge means the “Demand Charge” amount set forth in the then-current version of Idaho Electric Service Schedule No. 400 or its successor.

1.10 Electric Service Regulations means Rocky Mountain Power’s currently effective electric service rules and regulations on file with and approved by the Idaho Public Utilities Commission (“Commission”), as they may be amended or superseded from time to time with the approval of the Commission.

1.11 Energy means the total electric energy, measured in kilowatt-hours, delivered to Customer during the Billing Period.

1.12 Energy Charge means the “Energy Charge” amount set forth in the then-current version of Idaho Electric Service Schedule No. 400 or its successor.

1.13 Excess Kilovar means each kilovar of Average Kilovar Demand in excess of 33 kilovars per 100 kW of Demand.

1.14 Excess Kilovar Charge means the “Excess Kilovar Charge” amount set forth in the then-current version of Idaho Electric Service Schedule No. 400 or its successor.

1.15 Plant means Customer’s elemental phosphorous production facilities located at 1853 Highway 34, Soda Springs, Idaho 83276.

1.16 Point of Delivery for all electric service delivered to the Plant means the termination of Rocky Mountain Power’s two 138 kV transmission lines at Customer’s substation located approximately one point six (1.6) miles south from Rocky Mountain Power’s Threemile Knoll substation in Caribou County, Idaho, or such other point(s) of metering as Rocky Mountain Power and Customer shall agree.

1.17 Prudent Electrical Practices means those practices, methods and equipment, as changed from time to time, that are commonly used in prudent electrical engineering and operations to operate electric equipment lawfully and with safety, dependability, efficiency and economy and that are in accordance with the IEEE Standards, the National Electrical Safety Code or the National Electric Code or any other applicable government code in effect during the term of this Agreement.

1.18 Reliability Authority means the North American Electric Reliability Corporation, the Western Electricity Coordinating Council, or any additional or successor organization which is responsible for managing or enforcing transmission system reliability.

1.19 Retail Customer means a Rocky Mountain Power customer, other than Customer, who purchases electric service for its own consumption (i.e., not for resale).

1.20 Termination Date means the hour ending 2400 on December 31 of the year established in paragraph 2.1.

1.21 Total Contract Demand means the specified Demand in kilowatts that Customer contracts with Rocky Mountain Power to supply for the Plant and that Rocky Mountain Power agrees to have available for delivery to Customer. Customer may require the delivery of such amounts of Demand as Customer may require to meet load requirements at the Plant up to, but not in excess of, 215,000 kW unless otherwise agreed in writing in accordance with the terms of this Agreement.

Section 2: Term; Reopeners

2.1 Term. The initial term of this Agreement shall commence January 1, 2022, contingent upon (i) the Parties' agreement on the Operating Procedure as defined in Exhibit A, and (ii) Commission approval of the Agreement without modification, and the initial term of this Agreement shall end on the hour ending 2400 on December 31, 2023. This Agreement shall automatically renew for successive one (1) year terms unless and until either Party gives not less than 180 days written notice of termination. Such notice may be given at any time to terminate the Agreement at the end of any annual renewal year. After the Termination Date, Rocky Mountain Power shall continue to provide any electric service to Customer as specified in Idaho Electric Service Schedule No. 400 or its successor then in effect until such time as the Commission establishes or approves other terms and conditions and prices.

2.2 Reopeners and Price Adjustments. The charges specified in Section 4.1 of this Agreement shall be adjusted from time to time so that the charges equal the Commission-approved rates applicable to Customer, including, but not limited to, customer charges, demand charges, energy charges, surcharges, and credits, as specified in Idaho Electric Service Schedule No. 400 or its successor. Adjustments to the charges in Section 4.1 of this Agreement shall become effective on the effective date of any adjustment to Idaho Electric Service Schedule No. 400 resulting from any general rate case or other filing by Rocky Mountain Power.

2.2.1 Rocky Mountain Power may apply to the Commission for a modification of this Agreement if Rocky Mountain Power demonstrates that any of the Curtailment Products are materially reduced in value to Rocky Mountain Power due to any action or inaction by Customer,

including without limitation (a) Customer's modification, replacement or abandonment of any furnace at the Plant, (b) Customer shutting down one or more of its furnaces for economic reasons for an extended period of time, excluding shut-downs for maintenance, repair or capital improvements, or (c) Customer installs electric generation equipment at the Plant during the term of the Agreement; and as a consequence of Customer's actions or inactions as described above, Rocky Mountain Power is materially financially harmed by reason of such reduction in Plant load, taking into account the price that could be obtained by Rocky Mountain Power in a market sale of the energy available from the reduced load, among other things. Rocky Mountain Power shall bear the burden of satisfying these conditions. The Commission shall determine whether these conditions have been satisfied and whether and in what respects this Agreement may be modified to address the change in Customer's furnace operations and the financial harm to Rocky Mountain Power.

2.2.2 Without limiting Rocky Mountain Power's rights in Section 2.2.1, Rocky Mountain Power may apply to the Commission for a modification of Rocky Mountain Power's Idaho Electric Service Schedule No. 400 and, as necessary and with approval of the Commission, make associated modifications to this Agreement to facilitate such changes, if Rocky Mountain Power demonstrates that it is materially financially harmed due to Customer installing electric generation equipment at the Plant during the term of the Agreement. Customer shall inform Rocky Mountain Power of any plans to install electric generation equipment at the Plant at least 270 days prior to the anticipated operation date of the electric generation equipment.

2.2.3 To the extent Customer increases its operating load or otherwise modifies its operations at the Plant such that additional energy or capacity products are available from the Plant in addition to the Curtailment Products, Customer grants a right of first offer for such incremental products to Rocky Mountain Power.

Section 3: Purchase and Sale of Electric Service

3.1 Scope of Deliveries. Rocky Mountain Power shall deliver such amounts of electric service to the Point of Delivery as Customer requires to meet its load requirements at the Plant up to, but not in excess of, Total Contract Demand, subject to the provisions of Exhibit A.

3.2 Delivery Voltage. Rocky Mountain Power shall deliver electric service at the Point of Delivery in the form of three-phase, alternating current at a nominal frequency of 60 cycles per second, and at a nominal voltage of 138,000 volts, in accordance with Prudent Electrical Practices. Except during temporary emergency conditions, Rocky Mountain Power shall maintain voltage within the limits of 5 percent above and 5 percent below a normal operating voltage, such normal voltage to be established by Rocky Mountain Power from time to time upon reasonable notice to Customer, between the limits of 120,000 volts and 138,000 volts. Rocky Mountain Power reserves the right to modify the voltage standards in this Section to conform to changes in applicable ANSI standards.

3.3 Reactive Requirements. Customer shall control and limit the flow of reactive power between Rocky Mountain Power's system and Customer's system so as to maintain a nominal power factor of 0.95 or higher at all times, corresponding to a kilovar demand of 33 kilovars per 100 kW of Demand. In the event Customer does not comply with this section in any Billing

Period, Customer shall pay the Excess Kilovar Charge multiplied by the Excess Kilovar for such Billing Period, as set forth in Section 4.1.1.

3.4 Phase Balance. Customer shall balance its loads among phases to the extent practicable. If the difference between maximum and minimum phase loads regularly or frequently exceeds ten percent (10%), based upon a defined place of measurement, Rocky Mountain Power may require that Demand be determined on the basis of three times the load in the maximum phase.

3.5 Wave Form. In the design, selection, and operation of equipment using electric power, Customer shall observe due precautions to avoid distortion of wave form that, reacting through the system of Rocky Mountain Power, may result in interference to operation of telephone systems or in other injurious effects to Rocky Mountain Power's electrical system or other Retail Customers. If such adverse effects result at any time from distortion of wave form by causes originating in the Customer Electrical Facilities, Customer shall remediate such effects in accordance with Section 3.7 of this Agreement.

3.6 Cooperation in Operation. Customer shall endeavor to supply Rocky Mountain Power in advance with information as to conditions affecting Customer's electric service that may aid Rocky Mountain Power in load dispatching and in planning Rocky Mountain Power's power system operation, such as the probable times and durations of substantial daily load changes. Following an unexpected furnace outage, Customer shall notify Rocky Mountain Power's dispatcher as quickly as possible of the expected duration of such outage. Such estimates or advance information shall not be binding on either Party.

3.7 Remediation. In the event Customer's operations fail to comply with technical requirements of this Agreement or the Electric Service Regulations, or adversely affect the operation of Rocky Mountain Power's transmission or distribution system or impair service of other Retail Customers, Rocky Mountain Power will promptly give Customer written notice thereof. Within thirty (30) days after such notice a working team will be formed with members designated by each Party. The working team will then consult and meet as needed to identify and agree upon: (1) the nature and extent of the alleged problem or deficiency; (2) the cause and responsibility for the problem; (3) reasonable alternative solutions together with the costs and implementation time associated with each; and (4) a mutually acceptable remedial action plan. If the Parties fail to agree, either may petition the Commission to resolve any disputes, which determination shall be binding.

Any remedial action agreed upon by the Parties or determined by the Commission shall be promptly undertaken and pursued to completion. Should Customer fail without good cause to begin to take corrective action within thirty (30) days after the established start date, Rocky Mountain Power may perform the necessary action and Customer shall reimburse Rocky Mountain Power the reasonable costs thereof.

Section 4: Payment for Electric Service

4.1 Determination of Billing Amounts.

4.1.1 The charges in the then-current version of Idaho Electric Service Schedule No. 400 or its successor will apply each Billing Period to all electric service delivered to Customer under this Agreement. All billing statements for electric service shall show the amount due for the

type and quantity of Demand and Energy purchased and charged in accordance with this Agreement. Total charges for the Billing Period shall be the sum of (i) through (v) of this Section 4.1.1 less the applicable portion of the Curtailment Products Credit for the Billing Period as set forth in Exhibit A, where (i) equals the Energy Charge times the Energy for the Billing Period; (ii) is the Customer Charge; (iii) equals the Demand Charge times the Demand for the Billing Period; (iv) equals the Excess Kilovar Charge times the Excess Kilovar for the Billing Period; and (v) is any and all other charges or credits applicable to Idaho Electric Service Schedule 400, as approved by the Commission, not identified in (i) through (iv) above. The billing statement shall also include any details as set forth in Exhibit A.

4.1.2 Electric service delivered under this Agreement shall be recorded by appropriate metering devices as installed and described in Section 7.

4.1.3 All payments to Rocky Mountain Power under this Agreement shall be delivered by wire transfer as follows within thirty (30) days of the date of the invoice.

4.2 Billing Disputes. In the event that all or a portion of Customer's bill, or of any other claim or adjustment arising hereunder, is disputed, Customer will pay the undisputed portion of the bill when due. At the time of the payment, Customer shall provide Rocky Mountain Power with a written explanation of any disputed portion withheld ("Customer Notice of Billing Dispute"). Customer and Rocky Mountain Power shall seek to make a determination on any disputed amount within sixty (60) days after issuance of Customer's Notice of Billing Dispute. If it is determined that the disputed portion is due Rocky Mountain Power, Customer shall pay such to Rocky Mountain Power within fifteen (15) days following such determination, together with interest from the date the bill was originally due at the rate then specified in the Electric Service Regulations or, if no rate is specified, the publicly announced prime rate or reference rate for commercial loans to large businesses in effect from time to time quoted by Citibank, N.A. as its "prime rate." If a Citibank, N.A. prime rate is not available, the applicable prime rate shall be the announced prime rate or reference rate for commercial loans in effect from time to time quoted by a bank with \$10 billion or more in assets in New York City, N.Y., as selected by Rocky Mountain Power.

4.3 Deposits. If at any time either Party becomes aware of information regarding the other Party which it believes will substantially impair the other Party's ability to perform its obligations under this Agreement, such Party may request assurances of performance in writing from the other Party. If such assurances are not satisfactory to the requesting Party, after consultation with the other Party, the requesting Party may petition the Commission for appropriate protections including but not limited to a financial deposit, guarantee or letter of credit.

Section 5. Curtailment Products

In exchange for the Curtailment Products Credit, Customer agrees to provide Rocky Mountain Power with the Curtailment Products in the amounts and in accordance with the terms and conditions of Exhibit A.

Section 6: Operations and Maintenance

6.1 Licenses. Customer hereby licenses to Rocky Mountain Power for its use in connection with this Agreement and during the term of this Agreement, reasonably sufficient space in Customer's 138 kV substation to be used solely by Rocky Mountain Power's metering equipment, static capacitors, not to exceed 30,000 kilovars, and associated facilities necessary or useful for Rocky Mountain Power's provision of electric service to Customer, consistent with Prudent Electrical Practices, which license shall include reasonable rights of ingress and egress necessary for Rocky Mountain Power's exercise of such license. In the exercise of this license and their rights, Rocky Mountain Power shall, acting consistent with Prudent Electrical Practices, not interfere with the operations of Customer, shall schedule and coordinate its activities to avoid such interference and shall abide by Customer safety requirements.

6.2 Customer's 138 kV Substation. Customer shall be responsible for the operation and maintenance of its own facilities and equipment within Customer's 138 kV substation. Any equipment supplied by Rocky Mountain Power shall remain the property of Rocky Mountain Power and shall be maintained by Rocky Mountain Power.

6.3 Operation of Customer Electrical Facilities.

6.3.1 In order to minimize the hazards to both Rocky Mountain Power's and Customer's electrical systems, protective devices, circuit breakers and other Customer Electrical Facilities interconnected with Rocky Mountain Power shall be operated by qualified Customer personnel only upon prior notification to, and receipt of permission from, Rocky Mountain Power's SCC Region Dispatcher, except as provided in Paragraph 6.4 hereof. Rocky Mountain Power's Dispatcher shall honor Customer's verbal requests for permission to operate Customer's protective devices and other Customer Electrical Facilities if such operation will not, in the opinion of Rocky Mountain Power, impair such facilities and the reliable operation of Rocky Mountain Power's electrical system or impair service to other Retail Customers; provided, that Customer may operate Customer's circuit breakers and other Customer Electrical Facilities without prior notification when Customer deems it necessary to protect persons or property at its Plant. In such event, Customer shall assume full and sole liability for injury or damages to persons or property at the Plant resulting from such operation of the circuit breakers or other Customer Electrical Facilities.

6.3.2 Customer currently provides potential and current transformers for use in connection with its own relaying and metering operations and Rocky Mountain Power may use such transformers to any reasonable extent for Rocky Mountain Power's metering, relaying, and communication requirements. Should Customer's potential and current transformers not meet Rocky Mountain Power's requirements, Customer shall install any potential and current transformers required by Rocky Mountain Power that are supplied by Rocky Mountain Power.

6.3.3 Rocky Mountain Power may operate the circuit breakers feeding Customer's interconnections to accommodate operation of Rocky Mountain Power's and Customer's systems in a manner consistent with Prudent Electrical Practices; provided, that, except as provided in Paragraph 6.4, Rocky Mountain Power shall notify Customer prior to operating such circuit breakers and shall keep Customer informed as to the operating status of such breakers.

6.3.4 Upon notice to Customer, Rocky Mountain Power shall have reasonable access to Customer's substation control building(s). Rocky Mountain Power personnel shall comply with all health, safety, and confidentiality rules, regulations and practices that Customer has provided to Rocky Mountain Power.

6.3.5 Any failure of the Customer Electrical Facilities to operate adequately or properly shall not subject Rocky Mountain Power to liability to Customer for any resulting loss or damages, or consequential damages of any kind, and Customer hereby releases Rocky Mountain Power from any such liability.

6.4 Emergency Conditions. In the event of an emergency resulting in danger to persons or property, or potential danger to Customer's and/or Rocky Mountain Power's systems, either Rocky Mountain Power or Customer may open their respective circuit breakers without notice to the other Party. Whenever possible, the Parties shall notify the other Party prior to opening any such device, and notification shall be made as soon as possible after the device has been opened. When corrective actions have been completed, Rocky Mountain Power shall restore service upon receiving notice and being satisfied that all necessary corrections have been made.

6.5 Relays. Rocky Mountain Power may provide and install on Customer's relay panel under-frequency relays for the purpose of tripping Customer's power circuit breakers at such under-frequencies as may be specified by Rocky Mountain Power in accordance with Prudent Electrical Practices.

6.6 Maintenance of Customer Electrical Facilities.

6.6.1 Customer shall be solely responsible for the operation and maintenance of the Customer Electrical Facilities. Customer shall inspect the Customer Electrical Facilities on a regularly scheduled basis and maintain them in safe operating condition.

6.6.2 Rocky Mountain Power may, but is not required to, inspect the Customer Electrical Facilities during reasonable business hours and if, in the sole judgment of Rocky Mountain Power, the Customer Electrical Facilities are not maintained in safe operating condition, thereby creating a hazard to persons or property or to the operation of Rocky Mountain Power's system, Rocky Mountain Power shall notify Customer promptly stating the required maintenance, replacement, or repair necessary to put the Customer Electrical Facilities in safe operating condition and specifying a reasonable period in which to make repair. Such inspections shall be performed by a person or persons that have been certified as safety trained. Rocky Mountain Power will advise Customer of the names and titles of persons to be admitted to the Customer site. Customer shall make such or equivalent repairs, replacement or maintenance within a reasonable time. In the event specified corrective procedures are not completed as required by the notice, Rocky Mountain Power may, without further notice to Customer, discontinue service to Customer. In the event Rocky Mountain Power discontinues service under this Section, Rocky Mountain Power shall not be liable to Customer for any resulting loss or damage, including, but not limited to, lost profits or consequential damages of any kind, and Customer hereby releases Rocky Mountain Power from any such liability. The provisions of this Section for the restoration of safe operating conditions are not subject to the remediation procedures of Section 3.7 of this Agreement.

Section 7: Metering

7.1 **Rocky Mountain Power Obligations.** Rocky Mountain Power shall provide, maintain, and test meters and metering equipment required for purposes of settlement hereunder, except any potential transformers and current transformers owned by Customer under Section 6.3.2. Meters, metering equipment and measurement shall be located at the Point of Delivery. Maintenance and periodic testing procedures with respect to meters and metering equipment shall be in accordance with generally accepted practices and the rules and standards established by the Commission. In addition to Rocky Mountain Power's periodic tests, special tests shall be made if requested by Customer, which special tests shall be conducted at the expense of Customer. Customer shall furnish without charge reasonable incidental service, such as removal of tapes and charts, and shall communicate to Rocky Mountain Power the meter readings necessary for operation. Rocky Mountain Power's designated agents shall have access to such metering equipment at all reasonable times and shall be permitted to install and operate from time to time any testing equipment needed in connection with operations or settlements hereunder.

7.2 **Obligations.** If either Customer or Rocky Mountain Power provides check-metering equipment, information with respect to registrations thereof will be provided.

7.3 **Meter Testing.** Representatives of Rocky Mountain Power and Customer may be present at all routine or special tests of meters and metering equipment and upon occasions when any readings are taken for purpose of settlements.

7.4 **Adjustments to Bills.** If, at any test of any meter or metering equipment, an inaccuracy is disclosed exceeding two percent (2%), the account for service theretofore supplied shall be adjusted to correct for such inaccuracy for a period of ninety (90) days prior to the date of such test, or for the period during which such inaccuracy may be determined to have existed, whichever period is the shorter. Should any meter at any time fail to register, or should the registration be so erratic as to be meaningless, the quantities shall be determined from Rocky Mountain Power's check meters or otherwise from the best available data.

7.5 **Telecommunications Facilities.** Upon Rocky Mountain Power's request, Customer shall maintain a dedicated telephone line for meter reading purposes without charge to Rocky Mountain Power. Customer shall pay all recurring charges related to line operation.

Section 8: Force Majeure

Neither Rocky Mountain Power nor Customer shall be subject to any liability or damages for inability to provide or receive service to the extent that such failure shall be due to causes beyond the control of either Rocky Mountain Power or Customer, including, but not limited to the following: (a) the operation and effect of any rules, regulations and orders promulgated by any commission, municipality, or governmental agency of the United States, or subdivision thereof (so long as the claiming Party has not applied for or assisted in the application for, and has opposed where and to the extent reasonable, such government action); (b) restraining order, injunction or similar decree of any court; (c) war; (d) explosion; (e) fire; (f) major breakage or failure of equipment; (g) flood; (h) earthquake; (i) act of God; (j) sabotage; or (k) strikes or boycotts (such events constituting a "Force Majeure"). Should a Force Majeure occur, the Party claiming Force Majeure

shall have no liability for performance during the period of Force Majeure; provided, the Party claiming Force Majeure shall make every reasonable attempt to remedy the cause thereof as diligently and expeditiously as possible.

Section 9: Resale

No component of the electric service delivered to and purchased by Customer pursuant to this Agreement may be resold directly or indirectly by Customer, or any affiliate of Customer, to any person or entity.

Section 10: Liability

10.1 **Liability**. Each Party hereto (the “liability causing Party”) shall defend, indemnify and hold harmless the other Party from and against any liability, damage, loss, costs and expenses, including but not limited to attorneys’ fees, on account of injury to or death of persons including, but not limited to, Customer’s employees and Rocky Mountain Power’s employees, or damage to property to the extent caused by or arising from the negligent acts or omissions of the liability causing Party.

10.2 **Limitation of Liability**. Rocky Mountain Power shall endeavor at all times to provide steady and continuous service to Customer and shall make reasonable efforts to prevent irregularities and interruptions. Rocky Mountain Power shall use its best efforts to notify Customer prior to or, in any event, immediately after an interruption or irregularity in order that Customer may attempt to mitigate its damages resulting therefrom. If due to causes beyond the control of Rocky Mountain Power the supply of electricity is irregular, defective, or fails, Rocky Mountain Power shall not be liable for any physical damages, economic losses, costs or damages resulting therefrom, including but not limited to special, indirect, incidental, consequential, punitive, or exemplary damages.

Section 11: Successors and Assigns

Neither Rocky Mountain Power nor Customer shall assign this Agreement without the written consent of the other Party, which consent shall not be unreasonably withheld, except Customer may assign this Agreement without any such consent to the acquirer of the majority of the value of the Plant, provided that Customer as assignor shall continue to guarantee the performance by the assignee of the Customer obligations under this Agreement and further provided that Rocky Mountain Power may assign this Agreement without any such consent to an entity that acquires the majority of the value of Rocky Mountain Power’s facilities, in which event Rocky Mountain Power as assignor, shall guarantee the assignee’s performance of Rocky Mountain Power’s obligations. Any assignee or successor of Customer shall remain subject to such assignee’s or successor’s qualification as a customer under Rocky Mountain Power’s policies and Electric Service Regulations, and shall be bound by this Agreement, the Electric Service Regulations, and assume the obligations of Customer from the date of assignment. If assigned with such consent, this Agreement shall inure to the benefit and be binding upon the assignee, its agents and assigns; provided, that nothing herein shall prevent either Party from assigning this Agreement to its parent

corporation or to its survivor in connection with a corporate reorganization, provided that such assignee is solvent and is able to meet its obligations hereunder.

Section 12: Jurisdiction of Regulatory Authorities

12.1 **Regulatory Authorities.** This Agreement is subject to the approval of the Commission.

12.2 **Electric Service Regulations.** The Electric Service Regulations are incorporated herein and made a part of the Agreement. Once the Commission approves the Agreement, the provisions of the Agreement shall take precedence over any conflicting provisions of Rocky Mountain Power's Electrical Service Regulations. The Parties acknowledge and agree that they are familiar with such existing regulations and agree to abide by them and all amendments and changes thereto so approved by the Commission. In the event that the Commission or any other state, federal, or municipal authority having jurisdiction issues any rules, regulations, or orders that require Rocky Mountain Power to alter or amend any of the terms and conditions of this Agreement or to terminate or curtail electric service to Customer, neither Party shall be liable for damages or losses of any kind whatsoever which the other Party may sustain as a result of such rule, regulation or order, including consequential damages.

Section 13: Remedies

Each Party may exercise any or all of its rights and remedies under this Agreement, the applicable Electric Service Regulations and under any applicable laws, rules and regulations. No provision of this Agreement or the Electric Service Regulations shall be deemed to have been waived unless such waiver is in writing signed by the waiving Party. No failure by any Party to insist upon the strict performance of any provision of this Agreement, the Electric Service Regulations or to exercise any right or remedy consequent upon a breach thereof, shall constitute a waiver of any such breach of such provision or of any other provision. No waiver of any provision of this Agreement or the Electric Service Regulations shall be deemed a waiver of any other provision of this Agreement, the Electric Service Regulations or a waiver of such provision with respect to any subsequent breach, unless expressly provided in writing.

Section 14: Representatives and Notices

For the purposes of this Agreement, any notices required to be given hereunder shall be sent postage prepaid, by registered or certified mail, return receipt requested (or alternately by electronic mail or any other method acceptable by both Parties) to the Parties at the respective addresses below and shall be deemed to have been given when received as evidenced by the appropriate receipt verifying delivery:

Representatives of Customer:

Energy Manager
P4 Production, L.L.C.
1853 Highway 34; P.O. Box 816
Soda Springs, Idaho 83276

Tel: (208) 546-4300
mike.veile@bayer.com

Assistant General Counsel - Procurement
Bayer
800 N. Lindbergh Blvd.; mail stop E1NE
St. Louis, MO 63167
Tel: (314) 694-7762
alice.conway@bayer.com

With a copy to:

Racine Olson, PLLC
201 E. Center St.; P.O. Box 1391
Pocatello, ID 83204

Representatives of Rocky Mountain Power:

Legal Department
PacifiCorp
825 NE Multnomah, Suite 2000
Portland, OR 97232
Attn: Assistant General Counsel

With a copy to:

Contract Administration
PacifiCorp
825 NE Multnomah, Suite 600
Portland, OR 97232
Attn: cntadmin@pacificorp.com

This notice requirement does not apply to regular and ordinary business and operation communications between the Parties' employees.

Section 15: Other Contracts

This Agreement constitutes and contains the entire Agreement of the Parties hereto and supersedes any and all prior negotiations, correspondence, understanding, and agreements between the Parties respecting the subject herein. This Agreement may not be modified, altered, or changed in any manner whatsoever except pursuant to the express provisions of this Agreement or by written agreement between the Parties hereto, subject to Commission approval.

Section 16: Governing Law; Jurisdiction; Venue

All provisions of this Agreement and the rights and obligations of the Parties shall in all cases be governed by and construed in accordance with the laws of the State of Idaho applicable to contracts executed in and to be wholly performed in Idaho by persons domiciled in the State of

Idaho. Each Party hereto agrees that any suit, action or proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement, the Electric Service Regulations or the transactions contemplated hereby or thereby, may only be brought before the Commission, the Federal courts located within the State of Idaho, or state courts of the State of Idaho, and each Party hereby consents to the exclusive jurisdiction of such forums (and of the appellate courts therefrom) in any such suit, action or proceeding.

Section 17: Attorney's Fees

If any suit or action arising out of or related to this Agreement or the Electric Service Regulations is brought by any Party, the prevailing Party shall be entitled to recover the costs and fees (including, without limitation, reasonable attorneys' fees, the fees and costs of experts and consultants, copying, courier and telecommunication costs, and deposition costs and all other costs of discovery) incurred by such Party in such suit or action, including, without limitation, any post-trial or appellate proceeding, or in the collection or enforcement of any judgment or award entered or made in such suit or action.

Section 18: Cooperation

Whenever this Agreement requires that one Party comply with the rules, regulations, standards or requirements of the other Party, the Parties agree to cooperate with each other in requesting and providing such rules, regulations, standards or requirements on a timely basis.

Section 19: Headings/References

The descriptive headings contained in this Agreement are included for reference only and shall not affect in any way the meaning or interpretation of this Agreement. References in this Agreement to Sections are to Sections of this Agreement unless otherwise stated or evident from the context.

Section 20: Construction of Agreement

This Agreement was drafted as a joint effort of both Parties and may not be construed against one Party over the other in the event of a controversy over its meaning.

Section 21: Counterparts

This Agreement may be executed as one instrument signed by the Parties or may be executed in separate counterparts. Each separate counterpart is deemed an original.

Section 22: Jury Trial Waiver

TO THE FULLEST EXTENT PERMITTED BY LAW, EACH OF THE PARTIES HERETO WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF LITIGATION DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT. EACH PARTY FURTHER WAIVES ANY RIGHT TO

CONSOLIDATE ANY ACTION IN WHICH A JURY TRIAL HAS BEEN WAIVED WITH ANY OTHER ACTION IN WHICH A JURY TRIAL CANNOT BE OR HAS NOT BEEN WAIVED. THIS PARAGRAPH WILL SURVIVE THE EXPIRATION OR TERMINATION OF THIS AGREEMENT.

[signature page follows]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their authorized officers or representatives as of the date first hereinabove written.

PACIFICORP
dba Rocky Mountain Power

By: _____
Name: _____
Title: _____

P4 PRODUCTION, L.L.C.


By: 
Name: Roger W. Gibson
Title: President

EXHIBIT A

OPERATING RESERVE AND ECONOMIC CURTAILMENT OPTIONS

This Exhibit A is a part of the Electric Service Agreement (“Agreement”) between Rocky Mountain Power and P4 Production, L.L.C., a Delaware limited liability company (“Customer”), and is subject to the terms and conditions of the Agreement.

Section 1. Definitions. Capitalized terms used in this Exhibit A and not otherwise defined in the Agreement, shall have the meaning set forth below:

“*Economic Curtailment*” means the curtailment of Furnace No. 9 by Rocky Mountain Power for economic reasons in accordance with this Exhibit A. An Economic Curtailment is not an Operating Reserve Curtailment or a Transmission Operator Curtailment.

“*EIM RTPD*” means real-time pre-dispatch price within the western Energy Imbalance Market.

“*Furnace No. 7*” means that certain electric phosphorus furnace in operation at the Plant with an electrical demand of approximately 46 MWs.

“*Furnace No. 8*” means that certain electric phosphorus furnace in operation at the Plant with an electrical demand of approximately 49 MWs.

“*Furnace No. 9*” means that certain electric phosphorus furnace in operation at the Plant with an electrical demand of approximately 67 MWs.

“*Plant*” means that certain elemental phosphorus plant located near Soda Springs City in Caribou County, Idaho.

“*Transmission Operator Curtailment*” means a system emergency curtailment or interruption as instructed by Rocky Mountain Power’s transmission operator consistent with applicable grid reliability standards.

“*Monsanto Price Node*” means the MONSANTO_NCL2 price node for the western Energy Imbalance Market, as available in the “FMM Locational Marginal Prices” tab within the California Independent System Operator website at oasis.caiso.com.

“*Operating Procedure*” means the separate written operating procedure agreed to between Rocky Mountain Power and Customer implementing the technical and communication procedures set forth in this Exhibit A.

“*Operating Reserve*” means a specific amount of electrical resources that all balancing authority areas must have available at all times to ensure the reliable operation of the interconnected electrical system pursuant to applicable requirements or guidelines of a Reliability Authority.

“*Operating Reserve Curtailment*” means the curtailment of one or both of Furnace No. 7 and Furnace No. 8 by Rocky Mountain Power for Operating Reserves in accordance with this Exhibit A. An Operating Reserve Curtailment is not an Economic Curtailment in accordance with this Exhibit A or a Transmission Operator Curtailment.

Section 2. Operating Reserve Curtailment.

2.1 Upon not less than six (6) minutes notice via the Operating Procedure, Customer will reduce load to zero for one or both of Furnace No. 7 and Furnace No. 8 as directed by Rocky Mountain Power. Rocky Mountain Power may direct Operating Reserve Curtailment when Rocky Mountain Power determines in its sole discretion that such curtailment is needed to meet Operating Reserve requirements, subject to the terms and conditions of the Agreement, the Operating Procedure, and this Exhibit A.

2.2 Customer is permitted to restore to service any curtailed furnace under this Section 2 at the earlier of: (1) notice from Rocky Mountain Power, or (2) one hundred and twenty (120) minutes after the start of such Operating Reserve curtailment as provided in Section 3.2(c) below.

2.3 Nothing in this Section 2 is intended to limit Rocky Mountain Power’s rights and obligations consistent with Prudent Electrical Practices to curtail or interrupt all or some portion of the load at the Plant due to a Transmission Operator Curtailment Event.

Section 3. Limitations on Operating Reserve Curtailments.

3.1 The maximum number of hours per calendar year that Rocky Mountain Power may direct Operating Reserve Curtailment under this Exhibit A shall be one hundred eighty-eight (188) hours.

3.2 Without limiting the hourly limit set forth in Section 3.1 above, the instances in which Rocky Mountain Power may direct an Operating Reserve curtailment shall be limited as follows:

- (a) No more than twenty-five (25) instances of Operating Reserve curtailment in any calendar month; and
- (b) No more than four (4) instances of Operating Reserve curtailment in any four(4) hour period; and
- (c) No more than one hundred twenty (120) minutes for any individual instance of Operating Reserve curtailment.

3.3 Any Operating Reserve Curtailment that is less than one (1) hour shall be treated as one (1) hour. Any Operating Reserve Curtailment that lasts longer than one (1) hour but shorter than or equal to two (2) hours shall be treated as two (2) hours.

Section 4. Economic Curtailment.

4.1 Upon not less than 22.5 minutes notice via the Operating Procedure, Customer will reduce Furnace No. 9 load to zero, as directed by Rocky Mountain Power. Economic Curtailment shall occur in 15-minute intervals. Rocky Mountain Power shall provide notice of Economic Curtailment via the Operating Procedure for each interval.

4.2 Upon the conclusion of the Economic Curtailment period, Customer is permitted to restore to service Furnace No. 9, consistent with the Operating Procedure.

4.3 Nothing in this Section 4 is intended to limit Rocky Mountain Power's rights and obligations consistent with Prudent Electrical Practices to curtail or interrupt all or some portion of the load at the Plant due to a Transmission Operator Curtailment Event.

Section 5. Limitations on Economic Curtailments.

5.1 Rocky Mountain Power may only call for an Economic Curtailment under Section 4 above if the EIM RTPD locational marginal price at the Monsanto Price Node exceeds \$250 per megawatt-hour (MWh). If the price at the Monsanto Price Node is no longer publicly available, Rocky Mountain Power shall provide such pricing information to Customer upon Customer's request.

5.2 The maximum number of hours per calendar year that Rocky Mountain Power may direct Economic Curtailments under this Exhibit A shall be 400 hours.

Section 6. Curtailment Products Credit.

6.1 Subject to the terms and conditions of the Agreement, including this Exhibit A, Rocky Mountain Power shall credit to Customer an annual Curtailment Products Credit amount of \$ [REDACTED] of which one-twelfth (1/12) shall be credited each Billing Period.

Section 7. Nonperformance.

7.1 If for any reason other than as provided in Section 9 of this Exhibit A or reasons outside of the reasonable control of Customer, Customer fails to comply with a notification from Rocky Mountain Power as provided in this Exhibit A and the Operating Procedure, Rocky Mountain Power shall have the following remedies as set forth below.

- (a) With respect to Customer failing to comply with an Operating Reserve Curtailment instruction, Customer shall reimburse Rocky Mountain Power for all penalties, costs or other liabilities of any nature imposed on Rocky

Mountain Power by any applicable state or federal regulatory agency, including without limitation, any applicable Reliability Authority or the Federal Energy Regulatory Commission directly resulting from Customer's failure. In the event, at the request of Customer, Rocky Mountain Power challenges any such alleged penalties, costs or other liabilities, Customer shall reimburse Rocky Mountain Power for all reasonable legal fees and associated costs.

- (b) With respect to Customer failing to comply with an Economic Curtailment instruction, Customer shall reimburse Rocky Mountain Power for penalties or other costs imposed on Rocky Mountain Power for uninstructed imbalance or otherwise in connection with Furnace No. 9's participation in the western Energy Imbalance Market directly resulting from Customer's failure. Furthermore, in the event of two or more failures by Customer to fully comply with an Economic Curtailment instruction results in Furnace No. 9 no longer being deemed an eligible resource of Rocky Mountain Power for purposes of participation in the western Energy Imbalance Market or any future successor imbalance or day-ahead market, as determined by the third-party market operator, the Parties agree that Rocky Mountain Power may petition the Idaho Public Utilities Commission for a reduction in the Curtailment Products Credit used in the Agreement.
- (c) In the event Customer fails to comply with either an Operating Reserve Curtailment instruction or an Economic Curtailment instruction, Rocky Mountain Power may demand that Customer provide assurances in writing that Customer will in the future comply with curtailment notifications as specified in this Exhibit A, including describing in detail such actions Customer will take in the future to remedy the cause of such failure to comply.
- (d) Without limiting Rocky Mountain Power's rights under subsection (b) above, in the event of a second failure by Customer to comply with a curtailment instruction under this Exhibit A, Rocky Mountain Power may petition the Idaho Public Utilities Commission for appropriate relief.

7.2 If Rocky Mountain Power requires Customer to proceed with an Operating Reserve Curtailment or Economic Curtailment under circumstances not permitted in this Exhibit A, and Customer complies with such curtailment request, Customer shall have the following remedies:

- (a) Rocky Mountain Power shall pay Customer as damages the amount of one hundred fifty thousand dollars (\$150,000) for each occurrence, which the Parties agree is a reasonable estimate of the damages expected to be incurred by reason of such curtailment.
- (b) Customer may demand that Rocky Mountain Power provide assurances

in writing that Rocky Mountain Power will in the future comply with the requirements for curtailment as specified in this Exhibit A, including describing in detail such actions Rocky Mountain Power will take in the future to remedy the cause of such failure to comply.

- (c) In the event of a second failure by Rocky Mountain Power to comply with the requirements for Operating Reserve Curtailment or Economic Curtailment as specified in this Exhibit A, Customer may petition the Idaho Public Utilities Commission for appropriate relief.

7.3 The remedies provided in this Section 7 for the specified failures to comply with the requirements of this Exhibit A are the sole and exclusive remedies for such nonperformance.

Section 8. Maintenance of Automated Communication Devices and Dedicated Phone Line.

8.1 Customer and Rocky Mountain Power shall maintain all equipment and software necessary to facilitate automated electronic communications at the Plant from Rocky Mountain Power consistent with the Operating Procedure.

8.2 Customer and Rocky Mountain Power shall maintain a dedicated telephone line at their own cost in their respective control rooms. This line shall be solely dedicated for communications between Customer furnace operators and Rocky Mountain Power dispatchers, as such furnace operators and dispatchers are identified by each Party in Section 11 below and updated from time-to-time by written notice and acknowledged in writing by the receiving Party.

Section 9. Communication of Furnace Shutdowns.

9.1 Rocky Mountain Power acknowledges that the electric phosphorus furnaces at the Plant will be removed from service from time to time during the term of this Agreement for maintenance, overhauls, regulatory compliance, production, or emergency purposes ("Furnace Shutdowns"). Customer will make reasonable efforts to (a) notify Rocky Mountain Power at least two (2) months in advance of planned Furnace Shutdowns per the notice provisions in Section 11 below, and (b) avoid or minimize scheduling Furnace Shutdowns between June 1st and September 30th of each year; provided, however, that Customer shall have no obligation to defer Furnace Shutdowns in a manner that adversely impacts the operating conditions, life, maintenance, regulatory compliance, or production of the furnaces. Customer shall inform Rocky Mountain Power dispatchers prior to restoring electrical power to furnaces after Furnace Shutdowns. Notwithstanding the foregoing, if Customer reasonably determines that a furnace must be shut down due to an emergency event and two (2) month's advance notice under this Section 9.1 is not possible, such emergency shutdown shall not be a violation of this Section 8 provided Customer gives notice to Rocky Mountain Power as soon as reasonably practicable following it becoming aware of the emergency event. Should Customer shut down one or more furnaces for a period of ten (10) continuous days or more, Customer shall provide regular status updates on when such furnace or furnaces are estimated to be returned to service.

9.2 If Furnace No. 7 or Furnace No. 8 is unavailable due to maintenance or overhaul, and an Operating Reserve curtailment notification is delivered by Rocky Mountain Power under this Exhibit A, Customer will not resume operation of the unavailable furnace(s) until the earlier of: (a) notice from Rocky Mountain Power dispatcher, or (b) one hundred twenty (120) minutes after the notification by Customer to resume service.

9.3 If Furnace No. 9 is unavailable due to maintenance or overhaul, and an Economic Curtailment notification is delivered by Rocky Mountain Power under this Exhibit A, Customer will not resume operation of Furnace No. 9 until notice is received from Rocky Mountain Power dispatcher.

Section 10. Reporting.

10.1 Simultaneous with Rocky Mountain Power's monthly invoice to Customer for electric service purchased under this Agreement, Rocky Mountain Power shall provide Customer with a report detailing all curtailments directed by Rocky Mountain Power during the previous month, including the following information:

- (a) Type of curtailment (i.e., Transmission Operator Curtailment Event, Operating Reserve curtailment, or Economic Curtailment);
- (b) Date(s) of such curtailment(s);
- (c) Beginning and end time of each incident of curtailment;
- (d) For each incident of curtailment, identification of the Plant furnaces curtailed; and
- (e) Year-to-date total hours of each type of curtailment.

Section 11. Contacts. The designated representatives for performance under this Exhibit A are set forth below and may be updated from time-to-time by written notice to the other Party.

Customer's Plant operator: Mike Veile
Energy Manager
P4 Production, L.L.C.
1853 Highway 34,
P.O. Box 816
Soda Springs, ID 83276
Telephone: (208) 546-4300
Email : mike.veile@bayer.com

Rocky Mountain Power: Generation Dispatcher
Telephone: (503) 813-5394
Email: CTRealTimeGenerationDesk@PacifiCorp.com

Secondary contact:
Thomas Burns
825 NE Multnomah Street, Ste. 600
Portland, OR 97232
Telephone: (503) 813-5436
Email: Thomas.Burns@pacificorp.com

Operating Procedure

Effective January 1, 2022

This Operating Procedure, effective as stated above, is intended by PacifiCorp and P4 Production, L.L.C. ("P4") to be that certain "Operating Procedure" as referenced in Exhibit A to the Electric Service Agreement. This Operating Procedure may be revised at any time upon mutual written agreement of the Parties to the Electric Service Agreement. Capitalized terms used and not otherwise defined in this Operating Procedure shall have the meanings assigned to them in the Electric Service Agreement.

P4 - Operating Reserve Use of Furnace No. 7 and Furnace No. 8

PacifiCorp recognizes that each of P4's electric phosphorus furnaces operate at different electrical rates. Upon telephone notification by PacifiCorp for Operating Reserves interruption, P4 will interrupt within six (6) minutes its available furnace load on Furnace No. 7 and Furnace No. 8 as defined below, subject to the terms of Exhibit A to the Electric Service Agreement. At the time of the notification, P4's operator shall inform PacifiCorp's dispatcher of the amount of service it will be interrupting.

Curtailments for Operating Reserve will be as follows depending upon furnace availability (i.e., operation) at the time of notification:

Furnace No. Operating	P4 to Curtail
7 and 8 Operating	Curtail Furnace No. 7 and No. 8
8 Operating	Curtail 8
7 Operating	Curtail 7

P4 is permitted to restore to service any curtailed furnace the earlier of:

- (1) notice from PacifiCorp, or
- (2) one hundred and twenty (120) minutes after the start of such Operating Reserve curtailment.

P4 - Furnace No. 9 Economic Curtailment Control Scheme.

This is a control description to allow P4 to satisfy the Economic Curtailment of Furnace No. 9 when the EIM (Energy Imbalance Market) Real Time Pre-Dispatch is greater than \$250/MWh. The EIM Real Time Pre-Dispatch intervals are whole 15-minute periods, starting at XX:00, XX:15, XX:30 and XX:45.

PacifiCorp will install a new relay board in the existing D20 RTU at P4's 138 kV Substation to pass the curtailment signal to P4. The curtailment signal that generates out of the Automated Dispatch System ("ADS") or other system utilized to communicate market awards from a security constrained economic dispatch and passes through PacifiCorp's Energy Management System ("EMS") will register in the

Remote Terminal Unit (“RTU”) and a dry contact, a standard 500 milliseconds pulse, will be issued to one of the momentary controls in the RTUs relay board. P4 engineers will interface directly to the output contacts of the RTU’s relay board to pass this signal to their Distributed Control System (“DCS”). Similarly, P4 is expected to pass a feedback signal back to PacifiCorp to acknowledge that curtailment signal has been received and that a change of state of the furnace will be executed. If P4’s feedback signal is not received by PacifiCorp in the next scan cycle the curtailment signal will be sent again, and repeated up to five times. After five retries, if there is still no feedback signal received from P4, PacifiCorp operators will make all reasonable efforts to issue a manual curtailment phone call to P4 operators. To allow the Parties to work through any equipment-related issues upon the initiation of the Agreement’s term, for the period January 1, 2022 through June 30, 2022, there will be no more than three waivers of penalties by PacifiCorp for P4’s failure to curtail Furnace No. 9.

1. P4 receives an economic curtailment signal of momentary “1” via PacifiCorp from the dry contact at the RTU located in their power meter at the substation.
 - a. Upon receipt of the economic curtailment signal, P4 acknowledges receipt to PacifiCorp via a telemetered response. P4’s feedback signal will be active for the remainder of P4’s current 10 min 30 sec signal cycle. (e.g.- up to 23:37 min 30 sec, 23:52 min 30 sec, etc.) and deactivated after the current signal cycle ends.
 - b. In the event economic curtailment is awarded to Furnace No. 9 in the EIM and an economic curtailment signal is not sent to P4 due to failure of PacifiCorp’s facilities, a PacifiCorp operator may notify the P4 control room via telephone of an upcoming economic curtailment and P4 shall comply with such telephonic economic curtailment instruction, provided the intended curtailment period is to begin no sooner than 22.5 minutes from the time of notification. In this circumstance, PacifiCorp’s operator will provide the start time of the 15-minute curtailment.
 - c. If a failure of either parties’ automated telemetered process occurs and the start of the curtailment period is occurring within 22.5 minutes, P4 will make a reasonable effort to abide by the manual curtailment instruction.
 - d. In the event of a failure of either parties’ automated telemetered process, no assumption of fault will be made during real time operations. PacifiCorp operators will make all reasonable efforts to issue a manual curtailment and P4 will make all reasonable efforts to comply with the manual curtailment. Both parties will convene at the earliest reasonable time to determine the root cause of the failed automated telemetered process.
 - e. Telemetered issuance and response is intended to be the primary and preferred communication channel for economic curtailment under the Electric Service Agreement. In the event of failure of PacifiCorp’s facilities to send and receive economic curtailment signals, a good faith effort will be made to restore functionality as soon as possible.

2. Upon receiving this momentary “1” signal P4 passes a feedback signal back to PacifiCorp and will identify the next 15 minute interval that is applicable per the **“24 Hour Time Interval Map.”**
 - a. This means P4 and PacifiCorp are specifically looking for 15 min periods such as those beginning 1:00, 1:15, 1:30, 1:45 etc.
 - b. A signal received between 10:42 minutes and 10:52 minutes for example would mean that the curtailment period begins at 11:15

- c. Each 10 min signal cycle P4 will receive a new momentary "1" signal from PacifiCorp if curtailment is needed for the relevant 15 min period.
3. Upon P4 receiving the economic curtailment signal, an alarm from P4's Delta V control system sounds as well as visually signals on the P4's Human Machine Interface ("HMI") to notify P4's furnace operator that Furnace No. 9 is scheduled to shut down for economic curtailment at a designated time for 15 minutes. Furnace No. 9 will be tripped automatically from P4's Delta V control system at the appropriate scheduled curtailment time interval and will lock P4's operator out from starting the furnace until the curtailment cycle is over.
4. When the designated time arrives to automatically trip Furnace No. 9 .
 - a. If Furnace No. 9 is already out of service due to maintenance or overhaul, the furnace will not resume operation if a curtailment cycle is active. When active curtailment cycle is complete, the furnace operator shall be notified.
 - b. Failure by P4 to perform is subject to provisions in Section 7.1(b) and 7.1(c) of Exhibit A to the Electric Service Agreement.
5. P4 remains curtailed for each 15 minute interval as long as a momentary "1" signal is received by P4 on each consecutive signal interval until there is no change in signal state to "1" detected in the next signal cycle. Furnace No. 9 will be allowed to start at the beginning of the relevant 15 minute period. *(Refer to 24 hour time interval map and example matrix attached).*
 - a. Restarting Furnace No. 9 will be manually initiated by the P4 Control Operator.
6. Until the 400-hour annual limit has been reached for Economic Curtailments as set forth in Section 5.2 of the Electric Service Agreement, there is no limit to the frequency of 15-minute economic curtailments PacifiCorp can call upon, or to the number of successive 15-minute curtailment periods.
7. Each economic curtailment event will be recorded by PacifiCorp's Pi historian database (or, should Pi be replaced, a similar recording database used by PacifiCorp) and maintained by PacifiCorp. At P4's request, PacifiCorp will provide a log of economic curtailments for the requested prior period, not to exceed one year.
8. For testing and checkout purposes only, the Parties will agree to a limited operating mode where PacifiCorp can send the curtailment signal to P4 for P4's acknowledgment but without Furnace No. 9 being tripped as provided above.

24 Hour Time Interval Map and Example [In Military Time]

Earliest Signal Start/Send by PacifiCorp	Latest Signal Sent for an Interval by PacifiCorp	Latest Signal Received for an Interval by P4	For Curtailment Period	Hypothetical Example
23:27 min	23:37 min	23:37 min 30 seconds	00:00	Original signal on January 1, 2022 at 00:00 will be set at "0" representing no curtailment [online]
23:42 min	23:52 min	23:52 min 30 seconds	00:15	No signal change detected [online]
23:57 min	00:07 min	00:07 min 30 seconds	00:30	No signal change detected [online]
00:12 min	00:22 min	00:22 min 30 seconds	00:45	No signal change detected [online]
00:27 min	00:37 min	00:37 min 30 seconds	01:00	Momentary Signal "1" is sent at 00:30 min 25 seconds representing curtail at 01:00 interval; Upon receipt of the signal P4 will send the feedback signal till 00:37 min 30 sec.
00:42 min	00:52 min	00:52 min 30 seconds	01:15	Momentary Signal "1" is sent at 00:45 min 25 seconds representing stay curtailed for 01:15 interval. Upon receipt of the curtailment signal P4 sends feedback signal till 00:52 min 30 sec.
00:57 min	01:07 min	01:07 min 30 seconds	01:30	No curtailment signal received for this interval. P4 can comes back online at 01:30 interval
01:12 min	01:22 min	01:22 min 30 seconds	01:45	No signal change detected [online]
01:27 min	01:37 min	01:37 min 30 seconds	02:00	No signal change detected [online]
01:42 min	01:52 min	01:52 min 30 seconds	02:15	No signal change detected [online]
01:57 min	02:07 min	02:07 min 30 seconds	02:30	No signal change detected [online]
02:12 min	02:22 min	02:22 min 30 seconds	02:45	No signal change detected [online]
02:27 min	02:37 min	02:37 min 30 seconds	03:00	No signal change detected [online]

Earliest Signal Start/Send by PacifiCorp	Latest Signal Sent for an Interval by PacifiCorp	Latest Signal Received for an Interval by P4	For Curtailment Period	Hypothetical Example
02:42 min	02:52 min	02:52 min 30 seconds	03:15	No signal change detected [online]
02:57 min	03:07 min	03:07 min 30 seconds	03:30	No signal change detected [online]
03:12 min	03:22 min	03:22 min 30 seconds	03:45	No signal change detected [online]
03:27 min	03:37 min	03:37 min 30 seconds	04:00	No signal change detected [online]
03:42 min	03:52 min	03:52 min 30 seconds	04:15	No signal change detected [online]
03:57 min	04:07 min	04:07 min 30 seconds	04:30	No signal change detected [online]
04:12 min	04:22 min	04:22 min 30 seconds	04:45	No signal change detected [online]
04:27 min	04:37 min	04:37 min 30 seconds	05:00	No signal change detected [online]
04:42 min	04:52 min	04:52 min 30 seconds	05:15	No signal change detected [online]
04:57 min	05:07 min	05:07 min 30 seconds	05:30	No signal change detected [online]
05:12 min	05:22 min	05:22 min 30 seconds	05:45	No signal change detected [online]
05:27 min	05:37 min	05:37 min 30 seconds	06:00	No signal change detected [online]
05:42 min	05:52 min	05:52 min 30 seconds	06:15	No signal change detected [online]
05:57 min	06:07 min	06:07 min 30 seconds	06:30	No signal change detected [online]
06:12 min	06:22 min	06:22 min 30 seconds	06:45	No signal change detected [online]
06:27 min	06:37 min	06:37 min 30 seconds	07:00	No signal change detected [online]
06:42 min	06:52 min	06:52 min 30 seconds	07:15	No signal change detected [online]
06:57 min	07:07 min	07:07 min 30 seconds	07:30	No signal change detected [online]
07:12 min	07:22 min	07:22 min 30 seconds	07:45	No signal change detected [online]
07:27 min	07:37 min	07:37 min 30 seconds	08:00	No signal change detected [online]
07:42 min	07:52 min	07:52 min 30 seconds	08:15	No signal change detected [online]
07:57 min	08:07 min	08:07 min 30 seconds	08:30	No signal change detected [online]

Earliest Signal Start/Send by PacifiCorp	Latest Signal Sent for an Interval by PacifiCorp	Latest Signal Received for an Interval by P4	For Curtailment Period	Hypothetical Example
08:12 min	08:22 min	08:22 min 30 seconds	08:45	No signal change detected [online]
08:27 min	08:37 min	08:37 min 30 seconds	09:00	No signal change detected [online]
08:42 min	08:52 min	08:52 min 30 seconds	09:15	No signal change detected [online]
08:57 min	09:07 min	09:07 min 30 seconds	09:30	No signal change detected [online]
09:12 min	09:22 min	09:22 min 30 seconds	09:45	No signal change detected [online]
09:27 min	09:37 min	09:37 min 30 seconds	10:00	No signal change detected [online]
09:42 min	09:52 min	09:52 min 30 seconds	10:15	No signal change detected [online]
09:57 min	10:07 min	10:07 min 30 seconds	10:30	No signal change detected [online]
10:12 min	10:22 min	10:22 min 30 seconds	10:45	No signal change detected [online]
10:27 min	10:37 min	10:37 min 30 seconds	11:00	No signal change detected [online]
10:42 min	10:52 min	10:52 min 30 seconds	11:15	No signal change detected [online]
10:57 min	11:07 min	11:07 min 30 seconds	11:30	No signal change detected [online]
11:12 min	11:22 min	11:22 min 30 seconds	11:45	No signal change detected [online]
11:27 min	11:37 min	11:37 min 30 seconds	12:00	No signal change detected [online]
11:42 min	11:52 min	11:52 min 30 seconds	12:15	No signal change detected [online]
11:57 min	12:07 min	12:07 min 30 seconds	12:30	No signal change detected [online]
12:12 min	12:22 min	12:22 min 30 seconds	12:45	No signal change detected [online]
12:27 min	12:37 min	12:37 min 30 seconds	13:00	No signal change detected [online]
12:42 min	12:52 min	12:52 min 30 seconds	13:15	No signal change detected [online]
12:57 min	13:07 min	13:07 min 30 seconds	13:30	No signal change detected [online]
13:12 min	13:22 min	13:22 min 30 seconds	13:45	No signal change detected [online]
13:27 min	13:37 min	13:37 min 30 seconds	14:00	No signal change detected [online]

Earliest Signal Start/Send by PacifiCorp	Latest Signal Sent for an Interval by PacifiCorp	Latest Signal Received for an Interval by P4	For Curtailment Period	Hypothetical Example
13:42 min	13:52 min	13:52 min 30 seconds	14:15	No signal change detected [online]
13:57 min	14:07 min	14:07 min 30 seconds	14:30	No signal change detected [online]
14:12 min	14:22 min	14:22 min 30 seconds	14:45	No signal change detected [online]
14:27 min	14:37 min	14:37 min 30 seconds	15:00	No signal change detected [online]
14:42 min	14:52 min	14:52 min 30 seconds	15:15	No signal change detected [online]
14:57 min	15:07 min	15:07 min 30 seconds	15:30	No signal change detected [online]
15:12 min	15:22 min	15:22 min 30 seconds	15:45	No signal change detected [online]
15:27 min	15:37 min	15:37 min 30 seconds	16:00	No signal change detected [online]
15:42 min	15:52 min	15:52 min 30 seconds	16:15	No signal change detected [online]
15:57 min	16:07 min	16:07 min 30 seconds	16:30	No signal change detected [online]
16:12 min	16:22 min	16:22 min 30 seconds	16:45	No signal change detected [online]
16:27 min	16:37 min	16:37 min 30 seconds	17:00	No signal change detected [online]
16:42 min	16:52 min	16:52 min 30 seconds	17:15	No signal change detected [online]
16:57 min	17:07 min	17:07 min 30 seconds	17:30	No signal change detected [online]
17:12 min	17:22 min	17:22 min 30 seconds	17:45	No signal change detected [online]
17:27 min	17:37 min	17:37 min 30 seconds	18:00	No signal change detected [online]
17:42 min	17:52 min	17:52 min 30 seconds	18:15	No signal change detected [online]
17:57 min	18:07 min	18:07 min 30 seconds	18:30	No signal change detected [online]
18:12 min	18:22 min	18:22 min 30 seconds	18:45	No signal change detected [online]
18:27 min	18:37 min	18:37 min 30 seconds	19:00	No signal change detected [online]
18:42 min	18:52 min	18:52 min 30 seconds	19:15	No signal change detected [online]
18:57 min	19:07 min	19:07 min 30 seconds	19:30	No signal change detected [online]

Earliest Signal Start/Send by PacifiCorp	Latest Signal Sent for an Interval by PacifiCorp	Latest Signal Received for an Interval by P4	For Curtailment Period	Hypothetical Example
19:12 min	19:22 min	19:22 min 30 seconds	19:45	No signal change detected [online]
19:27 min	19:37 min	19:37 min 30 seconds	20:00	No signal change detected [online]
19:42 min	19:52 min	19:52 min 30 seconds	20:15	No signal change detected [online]
19:57 min	20:07 min	20:07 min 30 seconds	20:30	No signal change detected [online]
20:12 min	20:22 min	20:22 min 30 seconds	20:45	No signal change detected [online]
20:27 min	20:37 min	20:37 min 30 seconds	21:00	No signal change detected [online]
20:42 min	20:52 min	20:52 min 30 seconds	21:15	No signal change detected [online]
20:57 min	21:07 min	21:07 min 30 seconds	21:30	No signal change detected [online]
21:12 min	21:22 min	21:22 min 30 seconds	21:45	No signal change detected [online]
21:27 min	21:37 min	21:37 min 30 seconds	22:00	No signal change detected [online]
21:42 min	21:52 min	21:52 min 30 seconds	22:15	No signal change detected [online]
21:57 min	22:07 min	22:07 min 30 seconds	22:30	No signal change detected [online]
22:12 min	22:22 min	22:22 min 30 seconds	22:45	No signal change detected [online]
22:27 min	22:37 min	22:37 min 30 seconds	23:00	No signal change detected [online]
22:42 min	22:52 min	22:52 min 30 seconds	23:15	No signal change detected [online]
22:57 min	23:07 min	23:07 min 30 seconds	23:30	No signal change detected [online]
23:12 min	23:22 min	23:22 min 30 seconds	23:45	No signal change detected [online]