



**June 8, 2020**

Will Seuffert  
Executive Secretary  
Minnesota Public Utilities Commission  
121 7th Place East, Suite 350  
St. Paul, MN 55101-2147

**VIA E-FILING**

Re: In the Matter of an Investigation into Self-Commitment and Self-Scheduling of  
Large Baseload Generation Facilities  
**Docket No. E999/CI-19-704**  
**Sierra Club Public Version of Initial Comments: Otter Tail Power 2020 Annual  
Compliance Filing**

Dear Mr. Seuffert:

Sierra Club respectfully submits its Initial Comments on Otter Tail Power's 2020 Annual Compliance Filing in Docket No. E999/CI-19-704.

These comments and attachments contain information Otter Tail Power considers to be Trade Secret. Sierra Club believes this filing comports with the Minnesota Public Utilities Commission's Notice relating to Revised Procedures for Handling Trade Secret and Privileged Data, pursuant to Minn. Rule 7829.0500.

Please contact me at (303) 454-3358 or [laurie.williams@sierraclub.org](mailto:laurie.williams@sierraclub.org) if you have any questions regarding this filing.

Sincerely,

*/s/Laurie Williams*

Staff Attorney

Sierra Club

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Enclosures

STATE OF MINNESOTA  
BEFORE THE PUBLIC UTILITIES COMMISSION

|                    |              |
|--------------------|--------------|
| Katie J. Sieben    | Chair        |
| Valerie Means      | Commissioner |
| Matthew Schuenger  | Commissioner |
| Joseph K. Sullivan | Commissioner |
| John A. Tuma       | Commissioner |

In the Matter of an Investigation into )  
Self-Commitment and ) Docket No. E-999/CI-19-704  
Self-Scheduling of Large Baseload )  
Generation Facilities )

**SIERRA CLUB INITIAL COMMENTS  
IN RESPONSE TO OTTER TAIL POWER'S 2020 COMPLIANCE FILING**

Developed with the Assistance of Synapse Energy Economics, Inc., Jamie Hall (lead)  
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Cambridge, Massachusetts, 02139

**PUBLIC DOCUMENT – TRADE SECRET [or PRIVILEGED] DATA HAS BEEN  
EXCISED**

**June 8, 2020**

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## **I. INTRODUCTION AND PURPOSE OF COMMENTS**

Sierra Club, with the assistance of Synapse Energy Economics, Inc. (Synapse), submits these comments in response to Otter Tail Power's (OTP's) March 2, 2020 Annual Compliance Filing in *In the Matter of an Investigation into Self-Commitment and Self-Scheduling of Large Baseload Generation Facilities*, Docket No. E999/CI-19-704. Synapse, a research and consulting firm specializing in energy, economic, and environmental topics, has been retained by Sierra Club to provide expert services and analysis in this docket.

Sierra Club engaged Synapse in this docket to evaluate OTP's commitment and dispatch decision-making practices for its Big Stone Plant (Big Stone) and Coyote Station (Coyote) units and to evaluate the effects of those practices on the units' economic performance. The purpose of these comments is to provide recommendations to the Minnesota Public Utilities Commission ("the Commission") on actions the Commission should take to address uneconomic commitment and dispatch practices and related activities, and to encourage OTP to operate Big Stone and Coyote in a manner that maximizes value to ratepayers.

Recent public analyses have highlighted that utilities' heavy reliance on the practice of self-commitment and self-scheduling coal plants is harming customers.<sup>1</sup> When a utility fails to conduct forward-looking analyses to inform unit commitment and dispatch decisions, resulting in periods of avoidable uneconomic operation, the Commission must address the question of the prudence of the variable costs, including fuel costs, incurred during those times. Under Minnesota law, the utility bears the burden of proving these costs are reasonable and in the public interest. Minn. Stat. § 216B.16, Subd. 4.

As discussed in detail below, during the filing period, OTP's practice of self-committing Big Stone and Coyote led to periods of avoidable, sustained losses to customers. Otter Tail Power has begun to take steps to improve its commitment and scheduling practices at Big Stone by moving that plant to economic commitment during periods of low prices, and we commend them for that action. However, this unit should be economically committed and operated year-round. Furthermore, the utility continues to both self-commit and self-schedule Coyote, resulting in excess costs to customers. In addition, the structure of the Company's fuel contract at Coyote incentivizes the Company to operate Coyote in a manner that does not maximize customer benefit.

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<sup>1</sup> See, e.g., Sierra Club's 2019 report *Playing With Other People's Money: How Non-Economic Coal Operations Distort Energy Markets*, available at: <https://www.sierraclub.org/sites/www.sierraclub.org/files/Other%20Peoples%20Money%20Non-Economic%20Dispatch%20Paper%20Oct%202019.pdf>.

At a high level, we therefore recommend that the Commission 1) require utilities to maintain standardized records sufficient to demonstrate they have used forward-looking analyses to inform dispatch decisions; 2) signal that it will, in the next true-up proceeding, disallow recovery of fuel costs for times when coal plants were operated uneconomically in a manner that is not justified by such forward-looking analyses; and 3) require utilities to identify any proposed new coal contracts to the Commission, and to submit them for prudence review in fuel clause adjustment proceedings, before signing any such contracts. The Commission should also indicate that, generally, it will not allow utilities to recover from customers costs associated with new contracts that include take or pay or liquidated damages provisions, or costs resulting from any provision in a fuel supply contract that the utility has contractually agreed not to disclose, because such provisions run counter to the public interest.

Finally, there is a question as how the Commission should address Otter Tail's long-term fuel supply contract for the Coyote plant. As discussed further below, Otter Tail entered that contract without first analyzing whether it was in the interest of customers to do so, and the Commission has never reviewed the contract's prudence. The contract designates a [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS] portion of Coyote's fuel costs as fixed. Our analysis shows that, if one instead designates those costs as entirely variable, as they are at Big Stone, Coyote is operating uneconomically [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS]. We recommend the Commission consider two actions with respect to the Coyote fuel supply contract. First, the Commission should order Otter Tail to evaluate whether continued participation in that contract is in its customers' interest in its next Integrated Resource Plan. Second, because the Commission has never reviewed the prudence of the contract, any imprudent associated costs should be disallowable in the utility's fuel clause adjustment true-up proceeding. As discussed in more detail below, one approach for addressing this would be to disallow any costs (including fuel costs that Otter Tail treats as fixed) incurred above the market cost of energy during the hours Coyote is operating.

## **II. DEFINITIONS**

The concepts of self-commitment and self-scheduling are central to this docket. For consistency, we will rely on definitions from OTP's Annual Compliance Filing.

- **Self-commitment.** Self-commitment is a practice in which the utility requests the Midwest Independent System Operator (MISO) to "commit" a generating unit, ensuring the unit is operating. When a unit is committed, it runs at least at the unit's "economic minimum" output regardless of market pricing.<sup>2</sup> When a utility elects to self-commit a

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<sup>2</sup> Annual Compliance Filing of Otter Tail Power, Docket No. E999/CI-19-704, page 2.

unit, the unit is not ensured sufficient revenues from the market to make whole its costs. This is in contrast to economic commitment, which is when MISO commits the unit when it is economical to do so. MISO only provides a day-ahead price signal, which for some generators is insufficient, or may lead to excessive starts during the year. For this reason, self-commitment is common in MISO for units with long or costly start-up and shut-down parameters.<sup>3</sup> In absence of a formal multi-day MISO process, some utilities have established mechanisms for approximating economic commitment determinations to avoid excessive operations during extended periods of low market prices.

- **Self-scheduled dispatch.** Self-scheduled dispatch is a practice in which the utility submits self-schedules of “fixed quantities of energy, per hour, that may be dispatched from an online unit.”<sup>4</sup> The quantities of energy may be between the unit’s economic minimum and economic maximum. If the self-schedule is less than the unit’s economic maximum, then MISO may dispatch the unit above the self-schedule on an economic basis. When a unit is both self-committed and self-scheduled, the unit is guaranteed dispatch regardless of market pricing. This is in contrast to economic dispatch, which is when MISO dispatches the unit when it is economical to do so. Self-scheduling is the exception within MISO, comprising only 12 percent of megawatt hours (MWh) in March 2020, for example.<sup>5</sup> The vast majority of dispatchable generation in MISO does not elect to self-schedule.<sup>6</sup>

### **III. SUMMARY OF FINDINGS AND RECOMMENDATIONS**

In this section, we will summarize our findings and present our recommendations.

#### **A. Key Findings**

- **During the reporting period, OTP both uneconomically self-committed and often appeared to uneconomically self-schedule Big Stone and Coyote.** Specifically, OTP self-committed the dispatch of its Big Stone and Coyote units up to each unit’s minimum operating level 100 percent of the time that the units were not in outage, regardless of economics. Furthermore, the data suggests OTP often uneconomically self-scheduled the

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<sup>3</sup> MISO, April 2020, *MISO ‘self-commitment’ trends: Most coal generation is dispatched economically*. Available at: <https://cdn.misoenergy.org/202004%20Self-Commitment%20MISO%20Trends%20443759.pdf>.

<sup>4</sup> Annual Compliance Filing of Otter Tail Power, Docket No. Docket No. E999/CI-19-704, page 2.

<sup>5</sup> MISO, April 2020. “MISO ‘self-commitment’ trends: Most coal generation is dispatched economically.” Available online at <https://cdn.misoenergy.org/202004%20Self-Commitment%20MISO%20Trends%20443759.pdf>

<sup>6</sup> *Id.*

dispatch of Big Stone and Coyote above their minimum operating levels (despite stating that it does not do so). While Otter Tail has taken steps in 2020 to improve its commitment and dispatch practices for Big Stone by moving that unit to economic commitment during low price periods, it has not done so for Coyote.

- **OTP's failure to conduct forward-looking analyses to inform unit commitment and dispatch decisions has resulted in OTP uneconomically operating the units during many periods at an unnecessary and likely avoidable loss.** Using OTP's own data in Attachment 2 to its Annual Compliance Filing, we identify [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] periods of consecutive hourly losses at Big Stone and Coyote from 2017 to 2019, with losses totaling [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS]. This type of imprudent operation could have been avoided—or, at minimum, the losses could have been significantly mitigated—by employing proper forward-looking analysis of projected costs and revenues.
- **OTP's claim that its units' revenues exceed costs during the 18-month reporting period (July 2018 through December 2019) is based on an incomplete accounting of variable operating costs and contains some unexplained discrepancies.** OTP's conclusion that, in aggregate, "revenues have exceeded the fuel costs attributable to operating these plants during periods of self-schedule and self-commitment"<sup>7</sup> is based on an incomplete accounting of short-run marginal costs that omits variable predictive maintenance and, for Coyote, fuel costs that OTP classifies as fixed.
- **OTP's decision to enter into a fuel contract for Coyote that designates a [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS] portion of fuel costs as fixed costs is a significant driver of OTP's conclusion that Coyote is economic.** We found that, if the entire fixed portion of Coyote's fuel costs were instead considered to be a variable cost (as they are for Big Stone), Coyote's operation would have been uneconomic on an energy cost basis alone for [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS] of its operational hours in every year from 2017 through 2019. With this redesignation, Coyote's net revenues appear [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS] to Big Stone's. Both Coyote and Big Stone have incurred fuel and variable operations and maintenance ("O&M") costs well above market prices for sustained periods in each year from 2017 through 2019. Because OTP has the power to negotiate its fuel contracts, the utility, not ratepayers,

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<sup>7</sup> Annual Compliance Filing of Otter Tail Power, Docket No. E999/CI-19-704, page 8.

should bear the risk associated with such contractual provisions. OTP's decision to enter into coal contracts with fixed terms has resulted in OTP designating a [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS] portion of Coyote's fuel costs as fixed. OTP therefore excludes these costs from the MISO offer curve,<sup>8</sup> which then understates Coyote's variable costs and makes the unit appear more attractive to dispatch than it would otherwise.

- **OTP could generate over [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in additional revenue for its customers by decreasing the minimum operating level of its units.** Our analysis finds that reducing the minimum operating level of each unit by half could have resulted in [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in additional net revenues for OTP's customers from 2017 through 2019.
- **OTP has not sufficiently supported its claim that Big Stone and Coyote are needed to meet resource adequacy requirements.** OTP has identified resource adequacy requirements as a barrier to changing its commitment practices, but has conducted neither a robust technical nor an economic analysis exploring the costs and benefits of meeting its resource adequacy requirements through other means.

## B. Recommendations

- **Moving Big Stone and Coyote from self-schedule to economic dispatch would save customers money.** We commend OTP on taking steps towards a technical solution for moving Big Stone to economic commitment and dispatch, and recommend that Big Stone be moved entirely to that status, not just in low price seasons. We recommend the same be done for Coyote. There are only rare circumstances (such as stack testing) in which OTP should self-schedule Big Stone and Coyote. Instead, OTP should allow MISO to dispatch the units economically throughout the entire year; i.e., only when unit costs submitted to the offer curve are less than locational marginal prices (LMPs).
- **In the absence of a multi-day commitment market at MISO, the Commission should require Otter Tail to establish a clear and auditable mechanism of determining whether its commitment decisions are in the best interests of ratepayers.** The Commission should require OTP to track and maintain for review its forward-looking analysis of unit commitment strategies. OTP should be required to utilize LMP forecasts, unit operational costs, and unit start-up and shut-down costs to determine daily whether

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<sup>8</sup> The offer curve consists of the bids offered to MISO.

to self-commit a unit or to take it offline during periods of low market prices. OTP should be required to retain this analysis to allow the Commission to evaluate in fuel clause adjustment true-up proceedings whether a unit's commitment decision maximized its economic value to OTP's customers.

- **The Commission should indicate that in the next Fuel Clause Adjustment True-Up proceeding, it will disallow the uneconomic portion of fuel costs during periods in which any utility commits and dispatches a coal plant uneconomically in a manner that is not supported by the forward-looking analyses described above.** The reasonableness of unit dispatch practices should be evaluated based on analysis that incorporates predictive maintenance costs—and any other excluded costs that scale with and are impacted by plant operations—as well as fuel costs, into the variable costs that OTP uses to make its unit commitment and dispatch decisions.
- **The Commission should use a two-step approach for addressing OTP's 25-year coal fuel supply contract for Coyote.** First, the Commission should order Otter Tail to evaluate whether continued participation in that contract is in customers' interest in its next Integrated Resource Plan (IRP). Second, because the Commission has never reviewed the prudence of the contract, any imprudent associated costs should be disallowable. One approach for addressing this would be to disallow any costs (including fuel costs that Otter Tail treats as fixed) incurred above the market cost of energy during the hours Coyote is operating. This action could encourage OTP to seek a renegotiation of its fuel contract with Coyote Creek Mine. This will place the appropriate burden of risk on the utility, not ratepayers, for entering a contract that has an [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS] of fuel costs designated as fixed and therefore passed on to customers.
- **The Commission should require utilities to identify any proposed new coal contracts in Fuel Clause Adjustment proceedings, and to submit them for prudence review those proceedings, before signing any such contracts.** It should also signal that it will not allow utilities to recover from ratepayers future costs associated with new coal contracts that include fixed cost terms of service, or take or pay or liquidated damages provisions.
- **If OTP continues to identify co-ownership as a barrier to moving Coyote to economic dispatch, the Commission should require OTP to justify the prudence of continued operation of that unit as a joint owner in its next IRP.**
- **OTP should also consider reducing the minimum operating levels at Big Stone and Coyote.** OTP states that [TRADE SECRET DATA BEGINS... TRADE SECRET

**DATA ENDS]**<sup>9</sup> OTP also notes that Big Stone “currently utilizes the lowest possible operating point allowing for continued safe and reliable plant operations.”<sup>10</sup> While this may be true, our analysis finds that lowering the minimum operating level of Big Stone even further would increase savings. This also raises the question of whether other, more flexible resources would provide more cost-effective generation to OTP’s ratepayers.

- **The Commission should require OTP to evaluate alternative ways of meeting its resource adequacy requirements in its next IRP.** Specifically, the Commission should require OTP to conduct an economic analysis comparing the costs and benefits of meeting its MISO Module E Capacity requirements with Big Stone and Coyote versus alternatives. Alternatives include, but are not limited to, the construction of new generation facilities, bi-lateral capacity purchases, and the purchase of capacity through the MISO capacity auction.

#### **IV. LEGAL STANDARD OF REVIEW**

The Commission has the authority and the duty to ensure fuel costs are reasonable. Minn. Stat. § 216B.16, Subd. 6, provides the Commission with the authority to determine “just and reasonable rates” for public utilities. Proposed energy cost adjustments are considered to be a change in rates and so are subject to the same standard of review. Minn. R. 7825.2390 (“When a utility proposes new or revised electric energy...adjustment provisions, the proposal is considered a change in rates and must be reviewed according to commission rules and practices relating to utility rate changes.”). To meet this standard, a utility must demonstrate that it has taken actions to minimize its fuel costs. Minn. R. 7825.2800.

Strong Commission oversight of utilities’ decisions is the regulatory substitute for the consequences of free and open competition. “If a competitive enterprise tried to impose on its customers costs from imprudent actions, the customers could take their business to a more efficient provider. A utility’s ratepayers have no such choice.”<sup>11</sup> Within its assigned territory, each utility has a legal monopoly over retail electric service. Absent regulatory oversight, a utility protected from competition lacks incentive to perform as if subject to competition: “Management of unregulated business subject to the free interplay of competitive forces have no alternative to efficiency. If they are to remain competitive, they must constantly be on the lookout for cost economies and cost savings. Public utility management, on the other hand, does

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<sup>9</sup> Otter Tail Power’s response to Sierra Club Information Request 23-NOTPUBLIC

<sup>10</sup> Otter Tail Power’s response to Sierra Club Information Request 24bPUBLIC.

<sup>11</sup> *Long Island Lighting Co.*, Case No. 27563, 71 PUR 4th 262 (N.Y. Pub. Serv. Comm’n, Nov 16, 1985).

not have quite the same incentive.”<sup>12</sup> A utility’s motivation to act prudently arises instead from the prospect that the Commission will disallow imprudent costs.<sup>13</sup> The core of prudence analysis is whether captive customers can reasonably be asked to pay for a utility’s choices.

The Commission has moved all fuel costs out of rate cases and into fuel clause adjustment dockets.<sup>14</sup> The Commission also recently reformed the fuel clause adjustment process. Under the new process:

each utility will forecast its monthly fuel costs for the upcoming year in an annual filing, and will charge those forecasted rates unless the utility can show a significant unforeseen impact on those rates during the forecasted year. At the end of the forecasted year, each utility will compare its forecasted rates with its actual fuel costs incurred throughout the year, and will refund any overcollections or show prudence of costs before recovering under-collections.<sup>15</sup>

It would therefore be appropriate for the Commission to address issues with utilities’ self-commitment and self-scheduling practices in annual Fuel Clause Adjustment forecast filings and annual true-up filings.

**V. OTP’S OWN ANALYSIS SHOWS ITS PRACTICE OF SELF-COMMITTING BIG STONE AND COYOTE HARMED CUSTOMERS DURING THE REPORTING PERIOD.**

**A. During the filing period, OTP self-committed the Big Stone and Coyote coal plants into MISO.**

OTP operates the Big Stone Power Plant and Coyote Station, two of its three baseload coal units, in the MISO markets.<sup>16</sup> Big Stone is a 474 MW coal-fired steam plant built in 1975. Coyote is a 427 MW single-unit coal-fired steam plant built in 1981.<sup>17</sup> Throughout the period covered by the filing, OTP offered Big Stone and Coyote as “must-run” units, meaning OTP self-committed the

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<sup>12</sup> *Midwestern Gas Transmission Co. v. E. Tenn. Nat. Gas Co.*, 36 FPC 61, 70, 64 P.U.R.3d 433 (1966), *aff’d sub nom. Midwestern Gas Transmission Co. v. FPC*, 388 F.2d 444 (7th Cir. 1968).

<sup>13</sup> *See, e.g., U.S. Gypsum, Inc.*, 735 N.E.2d at 797 (“As a quid pro quo for being granted a monopoly ... the utility is subject to regulation by the state to ensure that it is prudently investing its revenues in order to provide the best and most efficient service possible to the consumer.”).

<sup>14</sup> *Order Approving Compliance Filings, In the Matter of an Investigation into the Appropriateness of Continuing to Permit Electric Energy Cost Adjustments*, Docket No. E-999/CI-03-802, Nov 5, 2019, at 4.

<sup>15</sup> *Order Approving Additional Details of New Fuel Clause Adjustment Process, In the Matter of an Investigation into the Appropriateness of Continuing to Permit Electric Energy Cost Adjustments*, Docket No. E-999/CI-03-802, June 12, 2019.

<sup>16</sup> OTP has a third baseload coal unit: Hoot Lake Plant. Hoot Lake Plant is retiring in the spring of 2021, and as such OTP excluded it from the analysis in its Annual Compliance Filing.

<sup>17</sup> Annual Compliance Filing of Otter Tail Power, Docket No. Docket No. E999/CI-19-704, page 1.

**Sierra Club Initial Comments  
 Otter Tail Power’s 2020 Compliance Filing  
 PUBLIC DOCUMENT  
 TRADE SECRET DATA EXCISED**

units at their minimum operating level and MISO could dispatch the units at higher levels if market conditions were such that it was economic to do so or if there was a reliability need that required additional output from the units.<sup>18</sup>

Big Stone is co-owned by OTP (53.9 percent), Montana Dakota Utilities (22.7 percent), and Northwestern Energy (23.4). Coyote is co-owned by OTP (35 percent), Minnkota Power Cooperative (30 percent), Montana Dakota Utilities (23 percent), and Northwestern Energy (10 percent). OTP, Montana Dakota Utilities, and Minnkota Power Cooperative operate their shares of Big Stone and Coyote within the MISO markets, while Northwestern Energy operates its shares of Big Stone and Coyote within the Southwest Power Pool (SPP) market.<sup>19</sup>

**B. A review of OTP’s analysis shows that most of its revenue from Big Stone and Coyote occurred in [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS].**

Looking just at the incomplete data OTP provided as Attachment 2 (Confidential) to its Annual Compliance Filing (that is, the data that does not account for all variable O&M and fuel costs, such as predictive maintenance costs, which are discussed in section VIB and C, below), OTP’s share of Big Stone and Coyote appear to have collectively provided [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in net revenues from July 1, 2018 through December 31 2019 (the time period of the current filing), and [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] from 2017 through 2019 (see CONFIDENTIAL Table 1).<sup>20</sup>

**CONFIDENTIAL Table 1. Net Operational Revenues of Big Stone and Coyote (\$ Millions)**

| Year | Big Stone                    | Coyote |
|------|------------------------------|--------|
|      | [TRADE SECRET DATA BEGINS... |        |
| 2017 |                              |        |
| 2018 |                              |        |
| 2019 |                              |        |
|      | ...TRADE SECRET DATA ENDS]   |        |

*Sources: Attachment 2 (Confidential) to Annual Compliance Filing of Otter Tail Power. Synapse analysis.*

<sup>18</sup> Annual Compliance Filing of Otter Tail Power, Docket No. E999/CI-19-704, page 3.

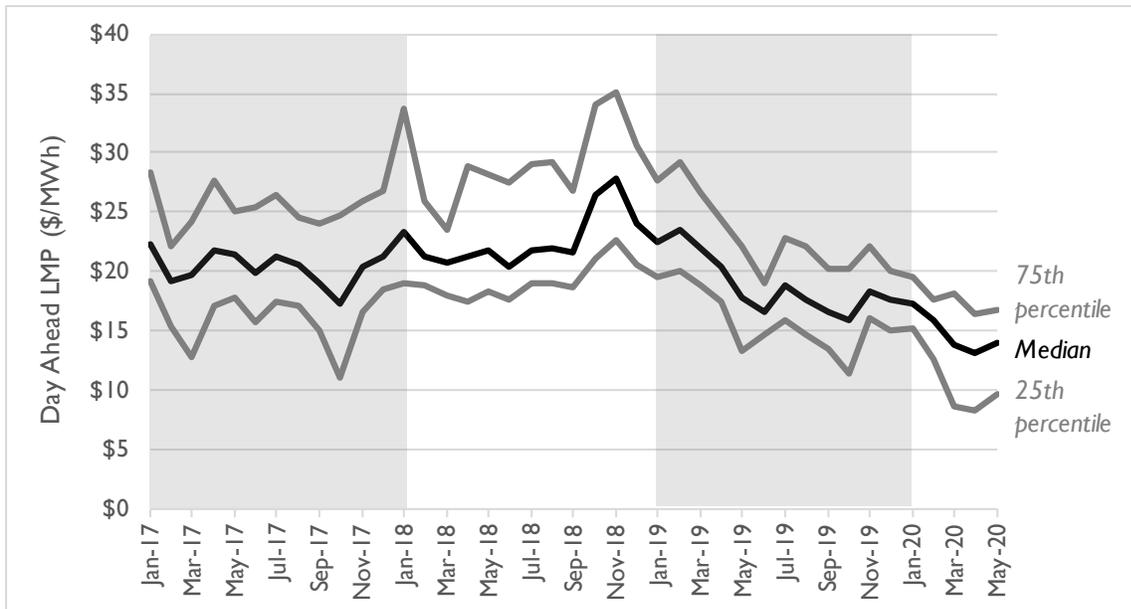
<sup>19</sup> *Id.*

<sup>20</sup> Attachment 2 (TS) to Annual Compliance Filing of Otter Tail Power, Docket No. E999/CI-19-704.

However, [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS], when LMPs were higher than average (as shown in Figure 1). Big Stone [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS], when LMPs were lower. In 2019, MISO LMPs declined from their 2018 levels, and OTP’s own data shows that [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS]: Big Stone experienced net operational losses in [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS] while Coyote experienced net operational losses in [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS]).

Now, in 2020, amidst a backdrop of low LMPs driven by low demand and low gas prices, it is likely that Big Stone and Coyote’s economic performance will be worse than in any of the prior three years.

**Figure 1. Median, 25<sup>th</sup> and 75<sup>th</sup> Percentile Day-Ahead LMPs at Big Stone**



Sources: MISO Market Data via S&P Global. Authors’ analyses.

- C. **A review of OTP’s own analysis shows that OTP’s reliance on self-commitment without the use of forward-looking analysis has resulted in many instances of avoidable, sustained losses.**

In its Annual Compliance Filing, OTP concludes that, in the aggregate, “revenues have exceeded the fuel costs attributable to operating these plants during periods of self-schedule and self-

commitment.”<sup>21</sup> However, this statement does not address whether the plants’ net operational revenues could have been greater had OTP committed and dispatched them differently—for example, by utilizing economic commitment and dispatch and by reducing each unit’s minimum operating level. We explore these alternatives in the sections below. As we lay out below, OTP could have generated greater net operational revenues had it employed forward-looking analyses to inform its commitment and dispatch decisions.

When evaluating whether to commit a unit, it is prudent to weigh the projected costs and benefits of doing so. The evaluation should incorporate factors such as LMP forecasts, unit operational costs, and unit start-up and shut-down times and costs. However, as we discuss further below, OTP states that it “does not currently perform economic analysis to inform day to day unit commitment decisions for Big Stone Plant and Coyote Station.”<sup>22</sup> OTP’s practice of self-committing Big Stone and Coyote at their minimum operating levels without the use of forward-looking analysis resulted in instances of avoidable, sustained losses.

In general, it is more economical for OTP to decommit Big Stone and Coyote during periods in which (a) the units will likely incur losses for more hours than it takes to first cool-down to “warm” status and then start back up from warm status; and (b) the expected losses exceed the warm startup costs. Big Stone and Coyote have a cool-down time to warm of [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] hours, a warm startup time of [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] hours, and warm startup costs of [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] and [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS], respectively (reflecting OTP’s share of the costs).<sup>23</sup> We find that OTP self-committed Big Stone and Coyote during [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] periods in which the plants incurred (a) consecutive losses for more hours than the units’ cool-down time to warm plus warm startup time (a total of [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] hours), and (b) incurred losses that exceeded the warm startup costs. Specifically, between 2017 and 2019, we find:

- There were [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] instances in which Big Stone incurred hourly losses for more than [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] consecutive hours with total losses exceeding warm startup costs, with total net operational costs exceeding [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS].

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<sup>21</sup> Annual Compliance Filing of Otter Tail Power, Docket No. Docket No. E999/CI-19-704, page 8.

<sup>22</sup> Otter Tail Power’s response to Sierra Club Information Request 14.

<sup>23</sup> Otter Tail Power’s response to Sierra Club Information Request 16-TS.

- There were [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] instances in which Coyote incurred hourly losses for more than [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] consecutive hours with total losses exceeding warm startup costs, with total net operational costs exceeding [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS].

In some instances, the units may need to decommit to cold. Big Stone and Coyote have a cool-down time to cold of [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] hours, a cold startup time of [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] hours, and cold startup costs of [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] and [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS], respectively (reflecting OTP's share of the costs). Again, we find that OTP self-committed and self-scheduled<sup>24</sup> the dispatch of Big Stone and Coyote during [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] periods in which the plants incurred (a) consecutive losses for more hours than the units' cool-down time to cold plus cold startup time (a total of [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] hours), and (b) incurred losses that exceeded the cold startup costs.<sup>25</sup> Between 2017 and 2019, we find:

- There are [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] instances in which Big Stone incurred hourly losses for more than [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] consecutive hours with total losses exceeding cold startup costs, with total net operational costs exceeding [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS].
- There are [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] instances in which Coyote incurred hourly losses for more than [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] consecutive hours with total losses exceeding cold startup costs, with total net operational costs exceeding [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS].

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<sup>24</sup> OTP states that it self-schedules Big Stone and Coyote at their minimum operating levels, not above them, and that MISO will only dispatch above this level economically or for reliability needs. However, as Figure 2 shows, below, there are many hours in which the units are dispatched above their minimum operating levels uneconomically. Subsection VI.A, below, discusses this issue in further detail.

<sup>25</sup> As a general matter, generating units that have slow shutdown and startup times and high startup costs should elect to commit from "cold" when expected market revenues over a reasonable forward period are expected to exceed startup costs. Similarly, an operating unit should elect to decommit when the absolute value of losses exceeds the startup costs. When a unit is already operating, the startup cost becomes an avoidable cost—i.e., it can be avoided by not shutting down. But if the costs of operating (that is, the losses) exceed that avoidable cost, then the unit should decommit. In OTP's case, this calculation is omitted altogether.

As specific examples, we will now describe two instances in which OTP self-committed and self-scheduled the dispatch of Big Stone and Coyote for particularly long periods of consecutive losses.

- From [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS], OTP self-committed and self-scheduled the dispatch of Big Stone for [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] consecutive hours of net losses. This is shown in CONFIDENTIAL Figure 2 below, with cleared generation in the top plot and hourly net operational revenue on the bottom plot. In every hour during this time period, unit costs exceed day-ahead LMPs. Over this seven-day period, the plant incurred [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in net operational losses.
- From [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS], OTP self-committed and self-scheduled the dispatch of Coyote for [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] consecutive hours of net losses. Over this six-day period, the plant incurred [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in net operational losses.

**CONFIDENTIAL** Figure 2. Big Stone Generation and Net Operational Revenue

[TRADE SECRET DATA BEGINS...  
...TRADE SECRET DATA ENDS]

*Sources: Attachment 2 to Annual Compliance Filing of Otter Tail Power-NOTPUBLIC. Synapse analysis.*

These findings point to the benefit that economic commitment and dispatch would provide to OTP's customers. Therefore, we recommend OTP move the dispatch status of its Big Stone and Coyote plants to economic.

**D. The Commission Should Require OTP to Conduct Regular Forward-Looking Evaluations of Self-Commitment Decisions as Part of the Fuel Clause Adjustment Proceedings to Ensure it is Maximizing Big Stone and Coyote's Economic Value to Customers.**

OTP has stated that it “does not currently perform economic analysis to inform day to day unit commitment decisions for Big Stone Plant and Coyote.”<sup>26</sup> It further notes that those plants are always online as self-committed at minimum operating levels, and, as such, factors such as “startup times have little impact in making commitment decisions”<sup>27</sup> and that “Otter Tail has not accounted for anticipated costs of damage due to starts and stops as part of a forecasted energy analysis.”<sup>28</sup> This is exactly why forward-looking analyses should be used to make unit commitment decisions: so that multi-day revenue projections can be compared against full operational costs.

Many of the losses discussed in the section above likely could have been avoided had OTP employed:

1. The consistent use of economic commitment and dispatch, rather than regular self-committing and self-scheduling; and
2. A consistent and auditable framework for assessing coal unit commitment in light of expected forward-looking market energy prices, or the use of economic commitment through MISO's market framework to avoid long periods of unnecessary and imprudent self-commitment.

While it is reasonable for a utility to sometimes be wrong in its forecasts and decisions, it is unreasonable for a utility to: 1) have the tools to inform its decisions (namely, forward-looking analyses), 2) nevertheless make uninformed decisions that lead to losses that may have been avoidable had it used those tools, and 3) make ratepayers pay for those losses.

Therefore, we recommend the following:

- **In the absence of a multi-day commitment market at MISO, the Commission should require utilities to establish a clear and auditable mechanism of determining whether its commitment decisions are in the best interests of ratepayers.** The Commission should require OTP to track and maintain for review its forward-looking analysis of unit commitment strategies. OTP should be required to utilize LMP forecasts,

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<sup>26</sup> Otter Tail Power's response to Sierra Club Information Request 14.

<sup>27</sup> Otter Tail Power's response to Sierra Club Information Request 12b.

<sup>28</sup> Otter Tail Power's response to Sierra Club Information Request 13.

unit operational costs, and unit start-up and shut-down costs to determine daily whether to self-commit a unit or to take it offline during periods of low market prices. OTP should be required to retain this analysis to allow the Commission to evaluate in fuel clause adjustment true-up proceedings whether a unit's commitment decision maximized its economic value to OTP's customers.

- **The Commission should indicate that in the next Fuel Clause Adjustment True-Up proceeding, it will disallow the uneconomic portion of fuel costs during periods in which any utility commits and dispatches a coal plant uneconomically in a manner that is not supported by the forward-looking analyses described above.** As discussed further below, the reasonableness of unit dispatch practices should be evaluated based on analysis that incorporates predictive maintenance costs—and any other excluded costs that scale with and are impacted by plant operations—as well as fuel costs, into the variable costs that OTP uses to make its unit commitment and dispatch decisions.

**E. OTP should make every effort to move Big Stone and Coyote to year-round economic commitment.**

OTP and the other co-owners of Big Stone recently announced a technical solution to address uneconomic commitment and dispatch at the plant:

The Big Stone co-owners have worked to identify a technical solution that would allow for an economic offer of the unit. This technical solution required development and implementation of a commitment communication system between MISO, SPP, co-owners, and Big Stone operations staff (shared communication of commitment/decommitment signals from the ISOs). This technical solution does not coordinate commitment and dispatch between SPP and MISO for each individually modeled co-owner share of the plant. As such, if one co-owner share is committed economically, the other co-owners must update their offer to self-committed at minimum (“must-run”) to match the commitment period of the economically committed share. As mentioned in MN-Sierra-014, it should be noted, and stressed, that Otter Tail is not solely in control of the offer status of the plant. Offering the unit as economic requires agreement among the co-owners. Each co-owner, at their sole discretion, retains the

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right to call for reversion to a self-committed at minimum (“must run”) offer.<sup>29</sup>

With this solution, “[it] is expected that Big Stone will operate on an economic basis during low priced, shoulder months and as self-committed during higher priced, peak months, which will help to minimize plant cycling costs.”<sup>30</sup>

As a result of this change in operations, Otter Tail states that on April 29<sup>th</sup>, 2020, based on economic offer, “Big Stone was decommitted due to prevailing market conditions.”<sup>31</sup>

We commend OTP on taking this step to overcome barriers to operating the plant more economically. However, there is no reason why OTP and the other co-owners of Big Stone should be limiting this solution solely to periods of low market prices. Instead, OTP should be encouraged to move to an economic offer at Big Stone throughout the entire year.

OTP should also move expeditiously to switch Coyote to economic commitment and dispatch. OTP has stated that the Coyote co-owners “[**TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS**].”<sup>32</sup> Given the technical solution identified for Big Stone, we recommend OTP prioritize these conversations to identify a similar solution for Coyote. OTP asserts that the joint ownership structure of Coyote makes economic dispatch infeasible, explaining that if “each partner share of the unit were to be offered as economic, it’s probable that only a portion of the entire unit would be dispatched,” and that partial dispatch “would result in under recovery of startup and make whole payments to the partners whose shares were not dispatched.”<sup>33</sup> However, if the co-ownership of Coyote makes it such that OTP must offer its share of this unit as must-run and, in doing so, frequently incurs sustained periods of net operational losses, joint ownership of Coyote may no longer be serving the best interests of ratepayers.

We therefore recommend that the Commission require OTP to justify why continued joint ownership of Coyote is prudent and in the best interest of OTP’s ratepayers (relative to alternatives) if it results in OTP operating the unit uneconomically for a significant portion of the time and passing on those losses to customers.

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<sup>29</sup> Otter Tail Power’s response to Sierra Club Information Request 31.

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> Otter Tail Power’s response to Sierra Club Information Request 23c-TS.

<sup>33</sup> Annual Compliance Filing of Otter Tail Power, Docket No. E999/CI-19-704, page 3.

**VI. PROBLEMS WITH OTP'S ANALYSIS**

**A. OTP has failed to clearly explain why its own data shows a pattern of uneconomically self-scheduled dispatch above each unit's minimum operating levels, contrary to the Company's statement that it does not self-schedule the units.**

OTP states that “both Big Stone and Coyote were offered to the market as self-committed at minimum output” and that “MISO would dispatch the plants up” based on economics and reliability needs.<sup>34</sup> However, the data OTP provides in Attachment 2 to its Annual Compliance Filing show a substantial number of hours in which Big Stone and Coyote uneconomically cleared for dispatch in the day-ahead market above their minimum operating levels. If MISO was dispatching the units based on economics, then the units should not have dispatched above their minimum operating levels when the unit costs were higher than the day-ahead LMP. It also seems very unlikely that reliability needs can account for the frequency with which this behavior was observed.

Specifically, between 2017 and 2019, Big Stone cleared in the day-ahead market uneconomically (i.e., when day-ahead LMPs were less than unit costs) in over [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] hours, resulting in more than [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in net operational losses during those hours. Coyote cleared in the day-ahead market uneconomically in more than [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] hours, resulting in more than [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in net operational losses during those hours.<sup>35</sup> OTP did not clearly explain in its responses to any of the multiple discovery requests Sierra Club submitted why it is that Big Stone and Coyote are uneconomically operating above their minimum operating levels for such a large portion of hours.<sup>36</sup> We therefore recommend the Commission require OTP to explain in detail why it is that these plants were so often uneconomically dispatched above their minimum operating levels.

In response to a question asking why the plants' cleared generation often exceeds the minimum operating level despite day-ahead LMPs being less than the unit cost, OTP offers a partial explanation, stating that “all co-owners share in the efficient or inefficient dispatch of the generation which can result in some of the differences noted in the request for information.”<sup>37</sup> This emphasizes the importance of our recommendation, below, that the Commission require OTP to justify why continued joint ownership of Coyote is prudent and in the best interest of

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<sup>34</sup> Otter Tail Power's response to Sierra Club Information Request 27a.

<sup>35</sup> Attachment 2 (TS) to Annual Compliance Filing of Otter Tail Power, Docket No. E999/CI-19-704.

<sup>36</sup> See Otter Tail Power's responses to Sierra Club Information Requests 27, 38-NOTPUBLIC, and 39.

<sup>37</sup> Otter Tail Power's response to Sierra Club Information Request 29a.

OTP's ratepayers (relative to alternatives) if it results in OTP operating the unit uneconomically for a significant portion of the time and passing on those losses to customers.

**B. OTP's analysis is flawed because it should have included variable predictive maintenance costs and other non-fuel costs that scale with operation into this analysis and into its MISO offer curves.**

It is also important to note that OTP's conclusion that its coal plants generated net positive benefits for customers is based on consideration of only a subset of unit costs. OTP's results are predicated on OTP's incomplete accounting of short-run marginal costs that omits variable predictive maintenance costs and (as is discussed further below), for Coyote, coal expenses that OTP imprudently classifies as fixed.<sup>38</sup> It does not include predictive maintenance and other non-fuel costs that are scalable with operation. By failing to include an appropriate level of variable O&M costs in its pricing curve, OTP has allocated variable costs to fixed categories, guaranteeing that those costs would be incurred. It is likely that had OTP employed a more rigorous assessment of variable O&M costs and used this information when making its commitment and dispatch decisions, it could have realized additional savings.

In this section, we identify predictive maintenance as a category of costs that OTP should have included in its analysis of its unit commitment and dispatch practices.

Capital and some O&M costs, such as labor, are generally fixed (i.e., they do not vary as a function of unit output) and are therefore reasonable to exclude from an offer curve. However, a wide range of other O&M costs scale with unit operations in a predictable and known manner—either as a function of runtime or output. These variable costs are avoidable and deferrable if units are idled or dispatched at lower levels, and they therefore should be incorporated into unit commitment and dispatch decision-making. For example, maintenance conducted as a function of use or operational hours (often referred to as a predictive maintenance) should be considered variable, as should expenses for water, chemicals and reagents, and waste disposal. OTP excludes predictive maintenance in the Big Stone and Coyote unit costs, stating that it “does not have data as to how a change in operational status would change the cost of a [predictive or preventative maintenance] program.”<sup>39</sup> By excluding predictive maintenance costs, OTP does not accurately account for all the avoidable costs associated with committing and dispatching its units. Therefore, as OTP evaluates changes to its plants operational status—including changing

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<sup>38</sup> In its response to Sierra Club Information Request 8a, OTP lists the short-term variable costs used for the purposes of dispatch at Big Stone as: coal, fuel oil, lime, activated carbon, ammonia, coal freight tariff, SO<sub>2</sub> allowances, miscellaneous variable costs, and train-related costs. OTP lists the short-term variable costs used for purposes of dispatch at Coyote as: coal, fuel oil, lime, activated carbon, coal conversion tax, SO<sub>2</sub> allowances, and miscellaneous variable costs.

<sup>39</sup> Otter Tail Power's response to Sierra Club Information Request 32.

to economic dispatch and reducing the minimum operating levels of its plants—it is incumbent on OTP to evaluate how those changes will impact its predictive and preventative maintenance program and the costs associated with it. Those varying costs should be treated as variable costs and included in OTP's submissions to the MISO offer curve.

OTP's treatment of predictive maintenance costs as fixed costs results in OTP submitting into MISO an offer that is lower than the actual variable cost to operate the unit. From July 2016 through 2019, Big Stone's average non-fuel variable O&M costs were approximately [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] and Coyote's average non-fuel variable O&M costs were approximately [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS].<sup>40</sup> This is [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] than the \$5.78/MWh non-fuel variable O&M costs in 2020 dollars that Horizons Energy assigns to 400-599 MW coal plants in its Fall 2019 North American Market Database, based primarily on historical O&M data from FERC Form 1.<sup>41</sup> By submitting artificially low variable costs to the MISO offer curve, OTP biases the market in favor of committing and dispatching OTP's units (in this case, dispatching above the minimum operating level) over other units that may actually be lower cost to operate. This also allows OTP to make the units look more economic than they are when comparing costs to the LMP revenues earned, such as it did with the data in Attachment 2 to OTPs' Annual Compliance Filing. It is important to note that these costs do not disappear just because they are not included in the MISO offer curve; instead, they are passed onto customers through rates as fixed costs in a less transparent manner.

As such, we recommend that the Commission require OTP to evaluate its unit commitment practices using an analysis that incorporates predictive maintenance costs—and any other excluded costs that scale with and are impacted by the frequency and duration of plant operations—into the variable costs that OTP uses to make its unit commitment and dispatch. This is critically important to the analysis of the economics of switching to economic commitment and dispatch.

**C. OTP's characterization of Coyote's fuel costs as [TRADE SECRET DATA BEGINS...TRADE SECRET DATA BEGINS] fixed has an outsized impact on its conclusion that it is maximizing Coyote's benefits to customers.**

**1. OTP's decision to enter into a long-term coal contract at Coyote with fixed terms has resulted in its exclusion of about [TRADE SECRET DATA**

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<sup>40</sup> Attachment 1 (TS) to Otter Tail Power's response to Sierra Club information request 19.

<sup>41</sup> Horizons Energy is known for its industry expertise on issues such as integrated resource planning, power market analytics, and economic consulting. See: <https://www.horizons-energy.com/about/>.

**BEGINS...TRADE SECRET DATA ENDS] the unit's fuel costs from its submission in the MISO offer curve.**

In October 2012, OTP entered into a coal contract for Coyote (a mine mouth plant) with the Coyote Creek Mine with a "Production Period" commencing on May 5, 2016.<sup>42</sup> OTP's contract between Coyote and Coyote Creek Mine extends through 2040 and includes a term requiring that it pays "[**TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS**]."<sup>43</sup> OTP states that, per its contract terms, the fuel cost of Coyote in 2019 was [**TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS**] fixed ([**TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS**]) and variable ([**TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS**]) costs.<sup>44</sup> As such, OTP excludes about [**TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS**] of the units' fuel costs from its submissions in the MISO offer curve, and therefore from its unit commitment and dispatch analysis.

[**TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS**].<sup>45,46</sup> This artificially makes Big Stone appear less economic to operate than Coyote when looking at just variable costs: using the methodology set by the fuel contracts, Big Stone's average unit cost from 2017 to 2019 was [**TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS**], while Coyote's average unit cost during the same period was only [**TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS**].<sup>47</sup> If Coyote's fuel contract were structured like Big Stone's, Coyote's fuel costs would be [**TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS**].

Once again, this over-allocation of fuel costs to fixed costs results in MISO dispatching Coyote more than it would if the full variable costs were included in the offer curve. OTP itself states so: "As a result of the fixed costs, there are relatively few hours throughout a typical year where it does not make economic sense to operate [Coyote]."<sup>48</sup>

It is important to note that the Company entered into this 25-year fuel supply contract without Commission pre-approval or prudence review. In response to an information request regarding

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<sup>42</sup> Attachment 3 to Otter Tail Power's response to Sierra Club Information Request 5.

<sup>43</sup> Otter Tail Power's response to Fresh Energy Information Request 2a-NOTPUBLIC.

<sup>44</sup> Otter Tail Power's response to Sierra Club Information Request 8b-TS.

<sup>45</sup> *Id.*

<sup>46</sup> For the reasons described in this section, it is important that OTP avoids entering into contracts with fixed terms as it negotiates a new purchase agreement.

<sup>47</sup> Attachment 2 to Annual Compliance Filing of Otter Tail Power, Docket No. E999/CI-19-704.

<sup>48</sup> Annual Compliance Filing of Otter Tail Power, Docket No. E999/CI-19-704, page 3.

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whether the Commission had, in the Company's view, reviewed the contract's prudence, the Company responded: "Otter Tail is not aware of any regulatory standard whereby the MPUC 'approves' specific fuel supply agreements in dockets established for that specific purpose. Fuel costs for Coyote Station and Big Stone Plant (which are derived from coal supply agreements) are ultimately approved by the Commission in the Company's FCA filings."<sup>49</sup>

Nor, apparently, did the Company undertake any analysis to determine whether it was in customers' interest to enter into a contract of that duration or with [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] fixed costs. In response to an information request asking whether the Company had assessed the net present value of the 25-year contract before entering it in 2012, the Company responded, "no such assessment was made because the contract was being evaluated only against an alternative long-term lignite supply agreement with another lignite supplier."<sup>50</sup> This does not explain why the Company did not examine entering a contract of shorter duration, or why it did not examine alternatives that included [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] fixed fuel costs. Assuming nearly [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] of the costs of its fuel supply contract are fixed through 2040, then in 2012, OTP entered into a long-term coal contract, beginning 2016, that commits ratepayers to nearly [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in fixed costs, rivaling the costs of new generation.<sup>51</sup> Before entering a contract of this magnitude, the utility should have 1) conducted a cost-benefit analysis of alternatives, and 2) submitted the contract to the Commission for prudence review.

OTP's Coyote generating station is among a small subset of coal plants with multi-decades-long coal contracts.<sup>52</sup> In fact, over the last decade, the majority of coal plants have ceased holding long-term coal contracts, shifting to one- to three-year contracts or spot purchases.<sup>53</sup> OTP

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<sup>49</sup> Otter Tail Response to Sierra Club Information Request 5.

<sup>50</sup> Otter Tail Response to Sierra Club IR 34; see also Otter Tail Response to Sierra Club IR 5.

<sup>51</sup> In 2017, 2018, and 2019, Coyote received deliveries of coal from Coal Creek mine costing \$48, \$63, and \$43 million, respectively. Data from EIA Form 923, Fuel Receipts. If we assess that [TRADE SECRET DATA BEGINS ...TRADE SECRET DATA ENDS] the cost of this coal was fixed by terms of the contract, then we arrive at annual fixed costs of about [TRADE SECRET DATA BEGINS ...TRADE SECRET DATA ENDS]. Inflated at 2 percent through 2040 and discounted back to 2016 (at an assumed 7 percent discount rate), we arrive at a present value cost of [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS].

<sup>52</sup> According to EIA Form 923, only seventeen plants (six of which are in North Dakota) report coal contracts that extend between 2030 and 2050. Coal served through those extended contracts served only 7 percent of coal reported through EIA Form 923 in 2019. Coal Creek's contract in turn represented 18 percent of the coal deliveries through extended contracts (2030-2050).

<sup>53</sup> According to EIA Form 923, in 2019 79 percent of delivered coal was served by the spot market, or contracts of three years or shorter (i.e. terminating in 2021), while in 2009 75 percent of coal delivered to those plants still operating in 2019 was served by short contracts or spot sales. Adjusting to review only plants still in existence in 2019 normalizes for retirements. The data

contemplated and then signed this contract in 2012, during an era when many other utilities and coal generators were concerned about the forward-looking viability of the coal fleet in general.<sup>54</sup> In mid-2012, the Energy Information Administration projected that 49 gigawatts, or 1/6<sup>th</sup> of US coal generation, could retire by 2020 under reference case assumptions,<sup>55</sup> and analysts were regularly highlighting the risk of currently operating coal.<sup>56</sup> Between 2012 and 2016, about 42 gigawatts of coal had elected to retire due not only to environmental regulations but steadily declining market prices, brought about by rapidly expanding renewable energy and the shale fracking boom.<sup>57</sup> This broadly realized concern, followed by a steady decline in the projected price of gas and energy, caused many utilities to re-assess the viability of long-term investments at coal plants, as well as long-term coal contracts. Many utilities appear to have come to the conclusion that long-term contracts reduced operational flexibility.

In OTP's case, it appears to have locked itself into a contract that will keep costs higher for its ratepayers for another two decades, cutting against the grain of other utilities at the time and today.

**2. When Synapse re-evaluated unit costs assuming all coal contract costs for Coyote are variable, it found that both Big Stone and Coyote operated uneconomically for [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] of all operational hours from 2017 through 2019.**

During the reporting period, OTP self-committed the Big Stone and Coyote units at their minimum operating levels, and in doing so it often committed its units at times in which unit costs were greater than day-ahead LMPs. As shown in CONFIDENTIAL Table 2, OTP operated Big Stone uneconomically—that is, when unit costs were greater than day-ahead LMPs—for

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is somewhat convoluted because plants with coal contracts that extend beyond 2019 tend to still be operational, often in part due to the restrictive nature of the coal contract.

<sup>54</sup> See, for example, NERC 2010 Special Reliability Scenario Assessment: Resource Adequacy Impacts of Potential US Environmental Regulations. Available online at [https://www.nerc.com/files/EPA\\_Scenario\\_Final\\_v2.pdf](https://www.nerc.com/files/EPA_Scenario_Final_v2.pdf)

<sup>55</sup> Energy Information Administration. July 31, 2012. Today in Energy: Projected retirements of coal-fired power plants. Available online at <https://www.eia.gov/todayinenergy/detail.php?id=7330>

<sup>56</sup> See, for example, Tierney, Susan. February 16, 2012. Why Coal Plants Retire: Power Market Fundamentals as of 2012. Available online at [https://www.analysisgroup.com/globalassets/content/news\\_and\\_events/news/2012\\_tierney\\_whycoalplantsretire.pdf](https://www.analysisgroup.com/globalassets/content/news_and_events/news/2012_tierney_whycoalplantsretire.pdf)

<sup>57</sup> Energy Information Administration. July 16, 2019. Today in Energy: More U.S. coal-fired power plants are decommissioning as retirements continue. Available online at <https://www.eia.gov/todayinenergy/detail.php?id=40212>

[TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] of its operational hours in every year from 2017 through 2019.

**CONFIDENTIAL** Table 2. Operational Hours in which Big Stone and Coyote Generated Uneconomically (%)

| Year                          | Big Stone | Coyote (only “variable” fuel costs) | Coyote (all fuel costs considered variable) |
|-------------------------------|-----------|-------------------------------------|---|
| [TRADE SECRET DATA BEGINS...] |           |                                     |   |
| 2017                          |           |                                     |   |
| 2018                          |           |                                     |   |
| 2019                          |           |                                     |   |
| ...TRADE SECRET DATA ENDS]    |           |                                     |   |

*Sources: Attachment 2 to Annual Compliance Filing of Otter Tail Power-NOTPUBLIC. Otter Tail Power’s response to Sierra Club Information Request 19-NOTPUBLIC and Fresh Energy Information Request 2-NOTPUBLIC. Synapse analysis.*

While OTP’s hourly data indicates that it operated Coyote economically for a greater portion of hours than Big Stone, as discussed above, this is an artifact of OTP classifying a [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] portion of its fuel costs as fixed. While Coyote does not include the fixed component of its coal expenses in the unit costs that it submits to the MISO offer curve, it nonetheless incurs those costs and passes them on to its ratepayers.

When reassigning the entire fixed portion of Coyote’s fuel costs as variable, we find that OTP operated Coyote uneconomically for [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] of hours as Big Stone, as shown in CONFIDENTIAL Table 2. In fact, Coyote actually incurred [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in net operational losses across all months from 2017 through 2019 when including the fixed portion of its fuel costs in its offer curve. This is [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] less than the [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in net operational revenues that OTP’s hourly data suggests Coyote generated from 2017 through 2019. This methodology also shows that Coyote incurred net operational losses in [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] of the 36 months from 2017 to 2019, amounting to [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in losses during those months. Finally, we reiterate that OTP excludes predictive maintenance costs from the costs it submits to the offer curve for both Big Stone and Coyote. If the unit costs that OTP submits to the offer curve reflected the full suite of variable costs incurred at these plants, the net operational losses at both units would be shown to be higher.

Based on the analysis above, we therefore recommend the following:

- **The Commission should use a two-step approach for addressing OTP's 25-year coal fuel supply contract for Coyote.** First, the Commission should order Otter Tail to evaluate whether continued participation in that contract is in customers' interest in its next IRP. Second, because the Commission has never reviewed the prudence of the contract, any imprudent associated costs should be disallowable. One approach for addressing this would be to disallow any costs incurred above the market cost of energy during the hours Coyote is operating. This action could encourage OTP to seek a renegotiation of its fuel contract with Coyote Creek Mine to reduce the portion of costs that are fixed. This will place the appropriate burden of risk on the utility, not ratepayers, for entering a contract that has an [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS] of fuel costs designated as fixed and therefore passed on to customers. In the IRP, OTP could examine whether extracting itself from its multi-decade contract with Coyote Creek Mine would provide savings for customers.
- **The Commission should require utilities to identify any proposed new coal contracts to the Commission, and to submit them for prudence review in fuel clause adjustment proceedings, before signing any such contracts.**

**D. OTP has not adequately analyzed the economics of moving Big Stone and Coyote to seasonal operations in its Filing.**

The Commission instructed utilities to include in their Compliance Filing an evaluation of the costs and benefits of moving the plants to seasonal operations; that is, decommitting and/or removing its plants from the market during shoulder seasons. This would allow the capacity of the plant to always be available in case of extreme circumstances, but would remove the plant from daily commitment and dispatch decision-making processes during low-demand months of the year. The Commission recently approved Xcel Energy's plan to offer its coal units into the MISO market on a seasonal basis.<sup>58</sup>

CONFIDENTIAL Figure 3, below, shows that Big Stone and Coyote have made most of their net operational revenues in the [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS].

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<sup>58</sup> Northern States Power Company d/b/a Xcel Energy, December 20, 2019, *Petition: Plan to Offer Generating Resources into the MISO Market on a Seasonal Basis*. Available at: <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId=%7b6045256F-0000-CB17-8630-C2EEBC86BB66%7d&documentTitle=201912-158520-01>.

**CONFIDENTIAL** Figure 3. Net Operational Revenues by Season, 2017-2019 (based on OTP's analysis of net revenues)

[TRADE SECRET DATA BEGINS...

...TRADE SECRET DATA ENDS]

*Sources: Attachment 2 (Confidential) to Annual Compliance Filing of Otter Tail Power. Synapse analysis.*

OTP claims that Big Stone and Coyote are needed to meet its market resource adequacy requirements, and so cannot move the units to seasonal operation. However, OTP has not adequately established a capacity need in MISO in the absence of one or both of its Big Stone and Coyote plants, on either a seasonal basis or with a full unit retirement.

According to the most recent Planning Resource Auction (PRA), MISO Zone 1 has surplus capacity and is an exporting zone.<sup>59</sup> Thus, OTP operates within a MISO zone with low capacity prices. While the onus is always on the utility to quantitatively justify the ways in which it meets its resource adequacy requirements, operating within an exporting zone with a capacity surplus makes the need for a quantitative justification even more necessary.

Instead, OTP has failed to conduct robust technical and economic analyses exploring the costs and benefits of meeting its resource adequacy requirement through any other means. In its Annual Compliance Filing, OTP claims that seasonal dispatch is not viable for its generating units because it must meet MISO Module E capacity accreditation requirements that require the units to maintain a daily must offer requirement to remain accredited. It continues, stating that if it were “to forego capacity accreditation of the Big Stone or Coyote generators, Otter Tail would need to procure additional capacity resources to meet the MISO Module E Capacity requirements.”<sup>60</sup> While this may be true, OTP provides no economic analysis comparing the benefits of meeting any of its MISO capacity requirements with Big Stone and Coyote relative to alternative compliance. It may very well be that meeting the requirements through alternatives such as the construction of new generation facilities, bi-lateral capacity purchases, or the purchase of capacity through the MISO capacity auction, would be more cost-effective than meeting the requirements with Big Stone and Coyote.

As such, in the next IRP, we recommend the Commission require OTP to conduct an analysis that compares the costs and benefits of meeting its MISO Module E Capacity requirements with Big Stone and Coyote against meeting those same requirements through alternative methods,

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<sup>59</sup> MISO 2019 / 2020 PRA Results. April 12, 2019. Available at: [https://cdn.misoenergy.org/20190412\\_PRA\\_Results\\_Posting336165.pdf](https://cdn.misoenergy.org/20190412_PRA_Results_Posting336165.pdf).

<sup>60</sup> Annual Compliance Filing of Otter Tail Power, Docket No. Docket No. E999/CI-19-704, page 2.

including—but not limited to—the construction of new generation facilities, bi-lateral capacity purchases, and the purchase of capacity through the MISO capacity auction.

**E. OTP has not adequately analyzed the potential to increase net operational revenues of Big Stone and Coyote by reducing the units' minimum operating levels.**

An additional change that OTP can make to its operations of Big Stone and Coyote to avoid or minimize operational losses is lowering the units' minimum operating levels.

By self-committing Big Stone and Coyote, OTP is required to operate the units at least at their minimum operating level.<sup>61</sup> During times of lower market prices, OTP is able to back down the units only to their minimum operating levels, and thus incurs losses based on the difference between unit costs and market LMPs.

We evaluated the impacts of reducing the minimum operating level of OTP's share of Big Stone and Coyote from 2017 through 2019. Using the data provided by OTP as Attachment 2 to its Annual Compliance Filing, we reduced the minimum operating level by half (i.e., a [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] MW reduction for Big Stone and a [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] MW reduction for Coyote) during hours meeting two conditions: (1) the units cleared for dispatch at the minimum operating level, and (2) unit costs exceeded day-ahead LMPs (i.e., it was uneconomical for the unit to be dispatched). The units now incurred lower costs in the day-ahead market when unit costs exceeded day-ahead LMPs.

Then, we evaluated the secondary benefits of having the capacity that was removed from the day-ahead market available in the real-time market. Specifically, we allowed the units to dispatch into the real-time market the MW that we removed from the day-ahead market when real-time market prices exceeded unit costs.

We find that doing so would have resulted in [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in greater net operational benefits for Big Stone and [TRADE SECRET DATA BEGINS...TRADE SECRET DATA ENDS] in greater net operational benefits for Coyote between 2017 and 2019. Thus, while OTP should first evaluate the costs and feasibility of changing the commitment and dispatch status of its Big Stone and Coyote plants to economic, it should also evaluate the impacts of lowering the minimum operating levels of its units. Doing so would provide OTP with more flexibility to operate at a lower level during uneconomic market conditions, thereby avoiding unnecessary losses that OTP passes on to its ratepayers.

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<sup>61</sup> Annual Compliance Filing of Otter Tail Power, Docket No. E999/CI-19-704, page 2.

[TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS].<sup>62</sup> Other utilities have done so [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS]; for example, Xcel recently lowered the minimum operating level at its Tolk and Harrington plants in Texas.<sup>63</sup>

OTP states that it is currently [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS].<sup>64</sup> This is a good step. However, OTP notes that Big Stone “currently utilizes the lowest possible operating point allowing for continued safe and reliable plant operations.”<sup>65</sup> We do not dispute this fact; however, our analysis finds that lowering the operating level of these plants even further would further increase savings. This raises the question of whether other, more flexible resources would provide more cost-effective generation and capacity resources to OTP's ratepayers.

**F. OTP has not evaluated the extent to which uneconomic self-commitment of Big Stone and Coyote artificially suppresses market prices and disadvantages other market participants.**

In its Annual Compliance Filing, OTP states that a factor that is not quantifiable “is what the impact would be on both market prices and the related dispatch of any other Otter Tail generating units if either Big Stone or Coyote were only made available on an economic dispatch basis.”<sup>66</sup> However, OTP presumably understands that self-scheduling the dispatch of its plants during uneconomic periods can artificially suppress market prices. In doing so, OTP may be reducing the revenues received by other lower-cost market participants (including its own other assets) and creating challenges for the entry of new market participants that may offer more economical resources.<sup>67</sup>

A 2019 Sierra Club report, *Playing With Other People's Money: How Non-Economic Coal Operations Distort Energy Market*, found that ratepayers in the electric markets regions of MISO, SPP, ERCOT, and PJM paid \$3.5 billion more for energy from 2015-2017 due to the uneconomic dispatch of coal plants, relative to the potential procurement of energy and capacity

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<sup>62</sup> Otter Tail Power's response to Sierra Club Information Request 9-TS.

<sup>63</sup> Rebuttal Testimony of William Grant. SOAH Docket No. 473-19-6677, page 23. Available at: [http://interchange.puc.texas.gov/Documents/49831\\_692\\_1055290.PDF](http://interchange.puc.texas.gov/Documents/49831_692_1055290.PDF).

<sup>64</sup> Otter Tail Power's response to Sierra Club Information Request 23b-TS.

<sup>65</sup> Otter Tail Power's response to Sierra Club Information Request 24b.

<sup>66</sup> Annual Compliance Filing of Otter Tail Power, Docket No. E999/CI-19-704, page 6.

<sup>67</sup> This issue is described in Sierra Club's 2019 report *Playing With Other People's Money: How Non-Economic Coal Operations Distort Energy Markets*, available at: <https://www.sierraclub.org/sites/www.sierraclub.org/files/Other%20Peoples%20Money%20Non-Economic%20Dispatch%20Paper%20Oct%202019.pdf>.

on the market.<sup>68</sup> The report also found that had coal generators operated under economic commitment, the median hourly market price would have been \$7.7/MWh greater in 2017 (a 30 percent increase). This price suppression reduces market revenues that independent power producers, including renewable energy producers, would receive. As an example, the authors of the report state that a 100 MW wind farm could have been deprived of approximately \$2 million in 2017 due to the uneconomic dispatch of coal plants.

Regional transmission organizations have begun to investigate the market impacts of uneconomic coal plant operation. For example, SPP's Market Monitoring Unit has recommended that SPP "work to reduce the incidence of self-commitments" to improve price formation and market efficiency.<sup>69</sup> More recently, MISO released the results from an analysis which found that 12 percent of the coal energy in MISO's day-ahead market from January 1, 2017 through November 13, 2019 was self-committed and dispatched uneconomically.<sup>70</sup> While MISO emphasizes that 88 percent of the region's coal-fired energy in that period was economically dispatched, 12 percent represents a significant percentage of hours of uneconomic dispatch that translates into uneconomic costs that are then passed on to ratepayers.

This issue further emphasizes the importance of the Commission signaling to OTP and other utilities that they will not be allowed to recover costs from their customers when they unnecessarily operate units uneconomically.

## **VII. RESTATEMENT OF RECOMMENDATIONS**

- **Moving Big Stone and Coyote from self-schedule to economic dispatch would save customers money.** We commend OTP on taking steps towards a technical solution for moving Big Stone to economic commitment and dispatch, and recommend that Big Stone be moved entirely to economic operation, not just in low price seasons. We recommend the same be done for Coyote. There are only rare circumstances (such as stack testing) in which OTP should self-schedule Big Stone and Coyote. Instead, OTP should allow MISO

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<sup>68</sup> This issue is described in Sierra Club's 2019 report *Playing With Other People's Money: How Non-Economic Coal Operations Distort Energy Markets*, available at:

<https://www.sierraclub.org/sites/www.sierraclub.org/files/Other%20Peoples%20Money%20Non-Economic%20Dispatch%20Paper%20Oct%202019.pdf>.

<sup>69</sup> SPP Market Monitoring Unit, December 2019, *Self-committing in SPP markets: Overview, impacts, and recommendations*. Available at: <https://spp.org/documents/61118/spp%20mmu%20self-commit%20whitepaper.pdf>.

<sup>70</sup> MISO, April 2020, *MISO 'self-commitment' trends: Most coal generation is dispatched economically*. Available at: <https://cdn.misoenergy.org/202004%20Self-Commitment%20MISO%20Trends%20443759.pdf>.

to dispatch the units economically throughout the entire year; i.e., only when unit costs submitted to the offer curve are less than locational marginal prices (LMPs).

- **In the absence of a multi-day commitment market at MISO, the Commission should require utilities to establish a clear and auditable mechanism of determining whether its commitment decisions are in the best interests of ratepayers.** The Commission should require OTP to track and maintain for review its forward-looking analysis of unit commitment strategies. OTP should be required to utilize Locational Marginal Price forecasts, unit operational costs, and unit start-up and shut-down costs to determine daily whether to self-commit a unit or to take it offline during periods of low market prices. OTP should be required to retain this analysis to allow the Commission to evaluate in fuel clause adjustment true-up proceedings whether a unit's commitment decision maximized its economic value to OTP's customers.
- **The Commission should indicate that in the next Fuel Clause Adjustment True-Up proceeding, it will disallow the uneconomic portion of fuel costs during periods in which any utility commits and dispatches a coal plant uneconomically in a manner that is not supported by the forward-looking analyses described above.** The reasonableness of unit dispatch practices should be evaluated based on analysis that incorporates predictive maintenance costs—and any other excluded costs that scale with and are impacted by plant operations—as well as a reasonable percentage of fuel costs, into the variable costs that OTP uses to make its unit commitment and dispatch decisions.
- **The Commission should use a two-step approach for addressing OTP's 25-year coal fuel supply contract for Coyote.** First, the Commission should order Otter Tail to evaluate whether continued participation in that contract is in customers' interest in its next Integrated Resource Plan. Second, because the Commission has never reviewed the prudence of the contract, any imprudent associated costs should be disallowable. One approach for addressing this would be to disallow any costs incurred above the market cost of energy during the hours Coyote is operating. This action could encourage OTP to seek a renegotiation of its fuel contract with Coyote Creek Mine to reduce the portion of costs that are fixed. This will place the appropriate burden of risk on the utility, not ratepayers, for entering a contract that has an [TRADE SECRET DATA BEGINS... TRADE SECRET DATA ENDS] percentage of fuel costs designated as fixed and therefore passed on to customers.
- **The Commission should require utilities to identify any proposed new coal contracts to the Commission, and to submit them for prudence review in fuel clause adjustment proceedings, before signing any such contracts.** It should also signal that it will not allow utilities to recover from ratepayers future costs associated with new coal

**Sierra Club Initial Comments  
Otter Tail Power's 2020 Compliance Filing  
PUBLIC DOCUMENT  
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contracts that include fixed cost terms of service, or take or pay or liquidated damages provisions.

- **If OTP continues to identify co-ownership as a barrier to moving Coyote to economic dispatch, the Commission should require OTP to justify the prudence of continued operation of that unit as a joint owner.**
- **OTP should also consider reducing the minimum operating levels at Big Stone and Coyote.**
- **The Commission should require OTP to evaluate alternative ways of meeting its resource adequacy requirements.** In its next IRP, the Commission should require OTP to conduct an economic analysis comparing the costs and benefits of meeting its MISO Module E Capacity requirements with Big Stone and Coyote versus alternatives. Alternatives include, but are not limited to, the construction of new generation facilities, bi-lateral capacity purchases, and the purchase of capacity through the MISO capacity auction.

Sierra Club respectfully requests the Commission adopt the recommendations above.

Dated: June 8, 2020

Respectfully submitted,

/s/ S. Laurie Williams

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**ATTACHMENT A: CALCULATIONS, WORKPAPERS AND UNDERLYING DATA**

Please see excel workbook Attachment A separately filed  
in Docket 19-704

**Sierra Club Initial Comments  
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PUBLIC DOCUMENT  
TRADE SECRET DATA EXCISED**

**ATTACHMENT B: RESPONSES TO INFORMATION REQUESTS**

OTTER TAIL POWER COMPANY  
Docket No: E999/CI-19-704

Response to: Sierra Club

Analyst: Laurie Williams

Date Received: March 23, 2020

Date Due: April 02, 2020

Date of Response: April 20, 2020

Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279,  
as to objections, Cary Stephenson, Associate General Counsel, 218-739-8956.

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Information Request:

Request: With respect to Otter Tail Power's (OTP's) contract(s) for coal fuel supply that were/are in force from January 2016 through the present:

- a. Identify the individual or individuals responsible for making final coal contracting decisions.
- b. Please provide a copy or copies of such contracts, including amendments, attachments and updates.
- c. Please identify the price, duration, and minimum annual take (if any) of each contract.
- d. Please identify the date by which each contract will (or did) expire.
- e. Please describe alternatives OTP considered to each contract.
- f. Please describe the process by which OTP determined:
  - a. whether each contract was in the best interest of customers;
  - b. the correct amount of coal to acquire under a fixed price or fixed amount (if any); and
  - c. the term of the contract.
- g. Please provide any analysis conducted by, on behalf of, or in the possession of OTP with respect to the cost effectiveness of entering each contract, if such analyses were conducted.
- h. Is it OTP's position that the Commission has approved the prudence of its existing contract(s)?
  1. If yes, please identify the docket in which you assert the Commission has approved the contracts' prudence, as well as the relevant Commission Order.
- i. For this contract or contracts, did OTP ever provide the Commission with notice that it was entering into the contracts?
  1. If yes, please identify the docket and provide a citation to the record and provide any trade secret versions of any document cited.

Attachments: 5

Attachment 1 to IR MN-Sierra-005\_PUBLIC  
Attachment 2 to IR MN-Sierra-005\_PUBLIC  
Attachment 3 to IR MN-Sierra-005  
Attachment 4 to IR MN-Sierra-005  
Attachment 5 to IR MN-Sierra-005

**Response:**

Otter Tail Power Company (Otter Tail) has taken reasonable efforts to maintain the secrecy of the information marked as PROTECTED DATA, which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use (the “Protected Data”). The Protected Data is therefore “trade secret information” and “nonpublic data” under Minn. Stat. § 13.37.

Request: With respect to Otter Tail Power’s (OTP’s) contract(s) for coal fuel supply that were/are in force from January 2016 through the present:

Otter Tail provides the following Attachments to IR MN-Sierra-005:

| Attachments to IR MN-Sierra-005 | Description  |
|---------------------------------|--|
| 1                               | Big Stone Plant Coal Supply Agreement              |
| 2                               | Big Stone Plant Coal Supply Agreement Amendment 1  |
| 3                               | Coyote Station Lignite Sales Agreement             |
| 4                               | Coyote Station Lignite Sales Agreement Amendment 1 |
| 5                               | Coyote Station Lignite Agreement Amendment 2       |

- a.** Identify the individual or individuals responsible for making final coal contracting decisions.

As noted in other IR responses, Otter Tail is a co-owner of Big Stone Plant and Coyote Station. The operation of each facility is governed by an ownership agreement. The co-owners, per the terms of each facility’s operating agreement, determine whether or not to enter into any material contracts, including coal supply agreements. Final authority to bind each owner typically rest with the owner’s senior executive, which is usually the owner’s president. For example, please refer to the signature pages of the agreements provided as Attachments 1-5 to IR MN-Sierra-005 in response to Information Request (b).

- b.** Please provide a copy or copies of such contracts, including amendments, attachments, and updates.

Otter Tail provides the current coal supply contracts for Big Stone Plant and Coyote Station as Attachments 1-5 to IR MN-Sierra-005. Note that certain portions of the contracts are redacted. This information is deemed sensitive proprietary material by the coal supplier who has contractual rights to redact such information from disclosure. Otter Tail is not authorized to release this information in this IR response notwithstanding any non-disclosure agreements.

- c. Please identify the price, duration, and minimum annual take (if any) of each contract.

**Big Stone Plant** –Coal is contracted through 2020 under an all-requirements contract rather than a fixed quantity. Pricing is set forth in Exhibit A of the contract provided in Attachment 1 to IR MN-Sierra-005.

**Coyote Station** – Lignite coal is contracted under an all-requirements contract through December 31, 2040, subject to various early termination provisions. The price is based on a formula, certain inputs of which are not subject to disclosure in this IR response per the terms of the agreement.

- d. Please identify the date by which each contract will (or did) expire.

The term of the current Big Stone Coal Supply Agreement expires on December 31, 2020.

The Coyote Station Coal Supply Agreement terminates on the Post-Production Period (as defined in the Agreement provided as Attachment 3 to IR MN-Sierra-005), subject to various early termination provisions.

- e. Please describe alternatives OTP considered to each contract.

It is not clear what is meant by “alternatives” to each contract. Coyote Station and Big Stone Plant are part of Otter Tail’s Commission-approved Integrated Resource Plans where various energy and capacity resources are evaluated. In order to generate electricity and to maintain capacity these facilities must have fuel, which requires coal supply agreements. To the extent the question refers to alternatives to securing coal supply agreements the question concerns resource planning and is outside the scope of this docket, and on that basis Otter Tail objects. Likewise, to the extent the question relates to prudence of entering into certain agreements the questions seeks information outside the scope of this docket, and on that basis Otter Tail objects. Without waiving the same, please refer to the Otter Tail response to (f) below.

- f. Please describe the process by which OTP determined:  
a. whether each contract was in the best interest of customers;

It is not clear what is meant by “best interest of the customer”. As noted above, Coyote Station and Big Stone Plant are part of Otter Tail’s Commission-approved Integrated

Resource Plans (IRPs) where various energy and capacity resources are evaluated. The broader “public interest” is the standard by which the Minnesota Public Utilities Commission evaluates IRPs. In order for the facilities to operate and for Otter Tail (and the other co-owners) to satisfy capacity and energy commitments, it is necessary to secure fuel. To the extent the question relates to prudence of entering into certain agreements the question seeks information outside the scope of this docket, and on that basis Otter Tail objects. Without waiving this objection, the Big Stone Plant and Coyote Station co-owners developed fuel supply forecasts using industry-standard methods and secured fuel supplies through a competitive bidding process with fully negotiated contracts.

- b. the correct amount of coal to acquire under a fixed price or fixed amount (if any); and

Coal supply forecasts are completed using load forecasts, planned outage schedules, energy market knowledge, and modeling efforts, such as Strategist or Encompass. In recent years, it has become more challenging to estimate coal needs and, therefore, Otter Tail has moved to all-requirements contracts.

- c. the term of the contract.

The Big Stone requirements contract was for 2019 and 2020, which is consistent with past practice of 1-3 year contracting efforts.

The Coyote Station’s lengthier contract term of 25 years was a negotiated term with the coal supplier, in light of the fact that Coyote Station is a mine mouth plant.

- g. Please provide any analysis conducted by, on behalf of, or in the possession of OTP with respect to the cost effectiveness of entering each contract, if such analyses were conducted.

This question is not clear. The term “cost effectiveness” means different things in different contexts. To the extent the question concerns “cost effectiveness” of a coal supply agreement compared to other generation resources, the question seeks information outside the scope of this docket, and on that basis Otter Tail objects; please refer to Otter Tail’s Integrated Resource Planning dockets. Likewise, to the extent the question relates to prudence of entering into certain agreements, the questions seeks information outside the scope of this docket, and on that basis Otter Tail objects.

- h. Is it OTP’s position that the Commission has approved the prudence of its existing contract(s)?
  - 1. If yes, please identify the docket in which you assert the Commission has approved the contracts’ prudence, as well as the relevant Commission Order.

Prudence review of specific supply agreements is outside the scope of this docket, and on that basis Otter Tail objects. Without waiving the same, Otter Tail is not aware of any

regulatory standard whereby the Minnesota Public Utilities Commission “approves” specific fuel supply agreements in dockets established for that specific purpose. Fuel costs for Coyote Station and Big Stone Plant (which are derived from coal supply agreements) are ultimately approved by the Commission in the Company’s FCA filings. Also, with respect to Coyote Station, the Commission approved extending the remaining life of Coyote Station by 8.4 years from 19 years to 27.4 years, with an AYFR of 2041 in Docket No. E017/D13-795. This extension was prompted by entry into the 25 year coal contract. Filings in that docket reference the agreement. The Commission approved adjusting Coyote Station’s remaining life to correspond with the coal supply agreement.

- i.** For this contract or contracts, did OTP ever provide the Commission with notice that it was entering into the contracts?
  - 1. If yes, please identify the docket and provide a citation to the record and provide any trade secret versions of any document cited.

See answer to (h) above.

|

EX-10.58 2 ncexh1058201210k.htm EXHIBIT

**EXECUTION COPY**

CONFIDENTIAL TREATMENT REQUESTED FOR PORTIONS OF THIS DOCUMENT. PORTIONS FOR WHICH CONFIDENTIAL TREATMENT IS REQUESTED HAVE BEEN MARKED WITH THREE ASTERISKS [\*\*\*] AND A FOOTNOTE INDICATING “CONFIDENTIAL TREATMENT REQUESTED”. MATERIAL OMITTED HAS BEEN FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION.

**LIGNITE SALES AGREEMENT**

between

**COYOTE CREEK MINING COMPANY, L.L.C.**

and

**OTTER TAIL POWER COMPANY****NORTHERN MUNICIPAL POWER AGENCY****MONTANA-DAKOTA UTILITIES CO.****NORTHWESTERN CORPORATION****dated as of October 10, 2012**

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**EXHIBITS**

- Exhibit A     Map Depicting the South Beulah Area of Interest
  - Exhibit B     Form of NACoal Guaranty
  - Exhibit C     Example of Adjustment of Adjustable Amounts
-

## LIGNITE SALES AGREEMENT

**THIS LIGNITE SALES AGREEMENT** (this “Agreement”) is made and entered into as of the 10<sup>th</sup> day of October, 2012 (the “Effective Date”), between COYOTE CREEK MINING COMPANY, L.L.C., a Nevada limited liability company (“Seller”), and OTTER TAIL POWER COMPANY, a Minnesota corporation (“Otter Tail”), NORTHERN MUNICIPAL POWER AGENCY, a political subdivision and municipal corporation of the State of Minnesota (“Northern Municipal”), MONTANA-DAKOTA UTILITIES CO., a division of MDU Resources Group, Inc., a Delaware corporation (“Montana-Dakota”), and NORTHWESTERN CORPORATION, a Delaware corporation doing business as NorthWestern Energy (“NorthWestern” and, together with Otter Tail, Northern Municipal and Montana-Dakota, the “Utilities” and collectively, “Buyer”).

### RECITALS:

**WHEREAS**, the Utilities own as tenants in common under North Dakota law a lignite-fired electric generating station located south of the city of Beulah, Mercer County, North Dakota (the “Plant”);

**WHEREAS**, Seller is a subsidiary of The North American Coal Corporation, a Delaware corporation (“NACoal”);

**WHEREAS**, Seller and its Affiliates own or control (by lease, sublease or fee ownership) certain commercially recoverable lignite reserve properties located near Beulah, Mercer County, North Dakota (the “Reserves”) within the area delineated on the map attached hereto as Exhibit A (the “South Beulah Area of Interest”), which Buyer desires to be the source of lignite supply for the Plant;

**WHEREAS**, Seller is willing to dedicate a quantity of lignite in the Reserves for the purpose of supplying lignite to Buyer for use at the Plant, and to sell such lignite to Buyer;

**WHEREAS**, Seller is willing to produce, sell and deliver from a mine to be developed by Seller in the South Beulah Area of Interest (the “Mine”) to Buyer, and Buyer is willing to accept and pay for, lignite of the quality and quantity required during the term of this Agreement, for the Compensation and upon the other terms and conditions hereinafter set forth; and

**WHEREAS**, NACoal is willing to guarantee the obligations of Seller under this Agreement on the terms and conditions set forth in Exhibit B attached hereto.

### AGREEMENT:

**NOW, THEREFORE**, in consideration of the foregoing and the covenants and agreements of the Parties as herein set forth, the Parties hereby agree as follows:

#### **Section 1. Definitions**

As used in this Agreement, the following terms, whether in the singular or plural, shall have the following meanings:

“AAA Rules” shall have the meaning set forth in Section 18.3.

“Adjustable Amounts” shall have the meaning set forth in Section 9.



“Affiliate” shall mean, as to any Person, any other Person that, directly or indirectly, controls, is controlled by or is under common control with such Person. For purposes of this definition, “control” means the power, through equity, ownership, contract or otherwise, to direct or cause the direction of the affairs of a Person.

“Agreed Profit” shall have the meaning set forth in Section 7.2(c)(i).

“Agreement” shall have the meaning set forth in the preamble.

“Annual Mining Plan” shall have the meaning set forth in Section 5.2.2(a).

“Applicable Laws” shall mean all applicable laws, ordinances, statutes, codes, rules, regulations, permits, orders, judgments and decrees of the United States of America, the State of North Dakota, or any of the subdivisions of such States, or any other political subdivision, agency or instrumentality as such laws are in effect on the Effective Date and as such laws may be amended, enacted or adopted from time to time.

“As-Delivered, As-Received” shall mean the actual quality of the mined lignite at the Delivery Point on an As-Received Moisture Basis.

“As-Received Moisture Basis” shall have the meaning, as applicable, set forth in ASTM Standards D2013, D3173 and D3180, as amended, or, if such standards are superseded after the date hereof, such superseding standards.

“ASTM” shall mean ASTM International.

“Audit” shall have the meaning set forth in Section 12.2.

“Authorized Representative” shall have the meaning set forth in Section 22.12(a).

“Btu” shall mean a standard British Thermal Unit.

“Business Day” shall mean any Day of the Year, other than a Saturday, Sunday or a Day when United States national banks are closed.

“Buyer” shall have the meaning set forth in the preamble.

“Buyer Default” shall have the meaning set forth in Section 15.4.

“Buyer Losses” shall have the meaning set forth in Section 15.8(a).

“Cap Amounts” shall mean the dollar amounts set forth in Section 15.8(a) and Section 15.8(b).

“Capital Asset” shall have the meaning set forth in Section 6.1.

“Capital Charge” shall have the meaning set forth in Section 7.2(d).

“CapX Cap” shall have the meaning set forth in Section 5.2.4(d).

“Compensation” shall have the meaning set forth in Section 7.2.

“Confidential Information” shall mean this Agreement and its terms, and any technology, information, or materials, including without limitation, technical information or materials, business information or materials, specifications test data, samples, prototypes, proprietary information, trade secrets, know-how, formulas, inventions, improvements, discoveries, methodologies, designs, machines, drawings, software and computer programs, research projects, business plans, business relationships, forecasts, future products, supporting documentation and other technical or business information or materials, including deliverables.

“Cost of Production” shall have the meaning set forth in Section 7.2(a).

“CPI-U Index” shall mean the Consumer Price Index-All Urban Consumers (CPI-U), Series ID CUUR0000SA0, All Items (1982-1984 = 100), as published from time to time by the Bureau of Economic Analysis of the United States Department of Commerce.

“Day” shall mean a calendar day commencing at 12:00:00 a.m. and ending at 11:59:59 p.m.

“Delivery Point” shall have the meaning set forth in Section 4.

“Delivery Year Nomination” shall have the meaning set forth in Section 2.6.1.

“Development Fee” shall have the meaning set forth in Section 7.1.2(f).

“Development Period” shall have the meaning set forth in Section 2.1(c).

“Development Period Costs” shall have the meaning set forth in Section 7.1.1.

“Dragline” shall have the meaning set forth in Section 16.3.2(a).

“Early Termination Buyout” shall have the meaning set forth in Section 16.3.

“Effective Date” shall have the meaning set forth in the preamble.

“Emergency” shall mean a sudden and unexpected occurrence, the nature of which Seller reasonably determines (based on information then available) requires prompt action in order to preserve or protect life or property, prevent damage, maintain production, prevent disruption in deliveries, or comply with Applicable Laws, and which Seller determines, based on the information known to Seller at the time, does not afford Seller sufficient time to obtain advance approval from Buyer of such remedial or preventative action.

“Equity Value” shall mean sum of the value of the following items as reflected on the financial statements of Seller at any particular time: (a) Membership Interests; (b) additional paid in capital in excess of the par value of the Membership Interests; and (c) retained earnings (including, but not limited to, components of retained earnings such as other comprehensive income and undistributed earnings); all items being determined in accordance with GAAP.

“Force Majeure” shall have the meaning set forth in Section 13.2.

“GAAP” shall mean generally accepted accounting principles in the United States.

“Governmental Entity” shall mean any federal, state or local court, administrative agency, board, commission or other governmental or regulatory authority.



“Governmental Order” shall mean any order, writ, judgment, injunction, decree, determination or award issued by any Governmental Entity.

“Heskett Sales” shall have the meaning set forth in Section 14.2.

“Invested Capital” shall mean an amount equal to the total Net Book Value of all of Seller's Capital Assets and Seller's Working Capital.

“Land Office” shall mean the Bismarck, North Dakota office of North American Coal Royalty Company, an Affiliate of Seller.

“Life-of-Mine Plan” shall have the meaning set forth in Section 5.2.1(a).

“Membership Interests” shall mean all of the membership interests of Seller, which collectively represent 100% ownership of Seller.

“Mine” shall have the meaning set forth in the fifth Whereas clause.

“Montana-Dakota” shall have the meaning set forth in the preamble.

“Month” shall mean a calendar month.

“Monthly” shall mean with the frequency of a calendar month.

“MSHA” shall mean the United States Mine Safety and Health Administration.

“NACoal” shall have the meaning set forth in the second Whereas clause.

“NACoal Guaranty” shall mean the Guaranty, executed and delivered on the Effective Date, by NACoal in the form attached hereto as Exhibit B.

“Net Book Value” shall mean, as applied to a Capital Asset, an amount equal to the cost of such Capital Asset as reflected on the financial statements of Seller at any particular time, less accumulated depreciation or amortization, as determined in accordance with GAAP.

“Non-conforming Lignite” shall have the meaning set forth in Section 3.3.

“Northern Municipal” shall have the meaning set forth in the preamble.

“NorthWestern” shall have the meaning set forth in the preamble.

“Operating Contracts” shall have the meaning specified in Section 5.4.

“Operating Contract Threshold” shall have the meaning specified in Section 5.4.

“Otter Tail” shall have the meaning set forth in the preamble.

“Parties” shall mean Seller and Buyer.

“Party” shall mean either Seller or Buyer, as indicated by the context.

“Person” shall mean any natural person, sole proprietorship, partnership, corporation, limited liability company, business trust, joint stock company, trust, unincorporated society or association, joint venture, governmental entity, municipal corporation or other legal entity or organization.

“Plant” shall have the meaning set forth in the first Whereas clause.

“Plant Ownership Agreement” shall mean the Coyote Station Agreement for Sharing Ownership of Generating Unit No. 1, dated July 1, 1977, as amended.

“Post-Mining Reclamation Costs” shall have the meaning set forth in Section 5.3.1.

“Post-Production Period” shall have the meaning set forth in Section 2.1(e).

“Pre-LSA Costs” shall mean the costs of Seller and/or NACoal to be reimbursed by Buyer in accordance with the letter agreement, dated April 27, 2012, between NACoal and Otter Tail, as agent for the Utilities under the Plant Ownership Agreement.

“Pre-LSA Dragline Costs” shall have the meaning set forth in Section 6.1.

“Prime Rate” shall mean the lesser of (i) the U.S. prime interest rate published in the Money Rates section of *The Wall Street Journal* or (ii) the maximum legal rate of interest that a business entity may contract to pay under Applicable Law in North Dakota.

“Production Date” shall have the meaning set forth in Section 2.1(d).

“Production Period” shall have the meaning set forth in Section 2.1(d).

“Quality Requirements” shall have the meaning set forth in Section 3.3.

“Reclamation Account” shall have the meaning set forth in Section 5.3.3.

“Reclamation Account Documentation” shall have the meaning set forth in Section 5.3.3.

“Reserves” shall have the meaning set forth in the third Whereas clause.

“Rolling Stock” shall have the meaning set forth in Section 16.3.2(b).

“Run-of-Mine Lignite” shall mean lignite as it comes directly from the Mine prior to screening, crushing or any other treatment.

“Sampling Period” shall have the meaning set forth in Section 11.1.1.

“Sampling System” shall have the meaning set forth in Section 11.1.1.

“Seller” shall have the meaning set forth in the preamble.

“Seller Default” shall have the meaning set forth in Section 15.1.

“Seller Losses” shall have the meaning set forth in Section 15.8(b).

“Seller's Loans and Leases” shall have the meaning set forth in Section 6.1.



“Seller's Loan and Lease Obligations” shall mean all obligations of Seller (other than Seller's Loan and Lease Principal Obligations) due in connection with Seller's Loans and Leases, including, but not limited to, fees, interest, rentals, late payment penalties, indemnification payments and all payments due as a result of any termination, premature or otherwise, or any default under any Seller's Loans and Leases or any agreement related to any of the Seller's Loans and Leases, whether such obligations become due and payable during the Term or otherwise.

“Seller's Loan and Lease Principal Obligations” shall mean all obligations of Seller to pay the principal payments due in connection with any Seller's Loans and Leases.

“South Beulah Area of Interest” shall have the meaning set forth in the third Whereas clause.

“Term” shall have the meaning set forth in Section 2.1(a).

“Ton” shall mean two thousand (2,000) pounds.

“Uniform Rounding Practice” shall mean the following rounding practice with respect to numerical amounts: when the number to the right of the relevant number is four (4) or less, the relevant number shall remain unchanged. When the number to the right of the relevant number is five (5) or more, the relevant number shall be increased to the next higher number. Unless otherwise agreed by the Parties, the relevant number shall be the fourth (4<sup>th</sup>) place to the right of the decimal.

“Utilities” shall have the meaning set forth in the preamble.

“Working Capital” shall mean an aggregate amount equal to the amounts as reflected on the financial statements of Seller at any particular time of the following current assets: (a) cash on hand, cash in the bank and cash equivalents; (b) Mine site lignite stockpile inventory located next to and before

the Delivery Point; (c) supplies inventory (including, but not limited to, such items as maintenance supplies, repair parts, critical spares, fuel, tires); (d) prepaid expenses (including, but not limited to, such items as insurance and interest); and (e) assets held for sale; reduced by the amounts of the following current liabilities: (x) accounts payable; and (y) accrued expenses (including, but not limited to, such items as payroll, royalties, interest, taxes (excluding income taxes)). All items are to be determined in accordance with GAAP. The term “current” as used in this definition shall mean that the asset is to be utilized or consumed or the liability is expected to be settled within twelve (12) months from the date of the financial statements upon which such amount is recorded.

“Year” shall mean a calendar year ending on December 31.

## **Section 2. Term; Dedication and Sale of Lignite; Deliveries**

### **2.1. Term**

- (a) The term of this Agreement (the “Term”) shall begin on the Effective Date and continue until the end of the Post-Production Period, unless terminated earlier pursuant to the provisions of this Agreement.
- (b) The Term shall consist of the Development Period, the Production Period and the Post-Production Period.
- (c) The “Development Period” shall commence on the Effective Date and shall terminate the Day prior to the commencement of the Production Period.



- (d) The “Production Period” shall commence on the date on which Seller makes initial deliveries of lignite from the Mine (the “Production Date”), which is expected to occur on May 5, 2016, and shall terminate on December 31, 2040, unless extended pursuant to Section 2.1(f) or terminated earlier in accordance with the other provisions of this Agreement.
- (e) The “Post-Production Period” shall commence when mining and delivery of lignite from the Mine permanently ceases and shall continue until the Mine reclamation bond is released to Seller by the North Dakota Public Service Commission.
- (f) The Production Period shall automatically extend for successive five-year periods until exhaustion of Seller's lignite in the Reserves, unless notice of the desire not to extend the Production Period is given by either Buyer or Seller not less than six months prior to the expiration of the original or any extended Production Period then in effect.

## 2.2. Communication Regarding the Production Date

Seller anticipates that the period necessary to complete the permitting of the Mine is [\* \* \*]. During the Development Period, Buyer and Seller shall meet not less than one time each calendar quarter to discuss the date on which Seller anticipates receiving the Mine permit. In the event that Seller does not anticipate it will receive the Mine permit by [\* \* \*] Seller shall notify Buyer of the anticipated Production Date in writing as soon as possible and not later than [\* \* \*]. Such notice shall set forth the date on which Seller anticipates, based on information then reasonably available, the Production Date will occur. In such event, Seller and Buyer shall promptly use their collective reasonable best efforts to secure replacement fuel meeting the Quality Requirements in accordance with Section 2.9(c), in the quantity necessary to meet the Plant's fuel requirements between May 5, 2016 and the anticipated Production Date set forth in Seller's written notice to Buyer. Seller shall pay a portion of the cost of such replacement fuel under the circumstances contemplated by, and to the extent required by, Section 2.9(c). Buyer shall pay such cost if Seller is not obligated to do so pursuant to Section 2.9(c).

## 2.3. Sale and Purchase of Lignite

During the Production Period, Buyer hereby agrees to purchase and accept exclusively from Seller, and Seller hereby agrees to sell and deliver to Buyer, for the Compensation and upon the other terms and conditions hereinafter set forth, quantities of lignite from the Mine equal to the Plant's fuel requirements as set forth in Section 2.5. In no event shall Buyer purchase or use any fuel for the Plant that is not produced at the Mine unless such purchase is made in accordance with Section 2.9. For the avoidance of doubt, this Agreement is an all requirements contract subject to the limitations set forth in Article 2-306 of the Uniform Commercial Code (N.D. Cent. Code § 41-02-23). Buyer shall not be obligated to purchase lignite in excess of the Plant's actual requirements, including during outages of the Plant.

## 2.4. Dedication of Lignite

2.4.1. Seller and/or Affiliates of Seller hold the Reserves in the South Beulah Area of Interest. Seller hereby dedicates and commits to Buyer a quantity of lignite in the Reserves and any other reserves that Seller and/or Affiliates of Seller may hereafter acquire in the South Beulah Area of Interest that is sufficient for the performance of Seller's obligations under this Agreement during the Term. The foregoing dedication is a dedication of quantity and not a dedication of specific reserves within the Reserves.

\* \* \* Confidential Treatment Requested



Seller intends to sublease the Reserves within the South Beulah Area of Interest from NACoal. Seller shall include in each such sublease a clause whereby Seller dedicates from the Reserves the quantity of lignite that is sufficient for the performance of Seller's obligations under, and in accordance with, this Agreement. Seller shall record each such sublease in the official records of Mercer County, North Dakota.

- 2.4.2. Nothing in this Section 2.4 or any other section or exhibit of this Agreement:
- (a) is intended to, or shall be interpreted or construed to, constitute a sale, transfer, assignment or other conveyance, or an agreement to enter into any of the foregoing, of any Reserves or of any underlying leases or subleases of Reserves by Seller;
  - (b) shall be construed as preventing Seller from making Heskett Sales pursuant to Section 14.2 or from mining and selling lignite from the Reserves to third parties as set forth in Section 14.3; or
  - (c) shall be construed as preventing Buyer from selling lignite purchased from Seller and owned by Buyer to third parties as set forth in Section 14.5.

## 2.5. Quantity

The annual quantity of lignite to be sold and delivered by Seller to Buyer from the Reserves shall be the quantity required for (a) all of the Plant's fuel requirements (except to the extent alternate fuel is used in accordance with Section 2.9) and (b) Buyer to make sales of lignite to third parties as permitted in Section 14.5. If any increase in Buyer's lignite requirements for the Plant necessitates the acquisition by Seller of additional equipment, the hiring and training of additional employees or the acquisition of additional lignite reserves, Seller shall not be obligated to supply such increased lignite requirements until it is able to acquire and install such additional equipment, hire and train such additional employees, acquire such additional lignite reserves and do all other things necessary to supply such increased lignite requirements. If any long-term decrease in the Plant's fuel requirements occurs, Seller shall use reasonable best efforts to reduce costs in a manner reasonably commensurate with the reduced Plant fuel requirements.

## 2.6. Designation of Deliveries

2.6.1 No later than April 1 of each Year during the Term, Buyer shall notify Seller in writing of the number of Tons of lignite that Buyer will require from the Mine at the Delivery Point during the subsequent Year on a Monthly basis (the "Delivery Year Nomination"), and an estimate of the quantity of Tons of lignite which Buyer estimates it will request Seller to deliver to the Delivery Point during each of the four subsequent Years.

2.6.2 At any time and from time to time, Buyer shall have the right, upon notice to Seller, to increase or to decrease any previously issued Delivery Year Nomination to the extent desired by Buyer, subject, however, to the limitations set forth in Section 2.5.

## 2.7. Rate of Delivery

The delivery of lignite to the Delivery Point shall be made in Monthly quantities that approximate the Monthly lignite requirements designated by Buyer pursuant to Section 2.6, or as otherwise directed by Buyer, subject, however, to the limitations set forth in Section 2.5.

## 2.8. Stockpile Inventories

Buyer and Seller shall mutually agree on the types, sizes and locations of lignite stockpiles to be maintained at the Mine and, if necessary, the Plant. It is expected that the aggregate amount of lignite in the

Mine and any Plant stockpiles ordinarily will not be less than 200,000 Tons. Buyer shall have the right to require Seller to increase or decrease the size of the stockpiles or to change the Delivery Point, subject to (a) the limitations set forth in Section 2.5, (b) the then-current Annual Mining Plan and (c) the then-current mining conditions.

## 2.9. Permitted Alternate Fuel

Without limiting the all-requirements nature of this Agreement, Buyer shall have the right to purchase fuel for the Plant other than Seller's lignite in the following limited circumstances:

- (a) Buyer may burn fuel oil (i) to aid in Plant start-up and (ii) to increase Btus in the event that the lignite delivered by Seller does not contain enough Btus to operate the Plant's existing cyclone boiler;
- (b) Buyer may purchase alternate fuel for the Plant to the extent necessary to replace any lignite not delivered by Seller due to and during the continuance of (i) a Force Majeure event impacting Seller, (ii) a Governmental Order to the extent it forecloses Buyer from purchasing and utilizing Seller's lignite at the Plant or (iii) a Seller Default, and in each case for no longer and to no greater extent;
- (c) If (i) the Production Date has not occurred by May 5, 2016 (for reasons not attributable to Buyer and not attributable to a Force Majeure affecting Seller) and (ii) Buyer's existing stockpile on the Plant site is exhausted, Seller shall use reasonable best efforts to provide replacement fuel meeting the Quality Requirements until the Production Date occurs. In the event that Seller provides replacement fuel pursuant to the preceding sentence, Buyer shall pay to Seller for each 13,424,000 Btus of replacement fuel 13,424,000 Btus is the Btu equivalent of one Ton of lignite with a heat value of 6,712 Btus/lb. (2,000 x 6,712). delivered an amount equal to the sum of (A) the estimated Cost of Production per Ton (as reflected in the then-current Annual Mining Plan) and (B) the Agreed Profit per Ton, and Seller shall pay the supplier of such replacement fuel for such replacement fuel. To the extent that Seller does not so provide replacement fuel, Buyer may purchase a quantity of alternate fuel that Buyer reasonably anticipates will be sufficient to fuel the Plant until the Production Date at the lowest cost available to Buyer (and for no longer and to no greater extent). In the event that Buyer provides replacement fuel pursuant to the preceding sentence, Seller shall pay to Buyer for each 13,424,000 Btus of replacement fuel so provided the difference between (X) Buyer's actual cost therefor and (Y) the sum of (1) the estimated Cost of Production per Ton (as reflected in the then-current Annual Mining Plan) and (2) the Agreed Profit per Ton; or
- (d) In accordance with the terms of any prior written consent of Seller to such purchase by Buyer, potentially including fuel blending by Buyer to prevent a fuel switch due to a Governmental Order.

## 2.10. Chemical Additives to Lignite

Buyer may add chemical additives to the lignite sold hereunder for the purpose of (a) improving the Plant's compliance with Applicable Laws regulating emissions from the Plant or (b) generating or participating in the generation of federal income tax credits under the Internal Revenue Code.



### Section 3. Lignite Description, Quality and Recovery

#### 3.1. Lignite Description

The lignite to be sold and delivered hereunder shall be from the Mine and shall be crushed Run-of-Mine Lignite having a top size of nominal three inch minus or such larger size as Buyer may specify in a notice to Seller. Seller shall deliver the lignite so as to be reasonably free from contaminants, including, but not limited to, rock, bone, slate, earth, pyrite, wood, metal and mine debris.

#### 3.2. Annual Quality

Seller shall furnish to Buyer a projection of the quality of the lignite to be mined and delivered to Buyer each Year based on quality data which is available to Seller relating to Reserves within the South Beulah Area of Interest. Periodically, or at the request of Buyer, the Parties shall meet to discuss the quality of delivered lignite.

#### 3.3. Minimum Lignite Quality Standards

In the event that the delivered quality of lignite in any Sampling Period, on an As-Delivered, As-Received basis, is below any minimum specification or above any maximum specification listed below (the "Quality Requirements"):

| <u>Specification</u>         | <u>Minimum</u> | <u>Maximum</u> |
|------------------------------|----------------|----------------|
| Calorific value, Btu/lb      | 6,500          | N/A            |
| Moisture, % by weight        | N/A            | 40%            |
| Ash, % by weight             | 4%             | 13%            |
| Sulfur, % by weight          | N/A            | 1.3%           |
| Sodium (in ash), % by weight | N/A            | 8%             |

then the lignite delivered during such Sampling Period shall constitute "Non-conforming Lignite."

WARRANTY AS TO LIGNITE SOLD HEREUNDER AS A GOOD: EXCEPT THAT THE LIGNITE SHALL MEET THE FOREGOING QUALITY REQUIREMENTS, SELLER MAKES NO, AND HEREBY DISCLAIMS ALL, WARRANTIES RELATED TO THE LIGNITE DELIVERED HEREUNDER, INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY.

#### 3.4. Non-conforming Lignite

Buyer shall have the option to accept delivery of Non-conforming Lignite. Regardless of whether Buyer accepts delivery of such Non-conforming Lignite, Buyer shall compensate Seller for such Non-conforming Lignite in an amount equal to the Compensation minus the Agreed Profit for such Non-conforming Lignite. Except as provided in the last sentence of Section 15.1, the elimination of the Agreed Profit on Non-conforming Lignite is Buyer's sole and exclusive remedy with respect to the delivery of Non-conforming Lignite by Seller.



Section 4. **Delivery Point; Title and Risk of Loss**

The lignite from the Mine for use at the Plant shall be delivered by Seller to Buyer at the terminus of Seller's conveyor to the Plant, or at such other point or place mutually agreed to by Buyer and Seller (the "Delivery Point"). Lignite shall be deemed to have been sold and delivered to Buyer, and title and risk of loss or damage thereto shall pass to Buyer, upon delivery of such lignite at the Delivery Point.

Section 5. **Development and Operation of the Mine**

5.1. **General**

5.1.1 Seller shall use its "reasonable best efforts" in all phases of its performance under this Agreement. For purposes of this Agreement, "reasonable best efforts" shall mean such efforts as a reasonably prudent Person with requisite skill and experience engaged in surface lignite mining in North Dakota under conditions similar to the conditions at the Mine would undertake to fulfill the relevant obligation in a safe, economic, productive, and workmanlike manner, including possession of marketable title or valid leasehold interests in the Reserves and acting in accordance with Applicable Laws.

5.1.2 The period of time during which the design, development, permitting, construction, start-up, operation and reclamation of the Mine occur shall consist of the Development Period, the Production Period and the Post-Production Period.

- (a) During the Development Period, Seller shall acquire land and reserves, design, engineer, develop, construct, permit and start-up the Mine.
- (b) During the Production Period, Seller shall operate the Mine and perform all land, engineering, geological, operational, administrative and other work required to supply lignite to Buyer under this Agreement.
- (c) During the Post-Production Period, Seller shall perform all work and services required in connection with the final closing of the Mine and completion of final reclamation work.
- (d) **WARRANTY AS TO THE SERVICES RENDERED BY SELLER HEREUNDER: EXCEPT THAT SELLER SHALL PERFORM ITS OBLIGATIONS UNDER THIS AGREEMENT IN ACCORDANCE WITH THE PERFORMANCE STANDARD SET FORTH IN SECTION 5.1.1, SELLER MAKES NO REPRESENTATIONS OR WARRANTIES REGARDING ITS PERFORMANCE OF SERVICES UNDER THIS AGREEMENT.**
- (e) **DISCLAIMER AS TO ALL OTHER WARRANTIES: THE PARTIES AGREE THAT EXCEPT AS PROVIDED IN SECTION 3.3, IN SECTION 5.1.1 AND IN SECTION 19, ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR ARISING FROM A COURSE OF DEALING OR USAGE OF TRADE ARE SPECIFICALLY EXCLUDED AND DISCLAIMED.**

## 5.2. Mining Plans

### 5.2.1 Life-of-Mine Plan

- (a) Seller shall prepare and provide to Buyer in writing a mining plan covering the life-of-mine requirements (the “Life-of-Mine Plan”) for the design, development, construction, start-up and operation of the Mine, including the Development Period, the Production Period and the Post-Production Period to furnish from the Reserves the lignite requirements of Buyer under this Agreement. Seller's initial Life-of-Mine Plan shall assume that Buyer's life-of-mine lignite requirements shall be equal to 2,500,000 Tons per Year unless Buyer notifies Seller to use a different assumption. The Life-of-Mine Plan shall be based on the principle of recovering the most economic reserves from within the Reserves over the Term. The Life-of-Mine Plan shall be prepared in accordance with sound engineering and design practices and Applicable Laws and shall include, but not be limited to, production schedules, staffing and equipment requirements, estimated costs per Ton using the cost categories identified in Section 7, a property acquisition plan, schedule and estimated budget, a mine development plan, schedule and budget, method of operation, anticipated lignite quality characteristics, reclamation and permitting schedules, estimated capital budget containing estimates of all capital expenditures, commitments, and loan/lease requirements, operating cost estimates, mine design, mine projection maps, mine progression and reserve studies, and other documentation reasonably requested by Buyer. Seller will permit Buyer's representatives to participate in the development of the Life-of-Mine Plan and any revisions thereto.
- (b) The Life-of-Mine Plan shall be completed and delivered by Seller to Buyer within three hundred sixty-five (365) Days of the Effective Date. Buyer shall review the Life-of-Mine Plan for reasonableness and completeness. Within sixty (60) Days of receipt of the Life-of-Mine Plan, Buyer shall meet with Seller to jointly review the proposed Life-of-Mine Plan. Within forty-five (45) Days of the conclusion of such review, Buyer shall provide notice to Seller of Buyer's approval of, or Buyer's suggested modifications to, the proposed Life-of-Mine Plan. If Buyer suggests modifications to the proposed Life-of-Mine Plan, Buyer shall advise Seller of the reasons for such modifications, and Buyer and Seller shall meet promptly and attempt in good faith to resolve their differences with respect to the proposed Life-of-Mine Plan. If Buyer and Seller are unable to resolve such differences within thirty (30) Days after Buyer proposes such modifications, Seller shall revise and resubmit the proposed Life-of-Mine Plan as requested by Buyer.

### 5.2.2 Annual Mining Plan

- (a) On or before July 1 of each Year during the Term, including the Development Period, the Production Period and the Post-Production Period, Seller shall provide to Buyer in writing (or in electronic format) a detailed mining plan covering the operation of the Mine for the next Year (the “Annual Mining Plan”) that conforms substantially to the Life-of-Mine Plan. If Buyer and Seller agree that current circumstances require that the Annual Mining Plan differ in any material respect from the Life-of-Mine Plan, Seller shall review and revise, if necessary, the Life-of-Mine Plan based on the then-current circumstances including the designation of annual deliveries provided by Buyer in the notice given pursuant to Section 2.6. Seller shall provide documentation of such revised Life-of-Mine Plan consistent with the requirements of Section 5.2.1.

- (b) Such Annual Mining Plan shall include, but not be limited to, the following items for activities during the following Year:
- (i) maps showing planned mine progression, location of infrastructure, and capital project locations;
  - (ii) mining operations schedules showing acres disturbed, overburden removed, lignite recovered by seam, anticipated lignite quality by seam, equipment working schedules, and labor requirements;
  - (iii) a reclamation plan showing areas to be regraded, planted or otherwise subject to reclamation activities and a permitting and bonding schedule;
  - (iv) an estimated capital budget containing detailed, itemized estimates of all capital expenditures, commitments, and loan/lease requirements, including indicative terms for any proposed acquisition of Capital Assets by Seller;
  - (v) an estimate of all operating costs and expenses in such detail as required to estimate the Cost of Production under Section 7.2(a), along with estimated employee headcounts and such other information as Buyer may reasonably request
  - (vi) an estimated Monthly cash flow statement containing estimates of the cash requirements for the capital and operating budgets prepared pursuant to this Section 5.2.2;
  - (vii) a projection of the next four Years of operations in such detail as directed by Buyer, which shall include assumptions as to lignite stockpile size(s) and location(s), if any; and
  - (viii) such other information as directed by Buyer.

### 5.2.3 Approval of Annual Mining Plan

- (a) Within sixty (60) Days after receipt by Buyer of an Annual Mining Plan, and, if applicable, a revised Life-of-Mine Plan, Buyer shall give Seller notice of Buyer's approval or disapproval of such Annual Mining Plan (including specific approval of any acquisition of Capital Assets by Seller) and, if applicable, revised Life-of-Mine Plan.
- (b) If Buyer does not give Seller such notice within sixty (60) Days after Buyer's receipt thereof, Buyer shall be deemed to have approved such mining plan(s).
- (c) If Buyer disapproves an Annual Mining Plan or any portion(s) thereof, Buyer shall advise Seller of the reasons for such disapproval, and Buyer and Seller shall meet promptly, but no more than ten (10) Business Days after such disapproval was expressed, and attempt in good faith to resolve their differences with respect to the Annual Mining Plan. If Buyer and Seller are unable to resolve such differences within such ten (10) Business Days, Seller shall adopt such changes to the Annual Mining Plan as requested by Buyer, and shall submit a revised

Annual Mining Plan within ten (10) Business Days following the failure of Buyer and Seller to resolve such differences.

#### 5.2.4 Mine Development and Operation

- (a) Seller shall consult with and keep Buyer informed of the progress of Seller's activities related to the Mine during the Term in such manner as Buyer may reasonably request.
- (b) Buyer and Seller shall meet quarterly (or at such other times as needed or requested by either Party) to review the progress of Seller's activities related to the Mine during the Term.
- (c) Seller shall not make any capital expenditures unless they are generally reflected in a capital budget approved by Buyer as part of an Annual Mining Plan or unless otherwise specifically approved by Buyer; provided, however, Seller shall have the right during any Year to make capital expenditures required in the event of an Emergency without advance approval by Buyer. If the nature of the Emergency and the time elements involved do not allow sufficient time to obtain Buyer's approval of such capital expenditure before it is incurred, Seller shall subsequently and promptly (but not later than two Business Days after such occurrence) give Buyer notice thereof.
- (d) Seller shall have the right, without the specific written approval of Buyer, to exceed the amount for any specific capital expenditure in any budget approved by Buyer by up to five percent (5%), provided that in no event shall any such excess expenditure exceed One Hundred Thousand Dollars (\$100,000) (the "CapX Cap") (subject to adjustment pursuant to Section 9) or such other amount as mutually agreed to by the Parties in any Year. If Seller desires Buyer's approval to exceed a specific line item, budgeted, capital expenditure by more than five percent (5%) or more than the CapX Cap or such other amount as mutually agreed to by the Parties in any Year, Seller shall make such request by written notice as soon as practicable, and if Buyer neither approves nor disapproves such request within fifteen (15) Business Days after Seller's delivery thereof, Buyer shall be deemed to have approved such request.
- (e) Except in the event of an Emergency, no material modification of or material deviation from the approved Annual Mining Plan shall be made without the written approval of Buyer, which approval shall not be unreasonably withheld.

#### 5.3. Post-Mining Reclamation

5.3.1 Commencing with the issuance of the Mine permit (and thereafter at least as frequently as required by GAAP), Seller shall prepare in accordance with GAAP an estimate of all costs and expenses that will be incurred to finally reclaim and close the Mine in order to obtain the release of the reclamation bond from the North Dakota Public Service Commission (the "Post-Mining Reclamation Costs"), and the Parties shall mutually agree on the appropriate assumptions underlying the accrual of such costs and their inclusion in the Cost of Production under Section 7.2(a).

5.3.2 When requested by Buyer, but no less frequently than five Years after the commencement of the Production Period and every five Years thereafter, Seller shall submit to Buyer for its review and written approval proposed plans and estimated budgets for final reclamation activities during the Post-Production Period. Buyer shall not unreasonably withhold its approval of such plans and budgets as long as Seller utilizes generally accepted reclamation practices in preparing such plans and budgets. After Buyer's written approval of such plans and budgets (or portions thereof), Seller shall seek Buyer's prior written approval of

any material changes to or from such final reclamation plans and budgets. Seller shall submit such reports regarding Seller's activities and reclamation costs incurred as Buyer may request from time to time during the Post-Production Period.

5.3.3 Within ten Days of receipt from Buyer, Seller shall deposit all amounts for Post-Mining Reclamation Costs funded by Buyer pursuant to Section 7.2(a), or funded by Seller pursuant to Section 14.4 (third-party sales), in a trust account (the "Reclamation Account") to be managed by a trustee to be proposed by Seller and approved by Buyer, in accordance with the North Dakota version of The Uniform Prudent Investor Act, as may be amended from time to time. Funds held in the Reclamation Account shall only be disbursed by the trustee upon receipt of a joint written disbursement instruction by Buyer and Seller and shall only be expended during the Post-Production Period to complete final Mine closure and reclamation; provided, however, that to the extent Buyer and Seller mutually agree that the Reclamation Account is over-funded from time-to-time, Buyer and Seller may mutually direct the Reclamation Account trustee to distribute the excess amount to the agent under the Plant Ownership Agreement for distribution to the Utilities. Seller and Buyer shall meet at least one time each Year during the Production Period and the Post-Production Period to discuss such account and any expenditures therefrom, and review related account statements and documents ("Reclamation Account Documentation"). Buyer shall have the right to inspect Reclamation Account Documentation as provided in Section 12.3(a).

#### 5.4. Operating Contracts

Seller may determine that it is appropriate to enter into contracts with third parties to provide services to Seller in connection with performance of Seller's obligations hereunder ("Operating Contracts"). Seller's entry into any such Operating Contracts shall not relieve Seller of any of its obligations hereunder. All Operating Contracts shall provide that the third party that is performing services, and any party that may acquire Seller, may not terminate the Operating Contract in the event of a change-in-control of Seller. Seller shall provide Buyer reasonable advance notice in the event Seller intends to enter into an Operating Contract with total consideration to the third party thereto in excess of \$1,000,000 (the "Operating Contract Threshold") or a term in excess of twenty-four (24) months. Buyer shall have the opportunity to review and comment on such Operating Contracts prior to Seller's execution thereof, and shall provide comments as promptly as reasonably practicable, taking into consideration Seller's obligation to timely perform Seller's obligations hereunder.

### Section 6. Financial Arrangements

#### 6.1. Seller Responsible for Mine Financial Arrangements

Seller shall be responsible throughout the Term, for securing loans, leases, extensions of credit and other financial arrangements ("Seller's Loans and Leases") for Working Capital and capital assets including, without limitation, machinery, equipment (including one or more draglines), fixtures, fee lands upon which fixtures are located, roads, ponds, electric utility lines, water and gas pipelines and easements for all such lines and pipelines ("Capital Assets") necessary for, but not limited to, the design, development, permitting, construction, equipping, start-up, operation, maintenance and reclamation of the Mine to the capacity required for producing the quantities of lignite to be purchased from Seller under this Agreement. Seller shall use reasonable best efforts to obtain the lowest cost Seller's Loans and Leases that are available to Seller, and to include in the Seller's Loans and Leases a lessee right to buyout or terminate prior to the end of the term of Seller's Loans and Leases. Seller shall use its reasonable best efforts to structure the payment terms of Seller Loan and Lease Principal Obligations under the Seller's Loans and Leases used to fund the original purchase

of Capital Assets to correspond approximately with the depreciation or amortization expensed during the estimated useful life of Capital Assets. Seller's obligations under this Section 6.1 in respect of Capital Assets shall terminate in the event that Buyer acquires all of the Capital Assets. For the avoidance of doubt, Seller's or Seller's Affiliate's acquisition and financing costs related to its Marion 8400 walking dragline, from its date of acquisition on May 21, 2012 (the "Pre-LSA Dragline Costs"), shall be deemed a Seller Loan and Lease.

## 6.2. Buyer's Right to Replace Seller's Loans and Leases

6.2.1. At any time, Buyer shall have the right to acquire all of Seller's Capital Assets and obtain alternative arrangements to replace all of Seller's Loans and Leases.

6.2.2. In order to exercise such right, Buyer shall give notice to Seller of Buyer's election to acquire the Capital Assets and pay to Seller the Net Book Value of such Capital Assets. Seller shall use any necessary portion of such Buyer payment (including up to, but not exceeding, the full amount thereof) to discharge Seller's Loan and Lease Principal Obligations and Seller's Loan and Lease Obligations applicable to such Capital Assets. If any amount of Seller's Loan and Lease Principal Obligations or Seller's Loan and Lease Obligations (other than with respect to Working Capital) remain after such payment by Seller, then Buyer shall directly pay to the lender the remaining Seller's Loan and Lease Principal Obligations, and shall reimburse to Seller promptly (after receiving proof of payment by Seller) all remaining Seller's Loan and Lease Obligations (other than with respect to Working Capital) arising as a result of such acquisition. The Parties agree to execute and deliver such documents and instruments as may be reasonably necessary or appropriate to vest in Buyer Seller's title to the Capital Assets, to release and hold harmless Seller and any of Seller's Affiliates from all liability relating to all Seller's Loan and Lease Principal Obligations applicable to such Capital Assets and to ensure Seller's reimbursement for Seller's Loan and Lease Obligations applicable to such Capital Assets. In the event Buyer so acquires the Capital Assets, Buyer shall provide Seller and its Affiliates with access to and use of the Capital Assets acquired by Buyer as reasonably necessary for Seller to perform its obligations under this Agreement and, at Seller's request, Buyer shall execute and deliver licenses or other agreements containing terms and conditions mutually acceptable to Buyer and Seller confirming such Seller right of access and use.

6.2.3. If Buyer exercises its right to acquire all of Seller's Capital Assets pursuant to this Section 6.2, Seller shall have the right to contribute its Capital Assets to a wholly-owned subsidiary of Seller or NACoal and cause Buyer to acquire the equity of such subsidiary pursuant to the terms and conditions of a purchase and sale agreement for the equity interests of such subsidiary for a purchase price equal to the Net Book Value of the Capital Assets contributed to the subsidiary and on other terms to be agreed by the Parties. In such event, the purchase and sale agreement shall include amendments to this Agreement referred to in Section 22.13 to reflect that all of the Mine's Capital Assets are no longer owned by Seller, and that Buyer thereafter has the responsibilities in respect of Capital Assets set forth in the first sentence of Section 6.1.

## Section 7. Compensation for Lignite

### 7.1. Compensation During the Development Period

7.1.1. During the Development Period, costs and expenses that Buyer approves in advance through the Annual Mining Plan, or that Seller otherwise reasonably incurs in connection with the design, development, construction, equipping, permitting and start-up of any area of the Mine ("Development Period Costs") shall be paid or funded by Seller.

7.1.2. Development Period Costs shall include, but are not limited to, the following:

- (a) labor costs, as described in Section 7.2(a)(i)(aa), paid to employees of Seller and Affiliates of Seller located at the Mine or the Land Office whose labor costs are properly charged directly to the Mine, and such labor costs for employees of Seller and Affiliates of Seller who are not located at the Mine or the Land Office but who, with Buyer's approval, perform work related to the Mine;
- (b) an amount equal to the total sum of all overhead costs (excluding labor costs covered by paragraph (a) above) actually incurred by Seller during the Development Period in connection with the design, permitting, development, construction, equipping and start-up of the Mine, which costs shall include, but not be limited to, costs of materials and supplies, costs related to the maintenance of leases, subleases and fee ownership of lands and reserves in the South Beulah Area of Interest, reasonable travel expenses, equipment rental costs, computer service costs, allocated office expenses, fees and expenses of outside consultants and legal counsel, administrative and general expenses of Seller directly allocable to the Mine, and any other reasonable costs which are not covered by paragraphs (a) and (c) of this Section 7.1.2;
- (c) an amount equal to Seller's Loan and Lease Obligations due and payable during the Development Period;
- (d) an amount equal to depreciation and amortization charges on Capital Assets acquired by Seller during the Development Period to which Seller is entitled and the rates of which shall be determined by Seller in accordance with GAAP, and ad valorem or similar taxes incurred by Seller during the Development Period;
- (e) the Capital Charge (as defined in Section 7.2(d)) payable each Year during the Development Period on the Invested Capital of Seller;
- (f) a fee equal to [\* \* \*] per Month (the "Development Fee"), which amount shall be subject to adjustment pursuant to Section 9; and
- (g) the Pre-LSA Costs.

7.1.3. Seller shall report current Development Period Costs to Buyer Monthly during the Development Period and at the conclusion of the Development Period.

7.1.4. All Development Period Costs shall be capitalized as incurred during the Development Period. All Development Period Costs other than the Development Fee and the Capital Charge shall be amortized on a straight-line basis in equal Monthly installments over the full term of the Production Period by being included in the Cost of Production. The Development Fee and the Capital Charge incurred during the Development Period shall be amortized on a straight-line basis in equal Monthly installments over the first fifty-two (52) Months of the Production Period by being included in the Cost of Production during such Months.

\* \* \* Confidential Treatment Requested

## 7.2. Compensation During the Production Period

During the Production Period, Buyer shall pay Seller in accordance with Section 8 an amount that equals the sum of (i) the Cost of Production (Section 7.2(a)), (ii) the Agreed Profit payable to Seller (Section 7.2(c)(i)) and (iii) the Capital Charge (Section 7.2(d)). All amounts payable by Buyer during the Production Period under this Section 7.2 shall constitute “Compensation” during the Production Period. Buyer acknowledges that when no lignite is mined, processed, sold or delivered during the Production Period, Buyer shall continue to pay the Capital Charge and the portion of the Cost of Production that is incurred by Seller in accordance with the terms of this Agreement and invoiced to Buyer even when lignite deliveries are not made (referred to by the Parties as “period costs,” as opposed to “product costs,” which are not invoiced when lignite deliveries are not made).

### (a) Cost of Production

For the purposes of this Agreement and except as otherwise expressly stated, “Cost of Production” shall mean all costs actually incurred by Seller performing its obligations under this Agreement during the Production Period, including, without limitation, costs related to the mining, processing and delivering of lignite from the Mine, but shall exclude costs or expenses not authorized pursuant to this Agreement or that have been incurred over the prior disapproval by Buyer thereof. Any costs incurred by an Affiliate of Seller and charged to Seller shall be included only at the cost to such Affiliate without addition for any intercompany profit or service charge. Seller, in determining costs, shall give Buyer the proportionate benefit of volume purchases participated in by Seller and Affiliates of Seller. The Cost of Production shall be determined on an accrual basis in accordance with GAAP, and shall include, but shall not be limited to, the following:

- (i) All production, maintenance and delivery costs incurred by Seller in the performance of its obligations under this Agreement during the Production Period including, without limitation, the following types of costs:
  - (a) Labor costs for work directly related to the Mine, which include, without limitation, (i) wages (e.g., regular and overtime wages paid to non-exempt employees and workforce, and salaries paid to exempt employees), (ii) the costs of all related payroll taxes (e.g., federal social security and Medicare taxes, federal and state unemployment taxes and workers compensation) and fringe benefits, including, without limitation, welfare plans, contributions to 401(k) and other retirement plans, contributions to defined benefit and defined contribution pension plans, group insurance (e.g., medical, dental, term life and disability), holidays, floating holidays, vacation days, military duty days, jury duty days, bereavement days, personal days, sick days, severance, and other comparable benefits paid to or for employees of Seller and Affiliates of Seller, (iii) reasonable travel costs and lodging costs for employees of Seller and Affiliates of Seller, and (iv) the costs of employee productivity, safety and environmental incentive plans;
  - (b) Expense of payroll preparation, general accounting and billing performed at the Mine;
  - (c) Consumable materials and supplies;

- (d) Consumable tools;
- (e) Costs of machinery and equipment that are not Capital Assets, including rental costs;
- (f) Rental of machinery and equipment not included in Seller's Loan and Lease Obligations;
- (g) Electric power and other utility costs;
- (h) Reasonable and necessary services incurred in the mining, processing or delivery of lignite from the Mine rendered by persons other than employees of Seller and Affiliates of Seller that are directly charged to the Mine;
- (i) Insurance premiums and deductibles, including in respect of workers' compensation as required by law, liability, property damage, and such other insurance as requested by Buyer and in amounts and with insurance carriers (or self-insurance) approved by Buyer, as provided in Section 10;
- (j) All taxes and fees, including, without limitation, ad valorem, severance, sales, use, property, excise, license, stamp or other taxes, levies, imposts, duties, charges, or fees of any nature, but not including income taxes, imposed by any Governmental Entity;
- (k) Fees, assessments and penalties payable to MSHA and other Governmental Entities; provided, however that to the extent a Governmental Entity has determined that any such fees, assessments or penalties are the result of Seller's gross negligence or willful misconduct, such fees, assessments or penalties shall not constitute Cost of Production and shall be paid by Seller and not reimbursed by Buyer;
- (l) Cost of reclamation during the Production Period, including labor and supplies, as required to comply with all Applicable Laws and leases and subleases of Reserves;
- (m) Costs incurred by Seller relating to this Agreement in connection with or as a result of the enactment, modification, interpretation, repeal or enforcement of any Applicable Laws;
- (n) Usual membership fees of the National Mining Association (allocated to the Mine pro rata based on combined annual coal production of Seller and its Affiliates in the United States of America, or such other pro rata method utilized by the National Mining Association in charging all of its members), and a reasonable number of other professional, service and civic organization memberships paid for by Seller which are commonly maintained by surface mining companies similarly situated in North Dakota, and such other contributions and memberships approved in advance by Buyer;

- (o) Costs incurred by Seller (i) related to the maintenance of leases, subleases and fee ownership of lands and reserves in the South Beulah Area of Interest, such costs to include all sums actually paid by Seller as rental, advance royalty, landman services, abstract and title opinion and curative costs incurred to confirm or obtain clear title to the Reserves, and recordation fees; provided, however, that Seller or its Affiliate shall directly pay lease bonuses and labor costs expended in connection with the acquisition of leases and such lease bonuses and labor costs shall not constitute Cost of Production; (ii) in payment of production royalty or overriding production royalty attributable to lignite sold to Buyer hereunder which is produced from lignite and other coal leases or other mining rights covering and affecting the Reserves; and (iii) in connection with the acquisition of fee property for the Mine office, Mine haul roads to the Plant facilities and other Mine facilities and infrastructure;
- (p) Costs related to permits and permitting at the Mine;
- (q) Costs of Mine security;
- (r) Corporate franchise taxes for Seller paid to the State of North Dakota related to the Mine, if any;
- (s) Costs of drilling and geological services;
- (t) Costs related to sampling, analyses, surveying and weighing lignite, and the testing of the Sampling System and the scales pursuant to Section 11;
- (u) Costs of Audits, and any other outside audits approved in advance by Buyer;
- (v) Costs related to Seller's compliance with its obligations under Section 12;
- (w) Costs incurred as the result of labor organization activities or unionization of Seller's employees at the Mine (including, without limitation, costs of arbitration and labor and other costs incurred by Seller in connection with any collective bargaining activities or agreements);
- (x) Cost of reclamation bonds and similar performance bonds as required by Applicable Laws and obtained by Seller in connection with the performance of its obligations hereunder;
- (y) Post-Mining Reclamation Costs payable as determined pursuant to GAAP requirements, including costs related to the Reclamation Account; and
- (z) Mine administrative costs including telephone and office costs, travel expenses and moving expenses of exempt employees of Seller, provided that no moving expense will be allowed for any non-exempt employee of Seller without Buyer's prior approval.

There shall be credited to costs under this Section 7.2(a) amounts equal to (1) any investment tax credit or other tax credits based upon new investment incurred and taken by Seller or by an Affiliate of Seller that is



attributable to Seller's operation, and (2) any refunds or rebates received by Seller from manufacturers or vendors and (3) the proceeds from any insurance policies obtained in accordance with Section 10, except to the extent Seller or its Affiliates use such proceeds to pay any losses, costs, fees, expenses, damages or liabilities incurred by Seller or its Affiliates that result from or relate to an insured loss or occurrence, including but not limited to costs to repair or replace equipment or other property, or amounts to pay stipulated loss values under equipment leases.

- (ii) Depreciation and/or amortization charges on Capital Assets to which Seller is entitled, the rates of which shall be determined by Seller from time to time in accordance with GAAP. Unless otherwise agreed by Buyer and Seller, the rates of such depreciation and/or amortization shall be limited to a straight-line basis over the anticipated useful service life of the Capital Assets. Buyer may correct from time to time anticipated useful service lives to conform to experience. Net gains or losses on the dispositions of Capital Assets shall be credited or charged, as the case may be, to the Cost of Production. Transactions involving Capital Assets between Seller and any one or more of its Affiliates (including contributions to the capital of Seller) shall be reflected in Seller's accounts at cost to the Affiliates of the Capital Assets involved, less accumulated depreciation, as shown by the accounts of the transferring company, or salvage value if it is greater than depreciated cost.
  - (iii) All Seller's Loan and Lease Obligations due and payable during the Production Period.
  - (iv) All Development Period Costs accrued during the Development Period, which shall be repaid on a Monthly basis during the Production Period as part of the Cost of Production, as provided in Section 7.1.4.
- (b) **[Intentionally Omitted.]**
- (c) Agreed Profit
- (i) During the Production Period for all lignite sold and delivered by Seller to Buyer hereunder from the Mine, the agreed profit ("Agreed Profit"), expressed in 2011 dollars, shall be [\* \* \*] per Ton; provided, however, that Agreed Profit shall not be paid in respect of Non-conforming Lignite.
  - (ii) General and administrative costs that are to be covered by the Agreed Profit (and that shall not otherwise be included in the Cost of Production) during the Production Period, are salaries and related expenses such as payroll taxes, pensions, contributions to retirement plans, other fringe benefits and workers' compensation, together with travel, telephone, postage and office rent and office maintenance expense, of executive officers of Seller not located at the Mine and of officers of Affiliates of Seller who perform, and for the time and to the extent they perform, functions relating to the Mine or this Agreement. Without limiting the generality of the foregoing, the expenses of executive office support, administrative support, operations management support, business development support and legal support (excluding outside litigation services and other outside legal services described below in Section 22.7), finance and

\* \* \* Confidential Treatment Requested



accounting support, management information systems support, human resources support and benefits support rendered by employees of Affiliates of Seller shall be covered by the Agreed Profit.

- (iii) Notwithstanding anything to the contrary contained in Section 7.2(c)(ii), general and administrative costs that are not to be covered by the Agreed Profit and that otherwise shall be included in the Cost of Production are:
- (a) corporate franchise taxes for Seller paid to the State of North Dakota related to the Mine, if any;
  - (b) litigation and other legal expenses directly related to activities under this Agreement incurred through the use of attorneys who are not employees of Seller or Affiliates of Seller, excluding the cost of any litigation or action in which Seller and Buyer are on opposing sides, and excluding the cost of arbitration under Section 18;
  - (c) actual costs of new reserve mine planning and special studies provided by employees of Seller or Affiliates of Seller not located at the Mine and specifically approved in advance by Buyer;
  - (d) actual costs of mine permitting, geologic support on drilling and modeling provided by employees of Affiliates of Seller not located at the Mine, and specifically approved in advance by Buyer; and
  - (e) labor cost and related taxes and fringe benefits for employees of Seller and Affiliates of Seller who are not located at the Mine but whose labor and associated benefit costs are properly charged directly to the Mine with Buyer's advance approval.
- (d) Capital Charge. Buyer shall pay to Seller an amount equal to [\* \* \*] of the sum of (i) Seller's Invested Capital and (ii) the unamortized/undepreciated amount of Development Period Costs (the "Capital Charge"). The Capital Charge shall be paid Monthly by Buyer and shall be included in the invoices provided for in Section 8.1.

### 7.3. Payment of Post-Mining Reclamation Costs During the Post-Production Period

Seller shall first pay Post-Mining Reclamation Costs out of the Reclamation Account. In the event that the Reclamation Account does not contain sufficient funds to obtain the release of the Mine reclamation bond from the North Dakota Public Service Commission, Buyer shall promptly pay to Seller the additional required Post-Mining Reclamation Costs, including all costs and expenses of demobilization, equipment modification and employee relocation. In the event that funds remain in the Reclamation Account after final release of the Mine reclamation bond from the North Dakota Public Service Commission, Seller shall promptly pay such remaining funds to Buyer. Seller shall not require Buyer to pay Seller any profit for services performed by Seller in final mine closing and reclamation during the Post-Production Period.

\* \* \* Confidential Treatment Requested



**Section 8. Billing and Payment; Audit True-Up**8.1. Monthly Invoices

- (a) On or before the tenth (10<sup>th</sup>) Day of each Month, Seller shall furnish Buyer with a written invoice which sets forth the amount due Seller under Section 7 for the immediately preceding Month. The Monthly invoices shall be in such form and detail as reasonably requested by Buyer and shall list the quantity of lignite delivered to the Delivery Point. Seller shall furnish promptly evidence substantiating the invoice as Buyer may reasonably request.
- (b) Buyer shall pay Seller the amount of such invoice within ten (10) Days of Buyer's receipt of the same by wire transfer to an account designated by Seller in writing in immediately available federal funds.
- (c) If Buyer disagrees with the amount of any invoice, Buyer shall immediately notify Seller of such disagreement so that the difference may be resolved before the date payment for such invoice is due. If Buyer fails to give such notification, or if Buyer and Seller determine the invoiced amount is correct or that another amount is correct before the date payment is due, such invoice shall be paid in full or in the amount agreed as correct by Buyer and Seller. If Buyer gives such notification and Buyer and Seller do not resolve such disagreement before the date payment is due, Buyer shall pay the amount of the invoice on the date payment is due. If Buyer and Seller are not able to resolve the dispute within thirty (30) Days following the date on which the disputed payment was due, the Parties shall resolve the dispute by arbitration pursuant to the provisions of Section 18. Payment or payments under this Section 8 shall not be deemed a waiver of any rights of Buyer to have the invoice hereunder corrected or an appropriate credit applied to the next Monthly invoice following the determination of the amount of any credit due to Buyer.
- (d) In the event that Buyer fails to timely pay an invoice in full, interest shall accrue Monthly on the unpaid balance at a rate equal to the lesser of (i) the Prime Rate plus one percent or (ii) the maximum rate permitted by Applicable Laws.

8.2. Audit True-up

- (a) In the event that the Audit conducted pursuant to Section 12.2, or any other audit conducted by Buyer, results in a Buyer determination that the Compensation paid hereunder was incorrect, Buyer shall promptly notify Seller in writing. Such notice shall include the amount by which the Compensation was incorrect and shall describe in reasonable detail the basis for Buyer's determination.
- (b) Within thirty (30) days of receipt of a Buyer notice pursuant to Section 8.2(a), Seller shall notify Buyer whether Seller agrees or disagrees with Buyer's determination. If Seller agrees, Buyer shall promptly pay to Seller the amount of any shortfall in Compensation or Seller shall promptly reimburse to Buyer any excess Compensation that has been paid to Seller, as the case may be. If Seller disagrees, Buyer and Seller shall for a period of thirty (30) days from the date of Seller's notice of disagreement attempt to resolve the dispute. If such dispute is so resolved, the appropriate Party shall promptly pay the other Party the amount due. If such

dispute is not so resolved, the Parties shall resolve the dispute by arbitration pursuant to Section 18.

- (c) Buyer shall not make any claims under Section 8.2(a) related to any Compensation that was paid more than two (2) years prior to the delivery of the relevant Audit or Buyer audit.

## Section 9. Adjustment of Adjustable Amounts

The CapX Cap, the Development Fee, the Agreed Profit, the Cap Amounts and the Operating Contract Threshold (the "Adjustable Amounts") are expressed in 2011 dollars and are subject to adjustment as follows:

- (a) Beginning on April 1, 2013, the Adjustable Amounts shall be increased or decreased, as appropriate, as of January 1, April 1, July 1 and October 1 of each Year in the same percentage by which (x) the first published value of the CPI-U Index for the third Month immediately preceding such January 1, April 1, July 1 or October 1 under consideration is greater or less than (y) the first published value of the CPI-U Index for June 2011 (which is 225.722, on the base 1982-1984 = 100). Such increased or decreased Adjustable Amounts shall be effective as of such January 1, April 1, July 1 or October 1 adjustment date and shall be included in the next Monthly invoice following such adjustment date, and any additional payment to be made by Buyer or refund to be made by Seller shall be made accordingly. An example calculation of such year-end adjustment is set forth in Exhibit C. If any adjustment made pursuant to this Section 9(a) is based upon a first published CPI-U Index figure that is subsequently revised, there shall be no further adjustment of such amount on the basis of such revision.
- (b) If at any time during the Term either Party reasonably believes that the CPI-U Index (or any index substituted therefor in accordance with the following provisions) does not reflect the true change in the price level of consumer goods and services in the United States, then upon the written request of either Party, Buyer and Seller shall undertake good faith negotiations to determine and agree upon a substitute index or method whereby such change in the price level of consumer goods and services in the United States can be determined. When and if such substituted index or method has been determined and mutually agreed upon, the same shall be substituted and put into effect commencing at a time mutually agreed upon by Seller and Buyer. If the CPI-U Index or any substitute index is changed in the future to use some base other than the base of 1982-1984 = 100, for the purposes hereof, the CPI-U Index or any substitute index, as the case may be, shall be adjusted so as to be in correct relationship to the base of 1982-1984 = 100, or some other alternative base which is mutually agreed by Buyer and Seller. If publication of the CPI-U Index or any substitute index is no longer made by any United States agency, the index to be used shall be that index agreed to by the Parties which after any necessary adjustment provides the most reasonable substitute for the CPI-U Index. If within ninety (90) Days the Parties cannot agree upon a substitute index, the matter shall be resolved by arbitration pursuant to Section 18.

## Section 10. Insurance

### 10.1. Seller's Insurance

- (a) Seller shall obtain and maintain insurance, of such available types, limits, coverages and amounts and with such insurance carriers and agents as approved by Buyer, applicable to the Mine, equipment and property at the Mine, the operation of the Mine or operations incidental



to the Mine and personnel at the Mine or utilized in connection therewith. Such insurance shall include, but shall not be limited to, public liability, contractual liability (including contractual liability for this Agreement), fire insurance with extended coverage and additional extended coverage, insurance covering physical damage to the Mine's facilities, pollution/environmental insurance, and workers' compensation insurance as required by Applicable Law. Such insurance shall provide for deductible amounts that are not greater than then-current NACoal policy deductible amounts and limits that are not less than then-current NACoal policy limits, provided that Buyer may direct Seller to secure a separate Seller policy for workers' compensation insurance with deductible amounts at such levels Buyer deems appropriate. Upon mutual agreement of the Parties, insurance coverages and limits may be reviewed and adjustments made no more frequently than biannually to reflect changes in insurance, operational or regulatory conditions.

- (b) Seller's insurance required in this section shall be primary and not contributing with any insurance maintained by Buyer.
- (c) Seller's insurance policies shall contain a provision whereby the insurance carrier will notify Buyer at least thirty (30) Days prior to the effective date of cancellation, or nonrenewal in any of such policies for any reason except for nonpayment of premium in which case at least ten (10) Days prior notice of cancellation or nonrenewal will be provided to Buyer. In the event of reduction in coverage, replacement or cancellation, Seller shall, if directed by Buyer, use its reasonable best efforts at Buyer's direct cost, to obtain equivalent coverage to replace the policies so reduced or canceled.

#### 10.2. Subcontractor's Insurance

To the extent Seller utilizes any contractors or subcontractors at the Mine, Seller shall require that all of its contractors, subcontractors and any Affiliates thereof engaged in work on or for the Mine comply with the applicable workers' compensation laws of the State of North Dakota and maintain such other available insurance as Buyer reasonably deems advisable. Seller and Buyer shall periodically communicate on and agree to the types of insurance coverage that Seller is requiring its subcontractors to obtain. Seller assumes all responsibility and liability for any subcontractor Seller contracts to perform services, except to the extent a liability is payable by Buyer under Section 7 or Section 15.8(b).

#### 10.3. Each Utility as Additional Insured or Loss Payee

Each Utility shall be added as an additional insured or loss payee, as applicable (unless otherwise prohibited by Applicable Laws), as to all insurance (except workers' compensation insurance) acquired by Seller pursuant to this Agreement. Seller and its insurer shall waive rights of subrogation against each Utility or their Affiliates.

#### 10.4. Evidence of Insurance

Seller shall furnish Buyer with satisfactory evidence that Seller's insurance required by this Section 10 is being properly maintained and shall furnish Buyer with copies of all policies, waivers of subrogation, certificates of insurance, endorsements and riders (certified by the insurer where appropriate).

### **Section 11. Sampling and Analysis; Weights**

### 11.1. Sampling and Analysis

11.1.1. All sampling, sample preparation and analysis of lignite shall be performed in accordance with this Section 11. The quality of lignite delivered by Seller to Buyer shall be determined by analyses of samples taken by Buyer once Daily (each Day, a "Sampling Period") at a time and a location mutually agreed to by the Parties, which time and location shall be intended to result in samples that are fairly representative of the lignite delivered during the Day in which the samples are taken. Buyer shall collect representative samples by means of a mechanical belt sampling system to be operated and maintained by Buyer (the "Sampling System").

11.1.2. The design and operation of the Sampling System and the procedures used for sample preparation shall meet standards to be mutually agreed to by the Parties. The Sampling System shall be enclosed to minimize moisture loss. If necessary due to the design and operating standards agreed by the Parties, Buyer and Seller shall mutually agree on commercially reasonable modifications of Plant and Mine procedures and equipment.

11.1.3. All sample increments collected shall be designed to cut the full stream of lignite presented during the period in which such sample increments are collected. The values of current measurements of Sampling System cutter openings, cutter frequencies, cutter velocities, belt velocities and sample flow rates shall be made available by Buyer to Seller upon request and shall be reasonably acceptable to Seller.

11.1.4. Buyer shall monitor the sampling ratio of the Sampling System in accordance with standards mutually agreed to by the Parties. Buyer shall make the sampling ratio data available to Seller upon request.

11.1.5. Prior to any modification to the Sampling System, Buyer shall submit design drawings, specifications and sample extraction parameters for the new or modified Sampling System to Seller for its approval, which shall not be unreasonably withheld.

11.1.6. In the event that the Sampling System ceases to operate properly, Buyer shall immediately notify Seller of such cessation and Buyer's intended course of action to remedy such cessation as soon as reasonably practicable. If the Sampling System malfunctions during the delivery of lignite under this Agreement, the weighted average of the sample analyses successfully taken during the previous seven consecutive Sampling Periods when the Sampling System was properly operating shall be used for those Sampling Periods where the Sampling System was not properly operating.

11.1.7. Using an enclosed riffle and following the mutually agreed ASTM standards, Buyer shall divide the sample size into two laboratory sample splits, with each weighing a minimum of 2,000 grams. Each sample split shall be placed in suitable airtight containers and used as follows:

- (a) Buyer shall cause split one to be transported to and analyzed by a laboratory designated by Buyer.
- (b) Split two of each sample shall be used for referee purposes. If referee analysis is required, the referee's expenses shall be borne by the Party calling for the referee sample.
- (c) Split two of each sample shall be properly identified and stored by Buyer for a period of not less than one Month after the receipt of the analytical results of split one.

11.1.8. For lignite deliveries for which a sample is not available or for which a sample is agreed by Buyer and Seller to be incorrect, the weighted average of the sample analyses successfully taken during the previous seven Sampling Periods when the Sampling System was properly operating shall be utilized.

11.1.9. All third-party analyses of lignite samples shall be in accordance with the mutually agreed ASTM standards. The designated laboratory shall also participate in round-robin testing of lignite coals with other laboratories to verify its sample preparation and analysis procedures. Buyer or Seller may also, from time to time, submit blind samples to the designated laboratory for analysis and verification of accuracy and repeatability at the sole cost of the submitting Party. If the round-robin testing or blind samples of lignite indicate that the analytic results of the designated laboratory are inconsistent with or do not conform to ASTM repeatability standards, the Parties shall designate another laboratory mutually agreed to by the Parties.

## 11.2. Analytical Results

The laboratory analyzing any sample shall electronically deliver the results of its analysis simultaneously to both Buyer and Seller. The results of the analyses performed by the designated laboratory on split one of the samples shall be binding on the Parties and shall be deemed to represent the quality of the lignite delivered hereunder, unless one Party notifies the other in writing of a dispute concerning such analysis within thirty (30) Business Days after receipt of the designated laboratory's analysis of split one. If the analysis of split one is disputed, split two shall be analyzed and the quality characteristics of split two shall be deemed to represent the definitive quality characteristics of the lignite delivered during the Sampling Period covered by splits one and two.

## 11.3. Weighing

- (a) The weight of the lignite delivered to Buyer from the Mine shall be determined on scales utilized by Buyer at the Plant site on the Effective Date. If Buyer elects to replace its existing scale, Buyer and Seller shall mutually agree to the design, selection and installation of the replacement scale(s).
- (b) The scales shall be maintained and calibrated in accordance with the manufacturer's recommended standards, and shall be calibrated on a regular basis agreed by the Parties and maintained within design tolerance. Each Party shall have the right to have a representative present at any and all times to observe the testing and calibration of the scale(s).
- (c) Seller shall have the right to install a check scale on Buyer's conveyor belt(s) at Seller's expense and, if Seller so installs a check scale, Seller shall be obligated to operate, maintain and calibrate such check scale in accordance with the manufacturer's recommendations and otherwise as agreed by the Parties.
- (d) The weights determined pursuant to Section 11.3(a) shall be used to determine the total Tons of lignite delivered each Month under this Agreement. The total Tons of lignite delivered to Buyer each Month so determined shall be accepted as the quantity of lignite for which invoices are to be rendered and payments made in accordance with Section 8.
- (e) Seller shall be given a record of all weight determinations made by Buyer. Buyer shall perform an initial materials weight test within one Year of the Production Date and thereafter shall perform materials weight tests at least every five Years, and shall directly pay the costs thereof. If either Party at any time questions the accuracy of the scales, such Party may request a

prompt test and adjustment of such scales by utilizing a materials weight test, the procedures for which the Parties shall mutually agree. The Parties shall split all costs of any such materials weight test unless the scale is found to be in error in excess of the manufacturer's accuracy tolerances. If the scale is found to be in error, the Party owning/maintaining the scale shall pay all costs of the test. If a test reveals error in weight in excess of the manufacturer's specified tolerances, the scale shall be adjusted to an accurate condition, and an appropriate retroactive adjustment shall be made in the invoices and payments affected by such inaccuracy; provided, however, no such adjustment shall be made for a period in excess of the lesser of (i) one half (1/2) of the period since the date that either Party first questioned the accuracy of the weights and the date of the last regularly scheduled test of the scales, or (ii) three Months.

## Section 12. Records and Audits

### 12.1. Records and Documentation

Seller agrees to maintain adequate books, payrolls and records satisfactory to Buyer in connection with any and all work performed hereunder, including, but not limited to, the verification of all provisions under this Section 12. Seller further agrees to retain all such work records for a period of not less than seven Years after completion of such work.

### 12.2. Annual Audit

Annually, Seller shall have an audit (the "Audit") of its accounts relating to its operations hereunder. The Audit shall include the preparation of separate financial statements of Seller. Such Audit shall be conducted by an independent firm of certified public accountants retained by Seller in its normal course of business.

- (a) Seller shall endeavor to cause the certified public accountants to treat as confidential any and all proprietary information (including auditors' work papers) furnished to or examined by them in connection with audit work performed.
- (b) The cost of the Audit shall be included in the Cost of Production as provided in Section 7.2(a)(i).
- (c) Seller shall deliver copies of the Audit report and financial statements of Seller in reasonable detail and certified by an independent firm of certified public accountants and any other outside audits approved in advance and paid for by Buyer as soon as such are available.
- (d) All audit exceptions, payment corrections, or other matters identified in audits or reviews of books and records shall be resolved by mutual agreement of the Parties, and corrections, credits or additional charges shall be included in the next regular Monthly invoice.

### 12.3. Periodic Inspections

- (a) Buyer shall, upon reasonable notice and in accordance with the requirements of Applicable Law, be afforded complete access to the Mine and to copies of any of Seller's accounting and financial records, exploration data, geologic assessments, environmental and permitting materials, engineering studies, surveys, operational and maintenance records, reports, financial summaries, Reclamation Account Documentation and any other documents

applicable to or associated with the Mine or the performance by Seller of its obligations under this Agreement, subject to any Applicable Laws or Seller policies regarding employee records. Prior to entering the Mine site, any Buyer's representative shall check in with appropriate personnel at the entrance to the Mine site and access shall be allowed unless Seller determines such access would interfere with or disrupt Seller's performance hereunder, in which case access shall be granted as soon as practicable thereafter. Such inspection shall not be for any purpose or reserved right of controlling the methods and manner of the performance of the work by Seller under this Agreement, but shall be to assure Buyer that Seller is performing its obligations under this Agreement.

- (b) Seller agrees to maintain adequate books, payrolls and records satisfactory to Buyer in connection with work performed and payments made by Seller under this Agreement. Buyer and its duly authorized representatives shall have access at all reasonable times to the books, payrolls, records, correspondence and personnel of Seller relating to any of the work performed hereunder for the purpose of auditing and verifying the amounts charged by Seller or for any other reasonable purpose including, but not limited to, compliance by Seller with any of the terms and provisions of this Agreement.

### Section 13. Force Majeure

#### 13.1. General

If either Party is rendered unable, wholly or in part, by Force Majeure (as hereinafter defined) to carry out any of its obligations under this Agreement, and if within five (5) Business Days after the Party experiencing a Force Majeure is aware of the occurrence of such Force Majeure provides notice, including a detailed explanation of such Force Majeure, to the other Party, then the obligations of the Party giving such notice shall be suspended to the extent made necessary by such Force Majeure from the inception of the Force Majeure and during its continuance, but for no longer. The Party giving such notice shall diligently use its best efforts to eliminate the cause and effect of such Force Majeure insofar as possible with all reasonable dispatch. Any deficiencies in the production or delivery of lignite hereunder caused by Force Majeure shall not be made up under the provisions of this Agreement except by mutual agreement. No such event of Force Majeure shall excuse, alter or diminish the obligation of Buyer to make the payments provided for in Section 7 in accordance with Section 8. Notwithstanding anything to the contrary herein, this Agreement may, subject to Section 16.3, be terminated by Buyer if a Force Majeure affecting Seller and its effect are not eliminated within thirty (30) months from inception of such Force Majeure.

#### 13.2. Definition

The term "Force Majeure" as used in this Agreement shall mean any and all causes beyond the reasonable control of the Party failing to perform, such as acts of God, strikes or other industrial disturbances, material shortages, labor organizing efforts, acts of the public enemy, wars, blockades, insurrections, riots, acts of terrorism, epidemics, pandemics, landslides, adverse geological or hydrological conditions, faults in lignite seams, lightning, hurricanes, tornadoes, earthquakes, fires, storms, floods, washouts, major breakdowns of or damage to Plant or Mine facilities (including haul roads between the Mine and the Plant), Plant or Mine equipment, interruptions to or contingencies of transportation, orders or acts or refusals to act by a governmental, military or civil authority (including without limitation, interruptions, whether by action or inaction, by federal, state or local governments or court orders, present and future, or acts or failures to act of any Governmental Entity having proper jurisdiction) and any other causes, whether of the kind herein enumerated or otherwise, beyond the reasonable control of the Party failing to perform, that wholly or partly



prevent the mining, producing, processing and delivering of the lignite by Seller or the receiving and/or utilizing of the lignite by Buyer. The settlement of strikes or industrial disputes or disturbances or the resolution of labor organizing efforts shall be entirely within the discretion of the Party whose employees are affected, and the above requirement that any Force Majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes or the resolution of labor organizing efforts by acceding to the demands of the opposing party therein when such course is inadvisable in the discretion of the Party having the difficulty. A decrease in or lack of demand for electricity from Plant shall not constitute Force Majeure.

### 13.3. Replacement Fuel During a Force Majeure Affecting Seller

Seller shall use reasonable best efforts to identify and arrange for the sale to Buyer of replacement fuel meeting the Quality Requirements during the continuance of a Force Majeure which prevents Seller from delivering lignite to Buyer. Buyer shall be solely responsible for the costs of identifying, arranging for the sale to Buyer of, and paying for, all such replacement fuel.

## Section 14. Acquisition of Additional Reserves; Sales to Heskett Station; Sales to Third Parties

### 14.1. Acquisition of Additional Reserves

Seller shall have the exclusive right to acquire additional reserves in the South Beulah Area of Interest. Buyer agrees that it and its Affiliates shall not acquire any interest in real property or minerals in the South Beulah Area of Interest during the Term, without Seller's prior written consent.

### 14.2. Sales to Heskett Station

Seller shall have the right to sell lignite from the South Beulah Area of Interest to Montana-Dakota or its Affiliates for use at the Heskett Station generating facility near Mandan, North Dakota ("Heskett Sales"). Any Heskett Sales shall be made on terms agreed to by Buyer, Seller and Montana-Dakota, with Seller receiving its Costs of Production, Capital Charge and Agreed Profit on all Tons sold in Heskett Sales.

### 14.3. Sales to Third Parties By Seller

In addition to the right to make Heskett Sales as provided in Section 14.2, Seller shall have the right to sell lignite from the South Beulah Area of Interest to third parties. Prior to making any such sales, (i) Seller shall deliver to Buyer evidence that third-party sales proposed by Seller shall not prevent Seller from performing its obligation to deliver lignite to Buyer hereunder and (ii) Seller and Buyer shall promptly meet to determine the sales price of such lignite and the manner in which the proceeds from such sales will be split between Seller and Buyer.

### 14.4. Seller Contributions to the Reclamation Account

In the event that Seller sells lignite from the South Beulah Area of Interest in Heskett Sales or to third parties, Seller shall (a) determine the amount of Post-Mining Reclamation Costs that are attributable to such sales in accordance with the terms of Section 5.3.1, (b) deposit such amount from the proceeds of such sales into the Reclamation Account within ten Days of receipt of the purchase price of the lignite so sold and (c) use the funds held in such account solely for purposes of performing final Mine closure and reclamation during the Post-Production Period.



#### 14.5. Sales to Third Parties By Buyer

Buyer shall have the right to resell lignite purchased from Seller for use at the Plant to third parties. In the event that Buyer resells lignite to third parties, Seller shall be paid the Compensation payable under this Agreement for the Tons to be resold, and Buyer shall retain the additional profit, if any, on such Tons when they are resold.

#### 14.6. Termination of Right to Make Third-Party Sales

Unless otherwise agreed to by Buyer and Seller, neither Buyer nor Seller may commit to sell, or sell, lignite from the South Beulah Area of Interest to third parties or as Heskett Sales with a delivery date after December 31, 2040 or such later date to which the Production Period shall have been extended in accordance with Section 2.1(f).

### **Section 15. Defaults; Remedies**

#### 15.1. Seller Default

For the purposes of this Agreement, any one of the following events is a “Seller Default”:

- (a) if there exists at any time more than six months after the Production Date, and for any reason attributable to Seller (excluding Force Majeure), any shortfall in delivered Tons of lignite that is more than thirty percent (30%) of the Tons required to be delivered hereunder during the immediately preceding six-month period;
- (b) Seller, without Buyer's consent, fails to perform any of its other obligations hereunder in any material respect, and Seller's failure continues for a period of 30 days after written notice detailing the failure is provided by Buyer to Seller (provided that the 30-day period shall be extended to up to six months if Seller is pursuing diligently a cure of the failure and it cannot be cured within the 30-day period);
- (c) Seller or NACoal commences a voluntary case under any chapter of the United States Bankruptcy Code or consents to (or fails to contest in a timely manner) the commencement of an involuntary case against Seller or NACoal under the United States Bankruptcy Code;
- (d) the insolvency of Seller or NACoal (other than as a result of Buyer withholding of payment of undisputed charges);
- (e) the filing of a voluntary or involuntary petition in bankruptcy with respect to Seller or NACoal;
- (f) the appointment of a receiver or trustee for the benefit of creditors of Seller or NACoal; and
- (g) the execution by Seller or NACoal of an assignment for the benefit of creditors.

In the event that Seller delivers Tons of Non-conforming Lignite, such Tons shall not count as delivered Tons during the relevant period for purposes of the Tonnage shortfall calculation described in Section 15.1(a).

#### 15.2. Buyer's Rights Upon a Seller Default; Limitations



- (a) Buyer shall have the right to terminate this Agreement upon the occurrence of a Seller Default by delivery of written notice of termination to Seller, subject to Buyer's obligations under Section 16 and shall be entitled to seek actual damages against Seller that directly result from such Seller Default.
- (b) Notwithstanding anything to the contrary herein, Buyer shall not have the right to exercise its rights under Section 15.2(a) if a Seller Default of the nature described in Section 15.1 has occurred and is continuing as a result of any of the following:
  - (i) any failure by Buyer to carry out its obligations under this Agreement; or
  - (ii) any failure by Buyer to pay to Seller any sum due Seller from Buyer pursuant to this Agreement; or
  - (iii) a reasonable difference between Seller and governmental authorities as to the interpretation of Applicable Laws, impossibility of compliance therewith, or Buyer's consent to non-compliance therewith.

### 15.3. Buyer's Release of Seller

Seller is hereby released from any and all damages or other remedies available to Buyer hereunder or otherwise to the extent that Seller is unable to deliver the required quantity and/or quality of lignite in accordance with the terms of this Agreement as a result of a modification to the Life-of-Mine Plan, any Annual Mining Plan, or Seller's other operations at the Mine proposed by Buyer and to which Seller disagreed, including, without limitation, as may occur under Section 5.2.1(b) and Section 5.2.3(c).

### 15.4. Buyer Default

For the purposes of this Agreement, any one of the following events is a "Buyer Default":

- (a) Buyer fails to timely pay Seller the full amount of any invoice or other amount due under this Agreement that is not the subject of a bona fide dispute; and
- (b) Buyer, without Seller's consent, fails to perform any of its other obligations hereunder.

### 15.5. Default by a Buyer

Within thirty (30) Days of the occurrence of a Buyer Default with respect to any Utility, notwithstanding anything to the contrary herein, the non-defaulting Utilities shall remedy such default by rendering the necessary performance or advancing the necessary funds, with each non-defaulting Utility contributing to the cost of such remedy in the ratio that its ownership share in the Plant bears to the total ownership shares of all non-defaulting Utilities.

### 15.6. Remedy of Seller Upon Buyer Default

- (a) Upon the failure of the non-defaulting Utilities to timely cure a Buyer Default as permitted in Section 15.5, Seller, in its discretion may suspend its performance hereunder until such event of Buyer Default is cured or may terminate the Production Period and this Agreement, in which event the Production Period and this Agreement shall terminate on the dates specified in a written termination notice from Seller to Buyer. If Seller elects to terminate the Production

Period and this Agreement, Buyer shall be required to purchase Seller's Membership Interests as described in Section 16.3 of this Agreement.

- (b) Seller shall be entitled to seek actual damages against Buyer that directly result from (i) a Buyer Default or (ii) any bankruptcy or insolvency of any Utility which results in any losses by Seller, including, without limitation, payment failures by Buyer or events related to such bankruptcy or insolvency that affect Seller's ability to perform its obligations hereunder. Buyer and each Utility agree not to assert or pursue, and hereby prospectively waive any, claim it may have against Seller in connection with Buyer or Utility losses that relate to a Utility bankruptcy or insolvency that impairs Seller's ability to perform its obligations hereunder.

15.7. Limitations on Seller's Rights Under Section 15

Notwithstanding anything to the contrary contained in this Section 15, Seller shall not have the right to exercise its rights under Section 15.6 if a Buyer Default of the nature described in Section 15.4 has occurred and is continuing as a result of any failure by Seller to carry out its obligations under this Agreement.

15.8. Indemnification for Gross Negligence or Willful Misconduct; Limitation of Liability

- (a) Seller shall indemnify, hold harmless and defend Buyer, its successors and assigns and Affiliates of Buyer, from and against any liability, damage and loss, including, without limitation, reasonable attorneys' fees and expenses, paid or incurred by any of them ("Buyer Losses") for bodily injury (including death) or property damage (including, but not limited to, loss of use thereof), in each case, directly caused by the gross negligence or willful misconduct of Seller; provided, however, that (i) Buyer shall first seek recovery of Buyer Losses under any applicable insurance maintained by or for the benefit of Seller prior to seeking recovery against Seller, (ii) Seller shall have an indemnification obligation to Buyer only to the extent Buyer is unable to recover Buyer Losses under such insurance and (iii) in no event shall Seller's indemnification obligations in supplement to or in lieu of Buyer's actual recovery against applicable insurance (A) in respect of all Buyer Losses in any Year exceed \$1,000,000 or (B) in respect of all Buyer Losses in the aggregate during the Term exceed \$5,000,000.
- (b) Buyer shall indemnify, hold harmless and defend Seller, its successors and assigns and Affiliates of Seller, from and against any liability, damage and loss, including, without limitation, reasonable attorneys' fees and expenses, paid or incurred by any of them ("Seller Losses") for bodily injury (including death) or property damage (including, but not limited to, loss of use thereof), in each case, directly caused by the gross negligence or willful misconduct of any Utility; provided, however, that (i) Seller shall first seek recovery of Seller Losses under any applicable insurance maintained by or for the benefit of any Buyer prior to seeking recovery against Buyer, (ii) Buyer shall have an indemnification obligation to Seller only to the extent Seller is unable to recover Seller Losses under such insurance and (iii) in no event shall Buyer's indemnification obligations in supplement to or in lieu of Seller's actual recovery against applicable insurance (A) in respect of all Seller Losses in any Year exceed \$1,000,000 or (B) in respect of all Seller Losses in the aggregate during the Term exceed \$5,000,000.
- (c) The obligations in this Section 15.8 shall survive termination of this Agreement until such time as the North Dakota Public Service Commission has fully released the Mine reclamation

bond. These surviving obligations include indemnification for claims that arose prior to bond release, but were presented or made after bond release.

#### 15.9. Exclusive Remedies; Limitation on Damages

The remedies provided for in this Agreement are the exclusive remedies of the Parties for violation of the terms and conditions of this Agreement and the NACoal Guaranty, as permitted by Applicable Law. Each Party acknowledges that it is sophisticated, has been represented by counsel, does not have disproportionate bargaining power in respect of remedies and voluntarily agrees to the limitations on remedies herein. No Party shall seek, and each Party hereby waives the right to seek, and agrees to prevent its Affiliates from seeking, any other remedies, whether available at law, in equity or otherwise; provided, however, that Seller and Buyer shall each have the right to seek temporary or permanent injunctions in the event that a breach of this Agreement has occurred and the affected Party reasonably concludes that such breach cannot be adequately addressed by money damages. Each Party hereby agrees that only the actual damages suffered by a Party shall be sought and may be recovered. None of the following types of damages shall be sought or recovered: consequential damages, indirect damages, exemplary damages, punitive damages, replacement fuel costs (except as provided in Section 2.9(b)(iii) and Section 2.9(c)), replacement power costs, and all similar types of damages and remedies. In the event Buyer breaches Section 2.3 by utilizing any fuel for the Plant other than Seller's lignite, Buyer agrees that Seller shall be entitled to recover (a) its Agreed Profit over the remaining portion of the Term, excluding automatic extensions (assuming that Seller would have sold to Buyer 2,500,000 Tons annually), (b) the Cost of Production incurred by Seller before and after such breach, and (c) any amounts owed by Buyer in accordance with Section 7.3 and Section 15.8(b), as a measure of Seller's actual damages and as an exclusive remedy for such breach. The remedy set forth in the preceding sentence shall not apply in the event this Agreement terminates in accordance with Section 16.1 or Section 16.2.

### **Section 16. Certain Early Termination Events; Purchase of Seller's Membership Interests Upon Termination**

#### 16.1. Automatic Early Termination for Governmental Order or Applicable Law Directly Prohibiting Mining or Use of Lignite

In the event that any final, non-appealable Governmental Order or Applicable Law, of indefinite duration (excluding any Governmental Order that results in fees, penalties or assessments as referred to in Section 7.2(a)(i)(kk)), is adopted after the Effective Date that either: (a) directly prohibits the mining, processing, loading or delivery of lignite as contemplated under this Agreement or (b) directly prohibits the receiving, accepting, unloading or use of lignite at the Plant as contemplated by this Agreement, then, when such prohibition is final and non-appealable or the Applicable Law becomes effective, Buyer shall be required to purchase Seller's Membership Interests in accordance with Section 16.3, and this Agreement shall terminate.

#### 16.2. Early Termination by Buyer for Certain Governmental Order or Applicable Law

In the event that Buyer closes the Plant or switches the fuel used by the Plant to a fuel other than lignite for a continuous period of more than twenty-four (24) months in response to Governmental Orders or Applicable Laws that cause Buyer to conclude that further operation of the Plant or use of lignite as fuel for the Plant is economically unfeasible, Buyer shall have the right to terminate this Agreement effective on the date of such closure of the Plant or the first day of the Plant outage that accommodates the Plant's fuel

switch, at which time Buyer shall be required to purchase Seller's Membership Interests in accordance with Section 16.3.

### 16.3. Early Termination Buyout

16.31. In the event of a termination of this Agreement prior to the expiration of the Term or a termination of the Production Period prior to December 31, 2040, Buyer shall, or shall cause its affiliate to, promptly purchase Seller's Membership Interests pursuant to the terms and conditions of a purchase and sale agreement for an amount equal to the Equity Value (the "Early Termination Buyout").

16.32. In the event that a termination of this Agreement referred to in Section 16.3.1 occurs on or after January 1, 2024, Buyer's obligations under Section 16.3.1 shall be conditioned on NACoal simultaneously purchasing from Seller:

- (a) all of Seller's right, title and interest in its electric walking dragline(s) (the "Dragline") pursuant to the terms and conditions of a purchase and sale agreement for an amount equal to the then Net Book Value of the Dragline; and
- (b) all of Seller's right, title and interest in all mobile equipment used at the Mine, including without limitation dozers, scrapers, fuel and service trucks, shovels, haul trucks and loading equipment (the "Rolling Stock") pursuant to the terms and conditions of a purchase and sale agreement for an amount equal to the then Net Book Value of the Rolling Stock. If Seller's right, title and interest in the Rolling Stock is as lessee under a lease, the condition provided for in this Section 16.3.2(b) shall be satisfied if NACoal shall take an assignment of all of Seller's rights under such lease and NACoal shall assume and be responsible for all of Seller's obligations under such lease.

### 16.4. Mine Reclamation Obligations After Early Termination Buyout

In the event of an Early Termination Buyout, (a) Buyer shall own Seller and control the Reclamation Account, and shall cause Seller to complete mine closure and post-mining reclamation as required by Applicable Laws through final release of the Mine reclamation bond by the North Dakota Public Service Commission; (b) Buyer shall fund the cost thereof using funds from the Reclamation Account or provided by Buyer; (c) NACoal and its Affiliates shall have no obligation or liability related to final Mine closure and reclamation; and (d) Buyer shall indemnify and hold harmless NACoal and its Affiliates from and against any such obligation or liability.

### 16.5. Buyout at End of the Term

At the conclusion of the Term, after Seller has completed mine closure and all post-mining reclamation and the reclamation bond is released to Seller by the North Dakota Public Service Commission, and after Seller has recovered all costs related to its Invested Capital, Buyer shall be required to purchase Seller's Membership Interests pursuant to the terms and conditions of a purchase and sale agreement for an amount equal to the Equity Value.

### 16.6. Termination of NACoal Guaranty

In the event of any Early Termination Buyout (other than due to an event of Seller Default) or upon the buyout at the conclusion of the Term, the NACoal Guaranty shall terminate, except in respect of any

Seller obligations under Section 15, and NACoal shall have no other obligations on account of the NACoal Guaranty.

### **Section 17. Effect of Waiver**

Waiver by either Party of any breach by the other of any of the terms and provisions hereof or failure to exercise any option or right hereunder shall not be deemed to be a waiver of such breach, option or right on any other occasion of the same, nor a waiver of breach of any other term or condition nor a waiver of any other right to exercise any option or right.

### **Section 18. Arbitration**

#### **18.1. Disputes Subject to Arbitration**

Except as otherwise provided in this Agreement, any dispute between the Parties arising out of this Agreement for which the ultimate resolution is not expressly provided by this Agreement or for which arbitration is not expressly excluded shall be resolved by arbitration.

#### **18.2. Notice of Arbitration**

18.2.1. The Parties shall first make a diligent good faith attempt to resolve the dispute by mutual agreement. If a dispute has not been resolved within thirty (30) Days of being raised, the manager of the Mine and the manager of the Plant shall meet at least three times over a period of thirty (30) Days and shall attempt in good faith to resolve such dispute. If the dispute is not resolved by the managers, the chief executive officers of NACoal and Otter Tail (or the then-acting agent of the Utilities under the Plant Ownership Agreement if Otter Tail is not then so acting) shall meet at least two times over the immediately following period of thirty (30) Days and shall attempt in good faith to resolve such dispute. If the dispute is not resolved in either meeting, either Party may request arbitration by notice delivered to the other Party in writing within thirty (30) Days of the conclusion of the meetings of the chief executive officers. Such notice shall set forth in detail all claims to be arbitrated, and the amount(s) involved, if any. Such arbitration notice shall specify the position of the Party giving the notice in respect of each claim, the reasons therefor and the remedy sought in respect of each claim. Such arbitration notice shall be delivered to the other Party within one hundred twenty (120) Days of the date of the first knowledge of the claiming Party of the occurrence or conditions giving rise to the dispute. Any failure to request arbitration within such one hundred twenty (120) Day period shall be deemed a waiver of the right to arbitrate or litigate the dispute.

18.2.2. Within thirty (30) Days after an arbitration notice is received, the receiving Party shall by notice to the other Party specify its position in respect of each claim, the reasons therefor and the remedy sought in respect of each claim. All persons eligible to act as an arbitrator shall be disinterested persons qualified by experience to hear and determine the questions to be arbitrated, and if the nature of any such question shall so require, they shall be geologists or mining engineers experienced in the exploration for or mining of minerals under operating conditions similar to those which may be encountered in the South Beulah Area of Interest.

#### **18.3. Selection of Arbitrators and Arbitration Proceedings**

The dispute shall be arbitrated by a panel of three arbitrators meeting the criteria in Section 18.2.2, selected pursuant to the Commercial Arbitration Rules of the American Arbitration Association ("AAA Rules"). The arbitrators and Buyer and Seller shall complete hearings in Bismarck, North Dakota on the

matters to be arbitrated within sixty (60) Days after the appointment of the arbitrators. The arbitrators shall make such examinations and investigations as they may deem necessary and shall render their decision in writing within thirty (30) Days following such hearings. The sixty-day hearing period and the thirty-day decision period may not be extended by the arbitrators for any reason without the prior written consent of Seller and Buyer, which may be withheld by either of them in their sole and absolute discretion.

#### 18.4. Decision of the Arbitrators

The decision of the arbitrators shall be final and binding on the Parties, and judgment thereon may be entered in any court of competent jurisdiction. Except as herein otherwise specified, the arbitration shall be conducted pursuant to the AAA Rules in effect at the time of such arbitration and the cost and expense for the arbitration shall be shared equally between the Parties.

#### 18.5. Certain Matters Not Subject to Arbitration

Seller may not initiate arbitration challenging a Buyer determination, approval or disapproval that Buyer is entitled to make under the terms of this Agreement, including without limitation under Section 2.6 (Designation of Deliveries), Section 5.2 (Mining Plans), Section 6.2 (Buyer's Right to Replace Loans and Leases), Section 10 (Insurance) and Section 12.3 (Periodic Inspections), unless (a) Seller believes that any such Buyer determination, approval or disapproval is reasonably likely to be construed or interpreted in a fashion that would require Seller, in Seller's reasonable opinion, to violate any Applicable Laws or create the risk of injury to any person or physical or environmental damage to any property and (b) Buyer does not agree with Seller's opinion, in which case such a disagreement will be resolved by arbitration pursuant to this Section 18. During the pendency of such an arbitration, Seller will not be required to implement the disputed determination, approval or disapproval of Buyer.

#### 18.6. No Excuse of Performance

The existence of a dispute that has or may become the subject of an arbitration shall in no way excuse either Buyer or Seller from performing its obligations under this Agreement, and each of the Parties shall continue to perform in accordance with the terms of this Agreement irrespective of the existence of any such dispute.

### **Section 19. Representations and Warranties of Seller and the Utilities; Certain Covenants**

#### 19.1. Seller's Representations and Warranties

Seller represents and warrants to Buyer that (a) Seller is a limited liability company that is a direct wholly-owned subsidiary of NACoal existing under the laws of the state of Nevada and is qualified to do business in the state of North Dakota, (b) the execution and delivery of this Agreement by Seller and the performance of its obligations hereunder have been duly authorized by the member(s) of Seller, (c) neither the execution and delivery of this Agreement nor the performance of its obligations hereunder by Seller shall, or after the lapse of time or giving of notice shall, conflict with, violate or result in a breach of, or constitute a default under the limited liability company agreement of Seller or any Applicable Laws (including for purposes of this clause (c) the laws of the State of Nevada), or conflict with, violate or result in a breach of or constitute a default under any material agreement to which it is a party or by which it or any of its properties is bound, or any judgment, order, award or decree to which Seller is a party or by which it is bound, or require any approval, consent, authorization or other action by any court, governmental authority or regulatory body or any creditor of Seller or any other Person, other than issuance of permits for the Mine as required by



Applicable Laws, (d) this Agreement constitutes a valid and binding obligation of Seller and is enforceable against Seller in accordance with its terms, except as such enforceability may be limited by (i) applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting the enforcement of creditors' rights generally and (ii) general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law), and (e) there is no action, proceeding or investigation pending, or, to the best knowledge of Seller, threatened against it which individually, or in the aggregate, would impair in any material way Seller's ability to perform its obligations under this Agreement.

#### 19.2. Utilities' Representations and Warranties

Each Utility represents and warrants to Seller that (a) it is duly incorporated, validly existing and in good standing under the laws of its state of formation and is qualified to do business in the state of North Dakota, (b) the execution and delivery of this Agreement by it and the performance of its obligations hereunder have been duly authorized by all requisite corporate and, if applicable, municipal action, (c) neither the execution and delivery of this Agreement nor the performance of its obligations hereunder by it shall, or after the lapse of time or giving of notice shall, conflict with, violate or result in a breach of, or constitute a default under its certificate of incorporation or bylaws or any Applicable Laws (including for purposes of this clause (c) the laws of such Utility's state of formation) or conflict with, violate or result in the breach of or constitute a default under any material agreement to which it is a party or by which it or any of its properties is bound, or any judgment, order, award or decree to which it is a party or by which it is bound, or require any approval, consent, authorization or other action by any court, governmental authority or regulatory body or any creditor of such Utility or any other Person, (d) this Agreement constitutes a valid and binding obligation of such Utility and is enforceable against such Utility in accordance with its terms, except as such enforceability may be limited by (i) applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting the enforcement of creditors' rights generally and (ii) general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law), (e) there is no action, proceeding or investigation pending, or, to the best knowledge of such Utility, threatened against it which individually, or in the aggregate, would impair in any material way such Utility's ability to perform its obligations under this Agreement, and (f) no regulatory or governmental approval or filing of any kind is required for such Utility to execute and deliver this Agreement and perform its obligations under this Agreement.

#### 19.3. Non-Potable Water Supply

Buyer shall provide non-potable water to Seller from Buyer's ash pond to the extent available and not prohibited by Applicable Law. In connection therewith, Buyer hereby grants to Seller a license and such other access rights as may be needed to access and draw water from such ash pond during hours to be designated by Buyer. Seller shall use such water on the Mine site for mining purposes, including, without limitation, watering haul roads.

#### 19.4. Sole Purpose Entity

Seller's sole purpose is to mine, deliver and sell lignite to Buyer and to third parties and to make Heskett Sales as contemplated by Section 14, and to undertake other activities incident to such mining and sales. Seller shall not conduct any unrelated activities during the Term.

### **Section 20. Proprietary and Confidential Data; Press Releases and Public Disclosures**

#### 20.1. Proprietary and Confidential Data



- (a) Except as otherwise required under Applicable Laws, Buyer and Seller shall maintain as strictly confidential and not disclose to any third party nor use or exploit for any purpose other than the purpose of this Agreement, Confidential Information provided to the other Party, that is owned by the disclosing Party, licensed by the disclosing Party from a third party, or disclosed by the disclosing Party under this Agreement.
- (b) Each Party agrees to permit access to the Confidential Information of the other Party only by those employees, consultants, attorneys of the Parties and their Affiliates and their independent contractors who have a need to know and who have been informed that the Confidential Information is subject to confidentiality and non-use obligations under this Agreement and have confidentiality and non-use obligations with respect to the Confidential Information that are at least equivalent to those contained under this Agreement.
- (c) The provisions of this Section 20.1 shall not apply to Confidential Information that: (i) is in the receiving Party's possession before its receipt from the disclosing Party; (ii) is or becomes generally known to the public through no fault of the receiving Party; (iii) is rightfully received by the receiving Party from a third party without a duty of confidentiality; (iv) is hereafter independently developed by the receiving Party and the receiving Party can show that it did not utilize any information made available by the disclosing Party, as documented by the receiving Party's records; or (v) is disclosed by the receiving Party with the disclosing Party's express prior written approval.
- (d) In the event that Applicable Laws that affect any Utility require such Utility to submit the Agreement to a Governmental Entity, or a Utility determines that it is necessary or appropriate to produce the same in regulatory proceedings, such Utility shall promptly notify Seller of the Utility's obligation and afford Seller reasonable opportunity in advance of submission to redact any information therefrom which Seller deems to be sensitive commercial or proprietary information, including, without limitation, provisions related to Compensation, defaults, termination and indemnification. Seller shall promptly redact the Agreement and Buyer shall thereafter submit the Agreement as redacted by Seller with any additional redaction by Buyer.
- (e) The provisions of this Section 20.1 shall survive until ten (10) years after the conclusion of the Post-Production Period.

## 20.2. Press Releases and Public Disclosures

20.2.1. Seller and Buyer agree to provide the other with an opportunity to review and approve at least two Business Days in advance, where practicable, any press releases or images intended for public distribution regarding the operations or facilities at the Mine or the Plant, as the case may be.

20.2.2. Buyer agrees to provide Seller with an opportunity to review and approve at least fourteen (14) Business Days in advance any advertisements, technical papers and trade journal articles, including technical papers and trade journal articles that are to be presented at professional conferences, regarding the operations or facilities at the Mine.

20.2.3. Seller agrees to provide Buyer with an opportunity to review and approve at least fourteen (14) Business Days in advance any advertisements, technical papers and trade journal articles, including technical

papers and trade journal articles that are to be presented at professional conferences, regarding the operations or facilities at the Plant.

## **Section 21. Relationship of the Parties**

Buyer and Seller agree that in performing their obligations hereunder Seller shall be an independent vendor, and not the agent, servant or employee of Buyer. Nothing contained in this Agreement shall be construed to constitute or create a joint venture, trust, mining partnership, commercial partnership, fiduciary relationship or other relationship between Buyer and Seller whereby either Party would be liable for the acts and deeds of the other Party hereto. The obligations and responsibilities of Seller under this Agreement shall operate jointly in favor of the Utilities in proportion to each Utility's respective ultimate ownership share in the Plant. Buyer shall only be entitled to have Seller perform hereunder jointly for the benefit of all the Utilities, and no one Utility shall be entitled to any performance by Seller on its behalf separately.

The obligations, duties and responsibilities to Seller of each Utility under this Agreement shall be several and individual and not joint or collective, and nothing in this Agreement shall ever be construed to create an association, joint venture, trust or partnership, or impose a trust or partnership duty, obligation or liability on or with regard to any one or more Utilities. Except as otherwise specifically provided under this Agreement, each Utility shall be individually responsible for its own obligations under this Agreement. No Utility or group of Utilities shall be under the control of or shall be deemed to control any other Utility or Utilities as a group. The obligations, duties and responsibilities under this Agreement are assumed by each Utility in the same proportion as their respective ultimate ownership share in the Plant.

## **Section 22. Miscellaneous**

### **22.1. Action by Buyer**

In any instance when Buyer shall be unable to take action on any matter arising under this Agreement due to a lack of unanimous agreement among the Utilities, the concurrence of the Utilities holding the required percentage of the ownership shares in the Plant under the then-current Plant Ownership Agreement (or its equivalent if none is then in effect) shall be deemed to be the action of all the Utilities and shall be binding upon Buyer provided that such action shall have been taken at a meeting properly noticed in accordance with the Plant Ownership Agreement. In the event that such concurrence cannot be obtained and such failure does not effectively prohibit Seller from so performing, Seller shall continue to perform in accordance with the Annual Mining Plan then in effect.

### **22.2. Agent for Buyer**

The Utilities shall, in enforcing any right, giving any notice or taking any action under this Agreement, act jointly through Otter Tail who shall be deemed the agent for all of the Utilities for purposes of this Agreement. In addition, Seller may deal with Otter Tail as the representative of Buyer for any purpose in connection with this Agreement, and any notice given to Otter Tail in accordance with Section 22.12 shall be deemed to have been given to each Utility. Buyer may, at any time, replace Otter Tail as the agent for purposes of this Agreement with any one of the other Utilities in accordance with the provisions of the Plant Ownership Agreement, and by jointly giving Seller notice of such replacement in accordance with Section 22.12 of this Agreement.

### **22.3. Headings Not to Affect Construction; Gender; Counterparts**



The headings to the respective sections and paragraphs of this Agreement are inserted for convenience of reference, and are neither to be taken to be any part of the provisions hereof nor to control or affect the meaning, construction or effect of the same. As used herein, any gender shall include any other gender, the singular shall include the plural, and the plural shall include the singular, wherever appropriate. This Agreement may be executed in one or more counterparts, each of which, by facsimile or otherwise, shall be deemed an original, but all of which together shall constitute but one and the same original instrument.

#### 22.4. Entire Agreement

This Agreement and the exhibits hereto contain the entire agreement between the Parties hereto in respect of the subject matter hereof, and supersede all prior understandings or agreements between said Parties with respect to the subject matter hereof, including, for purposes of clarity, the Confidentiality Agreement between the Parties, dated August 12, 2011.

#### 22.5. Severability

The invalidity or unenforceability of any particular provision of this Agreement shall not affect the other provisions hereof unless it substantially and adversely affects the value of this Agreement to one of the Parties; and in the absence of any such substantial and adverse effect, this Agreement shall be construed in all respects as if such invalid or unenforceable provision were omitted.

#### 22.6. Expenses

Except as otherwise expressly provided in this Agreement, each Party shall pay its own expenses in connection with the authorization, preparation, negotiation, execution, and delivery of this Agreement, including, without limitation, all fees and expenses of agents, representatives, counsel and accountants.

#### 22.7. Attorneys' Fees

Should Seller or Buyer employ an attorney or attorneys to institute an arbitration proceeding pursuant to Section 18 or a legal proceeding against the other Party for the purpose of enforcing any of the provisions hereof or protecting its interest in any manner arising under this Agreement, the non-prevailing Party in any such proceeding (the finality of which is not legally contested) shall pay to the prevailing Party all reasonable costs, damages and expenses, including reasonable attorneys' fees, expended or incurred by such prevailing Party in connection with such proceeding; provided that the total amount so paid to the prevailing Party in respect of any such proceeding shall not exceed One Hundred Thousand Dollars (\$100,000).

#### 22.8. Preparation

This Agreement has been negotiated at arms' length, and each Party has had the opportunity to be represented by independent legal counsel in this transaction. Accordingly, each Party waives any benefit under any rule of law or legal decision that would require interpretation of any ambiguities in this Agreement against the Party drafting it.

#### 22.9. Exhibits

The exhibits referred to in this Agreement are hereby incorporated in this Agreement by this reference and constitute a part of this Agreement.

#### 22.10. Survival



All provisions of this Agreement that by their nature extend beyond the termination of this Agreement shall survive the termination of this Agreement and shall remain in effect until all obligations are satisfied, including without limitation, the Parties' remedies hereunder.

#### 22.11. Assignment

This Agreement shall inure to the benefit of and be binding upon the Parties hereto and their respective successors and permitted assigns; provided, however, this Agreement may not be assigned by Seller without the prior written consent of Buyer.

#### 22.12. Notices

- (a) Buyer and Seller each hereby appoint the authorized representative ("Authorized Representative") set forth in this Section 22.12 to receive and give notice on behalf of Buyer and Seller.
- (b) Any notice, required or permitted under this Agreement shall be in writing and shall be deemed to have been duly given when actually delivered to the Authorized Representative of Buyer or Seller (as hereinafter provided). All notices shall be delivered pursuant to the following information:  
Seller's Authorized Representative:

Coyote Creek Mining Company, L.L.C.  
2000 Schafer Street, Suite D  
Bismarck, North Dakota 58501-1204  
Attention: President  
Email: Jim.Melchior@nacoal.com

with a copy to:

The North American Coal Corporation  
5340 Legacy Drive  
Building 1, Suite 300  
Plano, Texas 75024  
Attention: Vice President, General Counsel and Secretary  
Email: John.Neumann@nacoal.com

Buyer's Authorized Representative:

Otter Tail Power Company  
215 South Cascade Street  
Fergus Falls, MN 56537  
Attn: Manager, Supply Services  
Email: shebert@otpc.com

Coyote Station  
6240 13<sup>th</sup> St SW  
Beulah, ND 58523-0339  
Attn: Plant Manager

Email: bzimmerman@otpc.com

- (c) For purposes of Section 22.12(b), notice shall be deemed to be “actually delivered” (i) when delivered personally to the Authorized Representative, (ii) when sent to the Authorized Representative by electronic mail if during normal business hours of the Authorized Representative, otherwise on the next Business Day, (iii) one Business Day after the date when sent to the Authorized Representative by reputable express courier service (charges prepaid), or (iv) seven Business Days after the date when mailed to the Authorized Representative by certified or registered mail, return receipt requested and postage prepaid. Such notices shall be sent to the address provided for the Authorized Representative pursuant to this Section 22.12 or to such other address as any Party hereto may, from time to time, designate in a notice delivered pursuant to the terms of this Section 22.12.
- (d) Each Party shall have the right to change its Authorized Representative by giving ten (10) Days advance written notice to the other Party.

#### 22.13. Amendments

Any modification or amendment of the terms and provisions of this Agreement shall be valid and effective only if and when made in writing and duly executed and delivered by the Parties. To the extent any amendments to this Agreement are necessary or appropriate by Buyer's exercise of its rights under Section 6.2 of this Agreement, the Parties shall negotiate in good faith to promptly amend this Agreement.

#### 22.14. Uniform Rounding Practice

The Parties agree that the Uniform Rounding Practice shall be used in making adjustments of the Adjustable Amounts.

#### 22.15. Governing Law

This Agreement shall be governed by, and construed and interpreted in accordance with the laws of the State of North Dakota without regard to its conflicts of laws principles. Any issue expressly identified in this Agreement as not being subject to arbitration shall be adjudicated in the state and federal courts with jurisdiction located in North Dakota.

***[Signatures on following page; remainder of page intentionally blank.]***

IN WITNESS WHEREOF, the Parties have executed this Lignite Sales Agreement as of the day and year first above written.

**COYOTE CREEK MINING COMPANY, L.L.C.**

By: /s/ James F. Melchior

Name: James F. Melchior

Title: President

Attest: /s/ John Neumann, Secretary

Name: John Neumann, Secretary

**OTTER TAIL POWER COMPANY**

By: /s/ Charles S. MacFarlane

Name: Charles S. MacFarlane

Title: President and CEO

Attest: /s/ Becky Luhning

Name: Becky Luhning

**NORTHERN MUNICIPAL POWER AGENCY**

By: /s/ Tom Larson

Name: Tom Larson

Title: President

Attest: /s/ Dalene Monsebroten

Name: Dalene Monsebroten

**MONTANA-DAKOTA UTILITIES CO.**

**a Division of MDU Resources Group, Inc.**

By: /s/ David L. Goodin

Name: David L. Goodin

Title: President & CEO

Attest: /s/ David Kuntz

Name: David Kuntz

**NORTHWESTERN CORPORATION**

**d/b/a NorthWestern Energy**

By: /s/ Robert C. Rowe

Name: Robert C. Rowe

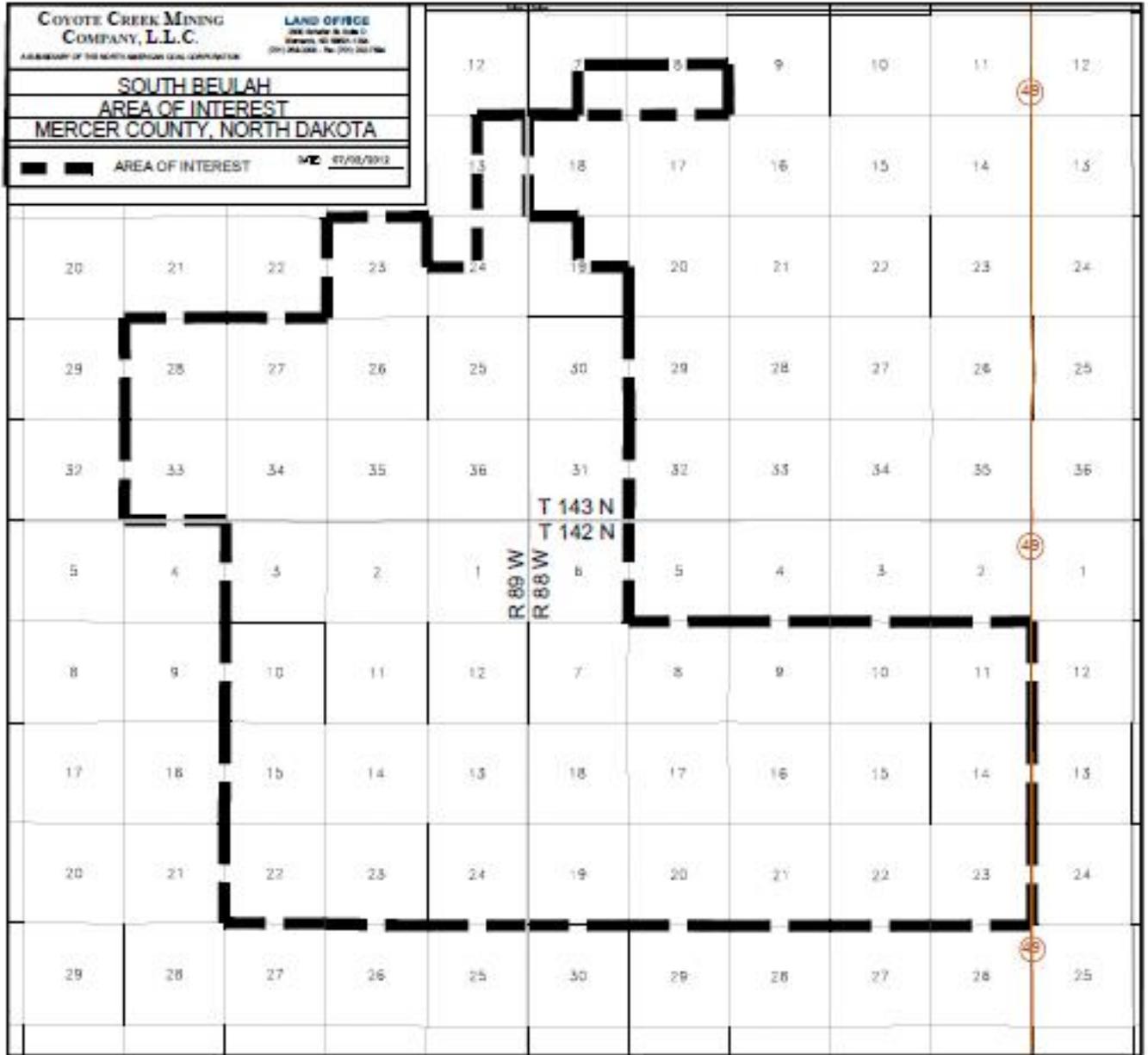
Title: President and CEO

Attest: /s/ Tamra F. Lydic

Name: Tamra F. Lydic

**EXHIBIT A**

**Map Depicting the South Beulah Area of Interest**



**EXHIBIT B****Form of NACoal Guaranty****GUARANTY**

1. Guaranty by The North American Coal Corporation. FOR VALUE RECEIVED, the sufficiency of which is hereby acknowledged, THE NORTH AMERICAN COAL CORPORATION, a Delaware corporation (“Guarantor”), does hereby unconditionally and absolutely guarantee, as a primary obligor and not merely as a surety, to OTTER TAIL POWER COMPANY, a Minnesota corporation (“Otter Tail”), NORTHERN MUNICIPAL POWER AGENCY, a political subdivision and municipal corporation of the State of Minnesota (“Northern Municipal”), MONTANA-DAKOTA UTILITIES CO., a division of MDU Resources Group, Inc., a Delaware corporation (“Montana-Dakota”) and NORTHWESTERN CORPORATION, a Delaware corporation doing business as NorthWestern Energy (“Northwestern” and, together with Otter Tail, Northern Municipal and Montana-Dakota, the “Owners”), and each of their successors and assigns (the Owners and their successors and assigns collectively referred to as “Principals”), the full and prompt payment and performance by COYOTE CREEK MINING COMPANY, L.L.C., a Nevada limited liability company (“Seller”), of each and every covenant, agreement and obligation of Seller (the “Obligations”) set forth in the Lignite Sales Agreement, dated as of October 10, 2012 (the “LSA”), by and between Seller and the Owners. This is a present and continuing guaranty of payment and performance of the Obligations and not of collection.

2. Amendment of the LSA. Guarantor acknowledges and agrees that the LSA may be amended and modified from time to time and that the performance of Seller thereunder may be modified or waived from time to time and that no such amendment, modification or waiver shall serve to limit, reduce or waive Guarantor's obligation hereunder as a primary obligor under the LSA as so amended or modified, whether or not Guarantor has received notice of such amendment, modification or waiver.

3. Certain Waivers. Guarantor waives presentment, demand, notice of dishonor, protest, notice of protest, nonpayment or default to Seller or Guarantor, and all other notices to which Guarantor may otherwise be entitled, other than notices to which Seller is entitled pursuant to the LSA. Guarantor hereby waives all surety defenses, except indefeasible payment and performance in full.

4. Direct Guaranty; Partial Performance. The liability of Guarantor under this Guaranty shall be direct and immediate and not conditional or contingent upon the pursuit of any remedies against Seller or any other person or entity. Guarantor irrevocably waives any and all rights to require that an action be brought against Seller or any other person or entity prior to action against Guarantor hereunder. If the Obligations are partially performed through the election of Principals to pursue any of the remedies mentioned herein or if any Obligation is otherwise partially performed, Guarantor shall remain unconditionally and absolutely liable for the entire cost of Principals' partial performance of the Obligations and the entire unperformed amount of any such Obligations.

5. Bankruptcy. The obligations of Guarantor under this Guaranty shall remain in full force and effect without regard to, and shall not be released, discharged or in any way modified or otherwise affected by any bankruptcy, insolvency, reorganization, arrangement, readjustment composition, dissolution, liquidation or similar proceeding with respect to Seller or the properties or the creditors of Seller or any action taken by any trustee or receiver or by any court in any such proceeding. Guarantor agrees to pay Principals' reasonable attorneys' fees incurred in successfully enforcing their respective rights under this Guaranty. Guarantor agrees that, if at any time all or any part of the payments theretofore applied by Principals from Seller to any

Obligation is rescinded or Principals are required to pay any amount thereof to any party due to the insolvency, bankruptcy, liquidation or reorganization of Seller or the determination that such payment by Seller is held to constitute a preference under the bankruptcy laws, such Obligation and/or Guarantor's liability hereunder shall, for the purposes of this Guaranty, be deemed to have been continued in existence to the extent of such payment, and this Guaranty shall continue to be effective or reinstated, as the case may be, as though such application by Principals had not been made and Guarantor agrees to pay such amount to Principals upon demand. Notwithstanding anything to the contrary in this Guaranty, Principals shall not have any rights under this Guaranty, and this Guaranty shall be void and of no force and effect, with respect to a Bankruptcy or the insolvency of Seller that directly results from a Principal's breach of any of its payment or other obligations under the Agreement.

6. Severability. In the event that any one or more provisions contained herein shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision hereof and this Guaranty shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

7. Duration; Setoff; Successors. Except for any settlement or compromise of the Obligations voluntarily entered into by Principals, or any of them, this is a continuing Guaranty until all Obligations have been extinguished, and Guarantor agrees, subject to the foregoing exception, that the obligations, covenants and agreements of Guarantor hereunder shall not be discharged, affected or impaired by any act, event or condition other than full performance and indefeasible payment in full of the Obligations; provided, however, that this Guaranty shall terminate and Guarantor shall be relieved of its obligations under the terms of this Guaranty to the extent provided in Section 16.6 of the LSA. Guarantor expressly waives any rights to setoff or subrogation. The provisions of this Guaranty shall be binding upon Guarantor and its successors and assigns, and shall inure to the benefit of Principals and their respective successors and assigns.

8. Representations and Warranties. Guarantor represents and warrants to Principals as follows:

- (a) Guarantor is a corporation duly organized and validly existing under the laws of the State of Delaware.
- (b) The execution and delivery of this Guaranty by Guarantor and the performance of its obligations hereunder have been duly authorized by Guarantor's Board of Directors.
- (c) Neither the execution and delivery of this Guaranty nor the performance of its obligations hereunder by Guarantor shall, or after the lapse of time or giving of notice shall, conflict with, violate or result in a breach of, or constitute a default under any of the terms, conditions or provisions of its certificate of incorporation or bylaws or of any loan agreement, indenture, trust deed, or other agreement or instrument to which Guarantor is a party or by which it is bound, or conflict with, violate or result in a breach of or constitute a default under any material agreement to which it is a party or by which it or any of its properties is bound, or any judgment, order, award or decree to which Guarantor is a party or by which it is bound, or require any approval, consent, authorization or other action by any court, governmental authority or regulatory body or any creditor of Guarantor or any other Person.
- (d) This Guaranty constitutes a valid and binding obligation of Guarantor and is enforceable against Guarantor in accordance with its terms, except as such enforceability may be limited by (i) applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting the enforcement of creditors' rights generally and (ii) general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).
- (e) There is no action, proceeding or investigation pending, or, to the best knowledge of Guarantor, threatened against it which individually, or in the aggregate, would impair in any material way Guarantor's ability to perform its obligations under this Guaranty.



(f) Guarantor shall not transfer to any non-Affiliate more than forty-nine percent (49%) of Seller's Membership Interests without first obtaining Buyer's written consent.

9. Notices. All communications in connection with this Guaranty shall be given in writing and shall be mailed by registered or certified first-class mail, postage prepaid, or sent by nationally recognized overnight delivery service, addressed as follows:

The North American Coal Corporation

5340 Legacy Drive, Building 1, Suite 300

Plano, Texas 75024

Attention: Vice President, General Counsel and Secretary

Email: John.Neumann@nacoal.com

10. Governing Law. This Guaranty shall be governed by and be construed in accordance with the internal laws of the State of North Dakota, without regard to the conflicts of laws principles thereof (whether of the State of North Dakota or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than North Dakota.

IN WITNESS WHEREOF, Guarantor has executed this Guaranty dated as of October 10, 2012.

Attest: THE NORTH AMERICAN COAL CORPORATION

By:

Secretary Robert L. Benson

President and Chief Executive Officer

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**EXHIBIT C****Example of Adjustment of the Adjustable Amounts**

The formula for adjustment of the Adjustable Amounts is as follows:

$$AA = \frac{x}{y} \text{ times the Adjustable Amount}$$

Where:

AA = the Adjustable Amount

x = Value of CPI-U Index for the third Month immediately preceding the January 1, April 1, July 1 or October 1 adjustment date under consideration

y = Value of CPI-U Index for June 2011 (which is 225.722, on the base 1982-1984 = 100)

Example calculation of Agreed Profit to be made on [January] 1, 20[12]:

Note: The CPI-U Index figures used in this Exhibit C are examples only and are not intended to relate to actual circumstances or to be used in actual calculations.

$$x = [\text{October}] \text{ 2011 CPI-U Index} = [227.000]$$

$$y = \text{June 2011 CPI-U Index} = 225.722$$

$$AA = \frac{[227.000]}{225.722} \times \$[* * *] = [* * *] \times \$[* * *]$$

AA =  $[\$[* * *]]$  (which amount would be used as the billing basis for the Agreed Profit for the period from [January] 1, 20[12] to [April] 1, 20[12], with such adjustment to be included in the first invoice following [January] 1, 20[12]).

If the CPI-U Index for [October] 2011 were later revised, there would be no further adjustment of the Adjustable Amounts on the basis of such revision.

\* \* \* Confidential Treatment Requested

OTTER TAIL POWER COMPANY  
Docket No: E999/CI-19-704

Response to: Sierra Club  
Analyst: Laurie Williams  
Date Received: March 23, 2020  
Date Due: April 02, 2020  
Date of Response: April 02, 2020  
Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

Regarding the development of Minnesota's hourly energy market bids and dispatch decisions:

- a. Indicate which production costs are considered to be variable on a short-term basis by OTP for the purposes of dispatch at its existing coal units (e.g. fuel costs, variable operations and maintenance costs, emissions costs, ash handling costs, effluent costs, etc.).
- b. Identify if there are any fuel costs at OTP's existing coal units that OTP considers fixed for the purposes of commitment decisions. Provide a detailed explanation of how the fixed component is determined and provide workpapers and documentation demonstrating the fixed and variable breakdown.

Attachments: 0

Response:

Otter Tail has taken reasonable efforts to maintain the secrecy of the information marked as PROTECTED DATA, which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use (the "Protected Data"). The Protected Data is therefore "trade secret information" and "nonpublic data" under Minn. Stat. § 13.37.

- a. Table 1 below provides the itemized list of fuel and variable O&M expenses [Column A] for Big Stone Plant and Coyote Station. An "X" in Big Stone Plant [Column B] and Coyote Station [Column C] designates that the expense type is incurred at that plant. This table was also provided in response to IR MN-FE-001

**Table 1**

| Line No. | A   | B                      | C                     |
|----------|---|------------------------|-----------------------|
|          | <u>Variable Expense</u>   | <u>Big Stone Plant</u> | <u>Coyote Station</u> |
| 1        | Coal  | X                      | X                     |
| 2        | Fuel Oil (only for generation but does not include startup gallons)   | X                      | X                     |
| 3        | Lime  | X                      | X                     |
| 4        | Activated Carbon  | X                      | X                     |
| 5        | Ammonia   | X                      | -                     |
| 6        | Coal freight tariff   | X                      | -                     |
| 7        | Coal conversion tax   | -                      | X                     |
| 8        | SO2 Allowances  | X                      | X                     |
| 9        | Misc. Variable<br>(includes chemicals for the boiler, demin, and circ water; hydrogen; boiler cleaning; fuel conditioner maintenance; condenser cleaning; etc.) | X                      | X                     |
| 10       | Train related<br>(maintenance, moving, holding & storage, side release, Btu & SO2 adjustments, railcar tax, and labor)  | X                      | -                     |

- b. The fuel contracts for each of the coal generating plants in which Otter Tail has an ownership interest contain terms that impact Otter Tail's treatment of fuel as variable versus fixed.
- The coal supply requirements for Otter Tail and its Big Stone Plant co-owners are secured under contract through 2020. **[PROTECTED DATA BEGINS...**  

**...PROTECTED DATA**

**ENDS]**
  - The coal supply requirements for Otter Tail and its Coyote Station co-owners are secured under contract through 2040. **[PROTECTED DATA BEGINS...**  

**...PROTECTED DATA ENDS]** The contract includes both variable and fixed costs. Coyote Station coal expenses for 2019 were

**[PROTECTED DATA BEGINS... ... PROTECTED DATA ENDS]** percent fixed costs and **[PROTECTED DATA BEGINS... ..PROTECTED DATA ENDS]** percent variable costs.

Table 2 below provides the monthly fixed and variable costs for Coyote Station fuel and coal conversion tax from the Coyote Coal Mining Company (CCMC) and the calculation of the fixed and variable percentages for fuel costs.

| Table 2 |   |                                  |                 |            |                                 |                 |            |
|---------|---|----------------------------------|-----------------|------------|---------------------------------|-----------------|------------|
| 1       | A | B                                | C               | D          | E                               | F               | G          |
| 2       |   | <u>Fixed</u>                     | <u>Variable</u> | <u>Sum</u> | <u>Fixed</u>                    | <u>Variable</u> | <u>Sum</u> |
| 3       |   | <u>2019 CCMC invoice actuals</u> |                 |            | <u>2019 Coal Conversion Tax</u> |                 |            |
| 4       |   | [PROTECTED DATA BEGINS...]       |                 |            |                                 |                 |            |
| 5       |   |                                  |                 |            |                                 |                 |            |
| 6       |   |                                  |                 |            |                                 |                 |            |
| 7       |   |                                  |                 |            |                                 |                 |            |
| 8       |   |                                  |                 |            |                                 |                 |            |
| 9       |   |                                  |                 |            |                                 |                 |            |
| 10      |   |                                  |                 |            |                                 |                 |            |
| 11      |   |                                  |                 |            |                                 |                 |            |
| 12      |   |                                  |                 |            |                                 |                 |            |
| 13      |   |                                  |                 |            |                                 |                 |            |
| 14      |   |                                  |                 |            |                                 |                 |            |
| 15      |   |                                  |                 |            |                                 |                 |            |
| 16      |   |                                  |                 |            |                                 |                 |            |
| 17      |   |                                  |                 |            |                                 |                 |            |

...PROTECTED  
DATA ENDS]

OTTER TAIL POWER COMPANY  
Docket No: E999/CI-19-704

Response to: Sierra Club  
Analyst: Laurie Williams  
Date Received: March 23, 2020  
Date Due: April 02, 2020  
Date of Response: April 02, 2020  
Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

Has OTP evaluated the costs and benefits of modifying any of its coal units to have a lower minimum operating level?

- a. If yes, please provide all analysis OTP has conducted, and internal reports on the costs and benefits of this option.
- b. If no, please explain why OTP has not considered this option and conducted this analysis.

Attachments: 0

Response:

Otter Tail has taken reasonable efforts to maintain the secrecy of the information marked as PROTECTED DATA, which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use (the “Protected Data”). The Protected Data is therefore “trade secret information” and “nonpublic data” under Minn. Stat. § 13.37.

Yes. [PROTECTED DATA BEGINS...

DATA ENDS]

...PROTECTED

OTTER TAIL POWER COMPANY  
Docket No: E999/CI-19-704

Response to: Sierra Club  
Analyst: Laurie Williams  
Date Received: March 23, 2020  
Date Due: April 02, 2020  
Date of Response: March 31, 2020  
Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

For each of OTP's coal units:

- a. Please provide the lead time (i.e., the time between when a unit is shut down and can come back online at its minimum operating level, including cooldown and start up) required to bring an offline unit back online.
- b. Please explain how OTP takes the lead time for each unit into account when making commitment decisions.

Attachments: 0

Response:

Otter Tail Power Company (Otter Tail or OTP) has taken reasonable efforts to maintain the secrecy of the information marked as PROTECTED DATA, which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use (the "Protected Data"). The Protected Data is therefore "trade secret information" and "nonpublic data" under Minn. Stat. § 13.37.

- a. Otter Tail provides Table 1 below with the requested information.

Table 1

| A                                     | B                                    | C                                  |
|---------------------------------------|--------------------------------------|------------------------------------|
|                                       | <u>Big Stone Plant</u>               | <u>Coyote Station</u>              |
| 1 Cold start up time                  | <b>[PROTECTED<br/>DATA BEGINS...</b> |                                    |
| 2 Warm start up time                  |                                      |                                    |
| 3 Cool-down time to cold              |                                      |                                    |
| 4 Cool-down time to warm              |                                      |                                    |
| 5 Cool-down to warm and warm start up |                                      |                                    |
| 6 Cool-down to cold and cold start up |                                      |                                    |
|                                       |                                      | <b>...PROTECTED<br/>DATA ENDS]</b> |

- b. Both Big Stone Plant and Coyote Station are offered into the wholesale energy markets as self-committed at minimum output. This means they are always online at their minimum output unless market conditions justify additional output as directed by MISO/SPP (NorthWestern Energy is a co-owner of both plants and operates in the SPP wholesale energy markets). These units are always online unless they are undergoing a planned or forced outage. After an outage, the units are brought back online, in coordination with MISO/SPP, allowing for necessary startup time requirements. Due to these operating practices, startup times have little impact in making commitment decisions.

OTTER TAIL POWER COMPANY

Docket No: E999/CI-19-704

Response to: Sierra Club

Analyst: Laurie Williams

Date Received: March 23, 2020

Date Due: April 02, 2020

Date of Response: April 02, 2020

Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

Please list the costs and other factors that OTP takes into account when deciding when to shut down and start up a generator.

- a. Please explain how OTP evaluates whether and when the amount of forecasted energy market losses resulting from self-commitment outweigh the costs of damage due to starts and stops.

Attachments: 0

Response:

- a. As operating agent for co-owned Big Stone Plant and Coyote Station, Otter Tail operates both units as self-commit units. Consequently, Otter Tail has not accounted for anticipated costs of damage due to starts and stops as part of a forecasted energy analysis.

OTTER TAIL POWER COMPANY

Docket No: E999/CI-19-704

Response to: Sierra Club

Analyst: Laurie Williams

Date Received: March 23, 2020

Date Due: April 02, 2020

Date of Response: April 02, 2020

Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

Regarding OTP's unit commitment decision-making process for its coal units:

- a. Does OTP perform economic analyses to inform its unit commitment decisions for its coal units (i.e., decisions regarding whether to designate these units as must run or take them offline for economic reasons)?
- b. If not, explain why not.
- c. If so:
  - a. Please provide all such analyses conducted since 2017 in native, machine-readable format. Please use the attached Excel document as an example template for the analysis and underlying data we seek.
  - b. Please identify each category of cost and revenue accounted for in such analyses.
  - c. Please indicate whether such analyses are conducted differently for periods immediately preceding or following unit outages and explain any differences.

Attachments: 0

Response:

Otter Tail does not currently perform economic analysis to inform day to day unit commitment decisions for Big Stone Plant and Coyote Station. Historically and currently, both Big Stone Plant and Coyote Station are offered into the wholesale energy markets as self-committed at minimum output. These units are always online unless they are undergoing a planned or forced outage. The MISO/SPP ISOs can choose to dispatch the units above their minimum output level if market and/or reliability conditions justify.

Otter Tail continually monitors the economic performance of all its generation resources. The hourly historical performance of the units is detailed in Attachment 02 to Otter Tail's March 2, 2020 Annual Compliance Filing in this proceeding.

Moving to an economic commitment and dispatch at Big Stone Plant and Coyote Station poses unique challenges that other single owner, single ISO, coal-fired baseload units are not forced to

deal with. Both plants are joint owned plants, owned by multiple owners, operating in different ISOs. The below table details this breakdown:

| Utility                    | Big Stone Ownership Share | Coyote Ownership Share | ISO Membership |
|----------------------------|---------------------------|------------------------|----------------|
| Otter Tail Power Company   | 53.9%                     | 35.0%                  | MISO           |
| Montana Dakota Utilities   | 22.7%                     | 25.0%                  | MISO           |
| NorthWestern Energy        | 23.4%                     | 10.0%                  | SPP            |
| Minnkota Power Cooperative | 0.0%                      | 30.0%                  | MISO           |

The plant owners currently, and historically, have scheduled their share of Big Stone Plant and Coyote Station into the MISO/SPP markets as self-committed at minimum output. As mentioned above, both MISO and/or SPP can choose to dispatch the unit higher if market and/or reliability conditions merit additional output. The SPP and MISO markets do not coordinate the commitment nor the dispatch of joint owned units that straddle the MISO/SPP market seam. Furthermore, both markets model the shares of a jointly owned unit as individual, separate, and distinct generators. When/if each owner share of the unit were to be offered as economic, it is possible that only a portion of the entire unit would be dispatched. Partial dispatch would result in under recovery of startup and make whole payments to the owners whose shares were not dispatched. From a practical standpoint, since the plant is one physical generator, dispatch of a single owner’s share of the plant will result in the dispatch of all owners’ shares of the plant. Big Stone Plant and Coyote contractual obligations require owners to take their minimum share of the plant whenever another owner calls for dispatch.

Recent market conditions could affect the way in which units are offered into the wholesale energy markets. The Big Stone owners are working to identify technical solutions that would allow for an economic offer of the unit. Otter Tail is optimistic that such a technical solution will be identified and will allow for implementation of an economic offer. It should be noted, and stressed, that Otter Tail is not solely in control of the offer status of the plant. A specific process to determine transitions from a self-commit at minimum output offer to an economic offer has yet to be determined by the Big Stone Plant owners.

OTTER TAIL POWER COMPANY  
Docket No: E999/CI-19-704

Response to: Sierra Club  
Analyst: Laurie Williams  
Date Received: March 23, 2020  
Date Due: April 02, 2020  
Date of Response: March 31, 2020  
Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

For each of OTP's coal units, please identify:

- a. Average cold startup costs.
- b. Average warm startup costs.
- c. Cold start-up time.
- d. Warm start-up time.
- e. Cool-down time to cold.
- f. Cool-down time to warm.

Attachments: 0

Response:

Otter Tail Power Company (Otter Tail or OTP) has taken reasonable efforts to maintain the secrecy of the information marked as PROTECTED DATA, which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use (the "Protected Data"). The Protected Data is therefore "trade secret information" and "nonpublic data" under Minn. Stat. § 13.37.

Otter Tail provides Table 1 below with the requested information.

Table 1

Big Stone Plant    Coyote Station

**[PROTECTED  
DATA BEGINS...**

- 1 Average cold start up costs (plant)
- 2 Average cold start up costs (OTP share)
- 3 Average warm start up costs (plant)
- 4 Average warm start up costs (OTP share)
- 5 Cold start up time
- 6 Warm start up time
- 7 Cool-down time to cold
- 8 Cool-down time to warm

**...PROTECTED  
DATA ENDS]**

OTTER TAIL POWER COMPANY  
Docket No: E999-CI-19-704

Response to: Sierra Club  
Analyst: Laurie Williams  
Date Received: April 6, 2020  
Date Due: April 16, 2020  
Date of Response: April 16, 2020  
Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

In Attachment 2 to the Company's March 2, 2020 Annual Compliance Filing (also, Attachment 1 to MN-Sierra-002\_NOTPUBLIC), the Company provides a constant monthly value for variable operational costs labeled "unit costs."

- a. Please provide a comprehensive list of the types of costs that are included in "unit costs."
- b. Please explain why OTP's unit costs were constant over each month.
- c. Please indicate whether OTP keeps hourly records of fuel costs at each unit.
  1. If yes, please provide hourly fuel costs (\$/MWh) for the reporting period and for the Fiscal 2017 and Fiscal 2018 analysis for each unit. If not, please explain why the Company does not have hourly records of unit fuel costs.
- d. Please provide variable O&M cost (\$/MWh) at the highest level of granularity available for the reporting period and for the Fiscal 2017 and Fiscal 2018 analysis for each unit.

Attachments: 1

Attachment 1 to IR MN-Sierra-019\_PUBLIC

Response:

Otter Tail has taken reasonable efforts to maintain the secrecy of the information marked as PROTECTED DATA, which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use (the "Protected Data"). The Protected Data is therefore "trade secret information" and "nonpublic data" under Minn. Stat. § 13.37.

a. Big Stone Plant

1) Fuel and Reagents to include:

- Coal Burned for generation
- Fuel Oil Burned for generation
- Pebble Lime Consumed for generation
- Activate Carbon Consumed for generation
- Anhydrous Ammonia Consumed for generation

2) Rail Insurance

Coyote Plant

1) Fuel and Reagents to include:

- Variable portion of the Coal Burned for generation
- Fuel Oil Burned for generation
- Lime Consumed
- Activate Carbon Consumed

b. These costs were reported using Otter Tail Power's portion of the plants' month end statements, reported in total dollars. This amount was then divided by the number of net megawatt hours produced for Otter Tail Power during the month; producing an average \$/MWh cost for the month.

c. Otter Tail Power does not maintain hourly records of unit fuel costs. Otter Tail Power's current and historical practices track fuel costs on a monthly basis, which accurately reflects plant costs and avoids hourly volatility.

Otter Tail provides Trade Secret Attachment 1 to IR MN-Sierra-019.

| <u>Month/Year</u> | <u>Coal Cost</u> | <u>Fuel Oil</u> | <u>Pebble Lime</u> | <u>Activated Carbon</u> | <u>Anhydrous Ammonia</u> | <u>Rail Insurance</u> | <u>Total Costs</u> | <u>Total MWHs</u> | <u>\$/MWh</u> |
|-------------------|------------------|-----------------|--------------------|-------------------------|--------------------------|-----------------------|--------------------|-------------------|---------------|
|-------------------|------------------|-----------------|--------------------|-------------------------|--------------------------|-----------------------|--------------------|-------------------|---------------|

[Protected data begins...]

Jul-16  
Aug-16  
Sep-16  
Oct-16  
Nov-16  
Dec-16  
Jan-17  
Feb-17  
Mar-17  
Apr-17  
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Aug-19  
Sep-19  
Oct-19  
Nov-19  
Dec-19

...Protected Data Ends]

| Month/Year | Variable Coal cost               | Fuel Oil | Lime | Activated Carbon | Total Costs | Total MWWh | \$/MWh |
|------------|----------------------------------|----------|------|------------------|-------------|------------|--------|
|            | <b>[Protected data begins...</b> |          |      |                  |             |            |        |
| Jul-16     |                                  |          |      |                  |             |            |        |
| Aug-16     |                                  |          |      |                  |             |            |        |
| Sep-16     |                                  |          |      |                  |             |            |        |
| Oct-16     |                                  |          |      |                  |             |            |        |
| Nov-16     |                                  |          |      |                  |             |            |        |
| Dec-16     |                                  |          |      |                  |             |            |        |
| Jan-17     |                                  |          |      |                  |             |            |        |
| Feb-17     |                                  |          |      |                  |             |            |        |
| Mar-17     |                                  |          |      |                  |             |            |        |
| Apr-17     |                                  |          |      |                  |             |            |        |
| May-17     |                                  |          |      |                  |             |            |        |
| Jun-17     |                                  |          |      |                  |             |            |        |
| Jul-17     |                                  |          |      |                  |             |            |        |
| Aug-17     |                                  |          |      |                  |             |            |        |
| Sep-17     |                                  |          |      |                  |             |            |        |
| Oct-17     |                                  |          |      |                  |             |            |        |
| Nov-17     |                                  |          |      |                  |             |            |        |
| Dec-17     |                                  |          |      |                  |             |            |        |
| Jan-18     |                                  |          |      |                  |             |            |        |
| Feb-18     |                                  |          |      |                  |             |            |        |
| Mar-18     |                                  |          |      |                  |             |            |        |
| Apr-18     |                                  |          |      |                  |             |            |        |
| May-18     |                                  |          |      |                  |             |            |        |
| Jun-18     |                                  |          |      |                  |             |            |        |
| Jul-18     |                                  |          |      |                  |             |            |        |
| Aug-18     |                                  |          |      |                  |             |            |        |
| Sep-18     |                                  |          |      |                  |             |            |        |
| Oct-18     |                                  |          |      |                  |             |            |        |
| Nov-18     |                                  |          |      |                  |             |            |        |
| Dec-18     |                                  |          |      |                  |             |            |        |
| Jan-19     |                                  |          |      |                  |             |            |        |
| Feb-19     |                                  |          |      |                  |             |            |        |
| Mar-19     |                                  |          |      |                  |             |            |        |
| Apr-19     |                                  |          |      |                  |             |            |        |
| May-19     |                                  |          |      |                  |             |            |        |
| Jun-19     |                                  |          |      |                  |             |            |        |
| Jul-19     |                                  |          |      |                  |             |            |        |
| Aug-19     |                                  |          |      |                  |             |            |        |
| Sep-19     |                                  |          |      |                  |             |            |        |
| Oct-19     |                                  |          |      |                  |             |            |        |
| Nov-19     |                                  |          |      |                  |             |            |        |
| Dec-19     |                                  |          |      |                  |             |            |        |

**...Protected Data Ends]**

OTTER TAIL POWER COMPANY  
Docket No: E999/CI-19-704

Response to: Sierra Club  
Analyst: Laurie Williams  
Date Received: April 28, 2020  
Date Due: May 08, 2020  
Date of Response: May 13, 2020  
Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279,  
as to objections, Cary Stephenson, Associate General Counsel, 218-739-8956.

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Information Request:

Refer to the discussion on page 3 of Otter Tail Power's Annual Compliance Filing, regarding the joint ownership of Coyote Station. Has Otter Tail Power had discussions with the co-owners of Coyote (Minnkota Power Cooperative, Montana Dakota Utilities and Northwestern Energy) on any of the following issues:

- a) Switching Coyote to seasonal operations;
- b) Lowering the minimum operating level of Coyote; or
- c) Switching to economic dispatch at Coyote?
- d) If yes, please provide all recorded information on the discussion, including any identified costs and barriers.
- e) If not, please explain why the joint owners have not considered the topic.

Attachments: 0

Response:

Otter Tail has taken reasonable efforts to maintain the secrecy of the information marked as PROTECTED DATA, which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use (the "Protected Data"). The Protected Data is therefore "trade secret information" and "nonpublic data" under Minn. Stat. § 13.37.

- a. No, seasonal operation is not viable for Coyote Station. Please refer to the response provided to IR MN-Sierra-017, which is provided below for your convenience.

**Response to IR MN-Sierra-017**

“Otter Tail understands this request’s reference to “seasonal operations” to mean the collective decision, by all co-owners in a co-owned unit, to decline to offer the unit for dispatch by the wholesale energy markets for an extended period or season.

In general terms, seasonal operation is not viable for Big Stone Plant or Coyote Station. As a MISO load serving member, by way of example, Otter Tail is required to maintain enough generation capacity to serve its load obligations. The same is true for the other co-owners of Big Stone Plant and Coyote Station. In order to be accredited as a MISO capacity resource, the resource is required to maintain a daily offer to the market (excluding times for forced or planned mechanical outages, testing, lack of fuel, etc.) An accredited MISO capacity resource is not allowed to maintain accreditation if it is capable of generating energy, yet is not offered-in to the market. Big Stone Plant and Coyote Station provide approximately half of the generation resources necessary to meet Otter Tail’s MISO’s Module E capacity requirement. The units represent significant percentages of the co-owners’ generation resources, as well. If these resources were seasonally decommitted, and therefore no longer able to meet the daily must-offer obligation, the co-owners may (and certainly Otter, in fact, would) fail to meet their respective capacity requirements.”

b. **[PROTECTED DATA BEGINS...**

**...PROTECTED DATA ENDS]**

c. **[PROTECTED DATA BEGINS...**

**...PROTECTED DATA ENDS]**

d. The blanket request for “all recorded information on the discussion” could include voluminous documents ranging across the spectrum of Coyote Station personnel bearing only some relationship to the identified topics. On that basis this request is objectionable as ambiguous, overly broad and unduly burdensome, and not proportional to the needs of this docket in view of other information Otter Tail has made available. Moreover, this request by its terms seeks information that may require consent of third parties to release.

OTTER TAIL POWER COMPANY  
Docket No: E999/CI-19-704

Response to: Sierra Club  
Analyst: Laurie Williams  
Date Received: April 28, 2020  
Date Due: May 08, 2020  
Date of Response: May 13, 2020  
Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279,  
as to objections, Cary Stephenson, Associate General Counsel, 218-739-8956.

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Information Request:

Refer to the discussion on page 3 of Otter Tail Power’s Annual Compliance Filing, regarding the joint ownership of Big Stone Plant. Has Otter Tail Power had discussions with the co-owners of Big Stone (Montana Dakota Utilities and Northwestern Energy) regarding any of the following issues:

- a) Switching Big Stone to seasonal operations;
- b) Lowering the minimum operating level of Big Stone; or
- c) Switching to economic dispatch at Big Stone?
- d) If yes, please provide all recorded information on the discussion, including any identified costs and barriers.
- e) If not, please explain why the joint owners have not considered the topic.

Attachments: 1

Attachment 1 to IR MN-Sierra-024\_PUBLIC.pdf

Response:

Otter Tail has taken reasonable efforts to maintain the secrecy of the information marked as PROTECTED DATA below and in Attachment 1, which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use (the “Protected Data”). The Protected Data is therefore “trade secret information” and “nonpublic data” under Minn. Stat. § 13.37.

- a. No, seasonal operation is not viable for Big Stone Plant. Please refer to the response provided to IR MN-Sierra-017, which is provided below for your convenience.

**Response to IR MN-Sierra-017**

“Otter Tail understands this request’s reference to “seasonal operations” to mean the collective decision, by all co-owners in a co-owned unit, to decline to offer the unit for dispatch by the wholesale energy markets for an extended period or season.

In general terms, seasonal operation is not viable for Big Stone Plant or Coyote Station. As a MISO load serving member, by way of example, Otter Tail is required to maintain enough generation capacity to serve its load obligations. The same is true for the other co-owners of Big Stone Plant and Coyote Station. In order to be accredited as a MISO capacity resource, the resource is required to maintain a daily offer to the market (excluding times for forced or planned mechanical outages, testing, lack of fuel, etc.) An accredited MISO capacity resource is not allowed to maintain accreditation if it is capable of generating energy yet is not offered-in to the market. Big Stone Plant and Coyote Station provide approximately half of the generation resources necessary to meet Otter Tail’s MISO’s Module E capacity requirement. The units represent significant percentages of the co-owner’s generation resources, as well. If these resources were seasonally decommitted, and therefore no longer able to meet the daily must-offer obligation, the co-owners may (and certainly Otter, in fact, would) fail to meet their respective capacity requirements.”

- b. Big Stone currently utilizes the lowest possible operating point allowing for continued safe and reliable plant operations.
- c. **[PROTECTED DATA BEGINS...**

**...PROTECTED DATA ENDS]** Please refer to IR MN-Sierra-014 and IR MN-Sierra-031 for additional information.

- d. The blanket request for “all recorded information on the discussion” could include voluminous documents ranging across the spectrum of Big Stone Plant personnel bearing only some relationship to the identified topics. On that basis this request is objectionable as ambiguous, overly broad and unduly burdensome, and not proportional to the needs of this docket in view of other information Otter Tail has made available. Moreover, this request by its terms seeks information that may require consent of third parties to release. Without waving these objections, please see **[PROTECTED DATA BEGINS...**

**...PROTECTED DATA ENDS].**

OTTER TAIL POWER COMPANY

Docket No: E999/CI-19-704

Response to: Sierra Club

Analyst: Laurie Williams

Date Received: April 28, 2020

Date Due: May 08, 2020

Date of Response: May 08, 2020

Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

Refer to Attachment 2 to the Company's March 2, 2020 Annual Compliance Filing (also, Attachment 1 to MN-Sierra-002\_NOTPUBLIC).

- a) Please identify any and all hours, by unit, in which MISO committed Big Stone or Coyote to be online even though the unit was not economic and the Company was not intending to offer it as "must run" (including but not limited to times in which MISO designated the unit as "Emergency Status").
  - i. For any such identified instances, please explain the process MISO uses to commit each unit. Please address the following in your response: does MISO commit Big Stone or Coyote in this status (i.e., require it to be online when it would otherwise be offline) in both the real time and day ahead markets?
- b) Please identify any and all hours, by unit, in which SPP committed Big Stone or Coyote to be online even though it was not economic and the Company was not intending to commit it (including but not limited to times in which SPP designated the unit as "Emergency Status").
  - i. For any such identified instances, please explain the process SPP uses to commit each unit. Please address the following in your response: does SPP commit a unit in this status (i.e., require it to be online when it would otherwise be offline) in both the real time and day ahead markets?
- a) Please identify any and all hours, by unit, in which MISO required Big Stone or Coyote to dispatch at a level above the minimum operating level even though doing so was not economic and the Company was not intending to dispatch above the minimum operating level.
  - i. For any such identified instances, please explain the process MISO uses. Please address the following in your response: Does MISO schedule Big Stone or Coyote for dispatch above those units' minimum operating level for reasons other than economic dispatch in both the real time and day ahead markets?
- a) Please identify any and all hours in which SPP required Big Stone or Coyote to dispatch at a level above the minimum operating level even though doing so was not

economic and the Company was not intending to dispatch above the minimum operating level.

- i. For any such identified instances, please explain the process SPP uses to dispatch them. Please address the following in your response: Does SPP schedule Big Stone and Coyote for dispatch above those units' minimum operating level for reasons other than economic dispatch in both the real time and day ahead markets?

Attachments: 0

Response:

- a. There were zero hours. MISO did not make commitment decisions for either Big Stone or Coyote during the time period detailed in Attachment 2. During this time period, both Big Stone and Coyote were offered to the market as self-committed at minimum output ("must-run") unless the unit was on outage, de-rate, or undergoing testing. MISO would dispatch units, but not commit, based on prevailing economic and reliability conditions. If prevailing economic and reliability conditions justified increased output, MISO would dispatch the plants up, otherwise the units would be dispatched toward minimum output.
- b. Otter Tail cannot reasonably comment on the dispatch practices of SPP regarding Northwestern's shares of Big Stone and Coyote.
- c. Otter Tail never seeks to dictate to MISO the appropriate economic offer dispatch position above minimum output (excluding periods of de-rates or testing, both of which are not driven by economics). Otter Tail cannot comment on the specific inputs, criteria, or decision points MISO utilizes when determining dispatch instructions for the MISO market footprint, including Big Stone and Coyote, except to note MISO seeks to operate the grid in the most economic manner possible while meeting all reliability requirements. Dispatch for both economic and reliability purposes can be implemented. In the event MISO determines it has dispatched Big Stone or Coyote above their economic minimum output into an uneconomic market, MISO will provide make-whole payments.
- d. Otter Tail cannot reasonably comment on the dispatch practices of SPP regarding Northwestern's shares of Big Stone and Coyote.

OTTER TAIL POWER COMPANY

Docket No: E999/CI-19-704

Response to: Sierra Club

Analyst: Laurie Williams

Date Received: April 28, 2020

Date Due: May 08, 2020

Date of Response: May 06, 2020

Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

Refer to Otter Tail Power's response to Sierra Club IR 7.

- a) Is Otter Tail considering future coal contracts with terms that include both fixed and variable costs, or only contracts with costs that are fully variable?
- b) Is Otter Tail considering future coal contracts with take or pay provisions?

Attachments: 0

Response:

- a) Otter Tail is currently considering only contracts with costs that are fully variable.
- b) No. Otter Tail is not currently considering future coal contracts with take or pay provisions.

OTTER TAIL POWER COMPANY

Docket No: E999/CI-19-704

Response to: Sierra Club

Analyst: Laurie Williams

Date Received: April 28, 2020

Date Due: May 08, 2020

Date of Response: May 08, 2020

Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

Refer to Otter Tail Power's response to Sierra Club IR 14. Please provide any updates on the Big Stone co-owners' evaluation of technical solutions that would allow for an economic offer of the unit.

Attachments: 0

Response:

The Big Stone co-owners have worked to identify a technical solution that would allow for an economic offer of the unit. This technical solution required development and implementation of a commitment communication system between MISO, SPP, co-owners, and Big Stone operations staff (shared communication of commitment/decommitment signals from the ISOs). This technical solution does not coordinate commitment and dispatch between SPP and MISO for each individually modeled co-owner share of the plant. As such, if one co-owner share is committed economically, the other co-owners must update their offer to self-committed at minimum ("must-run") to match the commitment period of the economically committed share. As mentioned in MN-Sierra-014, it should be noted, and stressed, that Otter Tail is not solely in control of the offer status of the plant. Offering the unit as economic requires agreement among the co-owners. Each co-owner, at their sole discretion, retains the right to call for reversion to a self-committed at minimum ("must run") offer.

In the latter half of April 2020, Big Stone co-owners implemented the above described technical solution and offered the plant with an economic offer. On April 29<sup>th</sup>, 2020, based on that economic offer, Big Stone was decommitted due to prevailing market conditions. It is expected that Big Stone will operate on an economic basis during low priced, shoulder months and as self-committed during higher priced, peak months, which will help to minimize plant cycling costs.

OTTER TAIL POWER COMPANY

Docket No: E999/CI-19-704

Response to: Sierra Club

Analyst: Laurie Williams

Date Received: April 28, 2020

Date Due: May 08, 2020

Date of Response: May 08, 2020

Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

Refer to Otter Tail Power's response to Fresh Energy IR 1(a) regarding its classifications of costs as fixed and variable.

- a) Please confirm that variable O&M costs as defined by Otter Tail Power do not include any predictive operations or maintenance costs aside from those that are train-related at Big Stone.
- b) Is it Otter Tail Power's position that predictive maintenance is not considered a variable cost?
  - i. If yes, please explain why.
  - ii. If not, please explain why these costs were not included in Otter Tail Power's variable costs as presented in Table 1 of its response to Fresh Energy IR 1(a).
- c) Is it Otter Tail Power's position that no predictive maintenance costs are avoidable or deferrable based on changes in how regularly and at what level a unit operates?

Attachments: 0

Response:

- a) This question is vague and confusing. To clarify, the train-related costs that Otter Tail considers variable are not considered by Otter Tail to be predictive operations or maintenance costs. The train-related costs are considered a part of the variable costs of coal delivery to the plant. The miscellaneous variable O&M (not train related) cost does include a relatively small component of regular maintenance costs considered maintenance and not predictive maintenance.
- b) Predictive or preventative maintenance tasks (PMs) is a common industry term that describes a wide variety of tasks related to maintenance and operation. The cost components of PMs include labor, replacement components, consumables, etc. Maintaining a reliable, safe, compliant coal plant, whether operating or ready to operate, to supply electricity to customers are the highest priorities. It is theoretically possible

that a change in “how regularly or what level” the plant operates may impact costs to some degree, but Otter Tail does not plan to reduce its predictive or preventative maintenance plan today, while considering a different operational regime, as maintaining a reliable plant is a foremost objective. Since it is not planned to reduce the predictive or preventative maintenance work, Otter Tail has viewed these costs as fixed and not variable.

- c) No, this is not Otter Tail’s position. Big Stone and Coyote have been operated primarily as must-run units since commercial operation in 1975 and 1981 respectively. Therefore, significant knowledge exists as to an adequate PM program required to maintain the plants as reliable sources of electricity under that operational status. Otter Tail does not have data as to how a change in operational status would change the cost of a PM program. It is Otter Tail’s position to maintain the PM program as it exists, and if more data becomes known, where Otter Tail could confidently say a significant level of PM costs are truly variable, Otter Tail would consider that position.

OTTER TAIL POWER COMPANY

Docket No: E999/CI-19-704

Response to: Sierra Club

Analyst: Laurie Williams

Date Received: May 04, 2020

Date Due: May 14, 2020

Date of Response: May 14, 2020

Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279, as to objections, Cary Stephenson, Associate General Counsel, 218-739-8956.

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Information Request:

Please refer to Otter Tail Power's 2012 contract for coal for Coyote Station as referenced throughout Otter Tail Power's response to Sierra Club IR 5.

- a. Before entering the 2012 contract in October of that year, did Otter Tail Power assess the net present value/cost of the 25-year contract? If yes, please provide that assessment. If not, please explain why Otter Tail Power did not determine how much the contract would cost prior to entering it.
- b. What is the net present value of the developmental costs described in the contract for the full 25-year period?
- c. What is the net present value of the fuel portion of the contract for the full 25-year period?
- d. Has the Company estimated what the total cost is that Otter Tail Power would incur if it were to terminate the contract early under the early termination provisions?
  1. If yes, please provide it. If the answer varies depending on which early termination provision is used, please provide the cost under each termination provision.
  2. If the answer varies depending on any other variable (including but not limited to the termination date), please explain why and how the costs would differ.
- e. Are there any costs or obligations that Otter Tail will incur irrespective of whether it terminates the contract early or continues the contract through 2040?
  1. If yes, please provide the costs that Otter Tail will incur in all contract termination scenarios.
  2. If yes, please describe the obligations that Otter Tail will retain in all contract termination scenarios.

- f. Please refer to Otter Tail Power's response to Sierra Club IR 5(f), stating in part that "the Big Stone Plant and Coyote Station co-owners developed fuel supply forecasts using industry-standard methods and secured fuel supplies through a competitive bidding process with fully negotiated contracts" and "Coal supply forecasts are completed using load forecasts, planned outage schedules, energy market knowledge, and modeling efforts, such as Strategist or Encompass." Please provide any such modeling analysis underlying the 2012 Coyote coal contract.

Attachments: 0

**Response:**

- a. This question appears to seek information concerning prudence and/or resource planning which are outside the scope of this docket and on that basis Otter Tail objects. Further this request is not proportional to the needs of this docket in view of other information Otter Tail has made available. Without waiving these objections, no such assessment was made because the contract was being evaluated only against an alternative long-term lignite supply agreement with another lignite supplier.
- b. This question appears to seek information concerning prudence and/or resource planning which are outside the scope of this docket. This question also seeks information which is not proportional to needs of this docket in view of other information Otter Tail has provided. As such Otter Tail objects.
- c. This question appears to seek information concerning prudence and/or resource planning which are outside the scope of this docket. This question also seeks information which is not proportional to needs of this docket in view of other information Otter Tail has provided. As such Otter Tail objects. Moreover, this question incorrectly assumes that fuel costs are not comprised of both fixed and variable costs. There is no portion of the contract that relates solely to fuel.
- d. This question appears to seek information concerning prudence and/or resource planning which are outside the scope of this docket, and not proportional to needs of this docket in view of other information Otter Tail has provided. As such Otter Tail objects. Without waiving the same, please refer to Otter Tail Corporation's Consolidated Financial Statement (10K) for the fiscal year ended December 31, 2019 at page 60.
- e. This question appears to seek information concerning prudence and/or resource planning which are outside the scope of this docket and seeks information which is not proportional to needs of this docket in view of other information Otter Tail has provided. Note that Otter Tail's answer to IR MN-Sierra-005(f) was made under objection without waiver to describe the general terms of the process for securing fuel supplies.

**OTTER TAIL POWER COMPANY  
Docket No: E999/CI-19-704**

Response to: Sierra Club  
Analyst: Laurie Williams  
Date Received: May 08, 2020  
Date Due: May 18, 2020  
Date of Response: May 18, 2020  
Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

Refer to page 3 of Otter Tail Power's Annual Compliance Filing, describing Otter Tail as scheduling its share of both Coyote and Big Stone as "self-committed at minimum output."

- a. Please confirm that Otter Tail Power never self-schedules its shares of Big Stone and Coyote above the units' minimum operating levels.
- b. If not confirmed, please identify all hours in which Otter Tail Power self-scheduled its shares of Big Stone and Coyote above their minimum operating levels.

Attachments: 0

Response:

Otter Tail has taken reasonable efforts to maintain the secrecy of the information marked as PROTECTED DATA, which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use (the "Protected Data"). The Protected Data is therefore "trade secret information" and "nonpublic data" under Minn. Stat. § 13.37.

**[PROTECTED DATA BEGINS...**

**...PROTECTED DATA ENDS]**

OTTER TAIL POWER COMPANY

Docket No: E999/CI-19-704

Response to: Sierra Club

Analyst: Laurie Williams

Date Received: May 08, 2020

Date Due: May 18, 2020

Date of Response: May 18, 2020

Responding Witness: Stuart Tommerdahl, Manager, Regulatory Administration, 218 739-8279

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Information Request:

Refer to Attachment 2 to Otter Tail Power's Annual Compliance Filing.

- a. Please explain what is occurring during all hours in which the DA LMP is less than unit cost and yet the cleared MWh exceeds the DA disp min. That is, please explain why there are hours in which the units are cleared above their minimum operating levels in the DA market even when it is uneconomic to do so.
- b. Please explain what is occurring during the hours in which the RT LMP is less than the unit cost and yet the RT Calc MWh is greater than zero.

Attachments: 0

Response:

- a. Without examining each individual hour, it is not possible to comprehensively state all of the reasons and factors why there are hours where the units cleared above their minimum operating levels even though the stated unit cost is higher than the DA LMP. Furthermore, even if Otter Tail did look at each individual hour it is unlikely we could conclusively determine the reasons for all hourly dispatch levels because we do not possess the market inputs or software algorithms MISO utilizes to solve and dispatch the market. MISO determines economic dispatch and associated unit clearing levels. With this in mind, Otter Tail offers the following reasons why dispatch of the market can result in units clearing above their minimum operating levels even though the stated unit cost is higher than the LMP.
  1. MISO utilizes a three-part economic offer for each unit in both the DA and RT markets. The whole of these offer components represents the costs associated with committing the plant and generating output. The first offer component is the plant startup offer. This is offered as the cost per plant start to commit the unit and bring it online. The second component is the plant no-load offer. This represents the constant hourly cost to operate the plant independent of output. The third component is the variable energy offer of the plant. This offer component essentially represents the cost of fuel on a per MWh basis (and other

variable costs such as reagents, etc.). For the period under consideration, both Big Stone and Coyote plants were self-committed at minimums or must-run. Under a must-run commitment, because the unit is already online and committed, MISO is not obligated to make the unit whole to its three-part offer. Instead MISO dispatches the unit above its economic minimum, or self-schedule, based only on the unit's variable energy offer (does not include startup or no-load costs). Otter Tail utilizes a 10-point economic offer, based on the plant heat rate curve. This provides, to the market, an accurate reflection on the savings in \$/MWh provided by more efficient loading. MISO utilizes this offer to determine dispatch, not the value listed in Attachment 2, Column J.

2. The unit cost included in Attachment 2, Column J, is the average variable monthly cost for the plant in total. As noted previously, both Big Stone Plant and Coyote Station are joint owned units operated by multiple co-owners in multiple wholesale energy markets. Otter Tail's variable energy offer, as described in sub item #1 above, assumes that each co-owners' share is being dispatched proportionally by their respective ISOs. At the end of the month, all co-owners share in the efficient or inefficient dispatch of the generation which can result in some of the differences noted in the request for information.

- b. Otter Tail interprets this question to target hours where RT LMP pricing is below the stated unit cost and RT generation exceeds the DA clearing amounts.

When regarding why RT generation might exceed DA clearing levels, it should be noted that the DA and RT clearing results are separate from each other. While the DA clearing results indicate what may occur in the RT, MISO's dispatch of the RT market utilizes different and updated market inputs as compared to the DA clearing results. Otter Tail does not have the confidential MISO market data, or necessary software, to comment on why MISO changes pricing, and dispatch instructions, between the DA and RT markets.

Regarding why the RT dispatch of the unit might be above minimum output while RT LMP pricing is below the stated unit cost, please refer to part a.) of this response. This scenario may also be a result of additional conditions listed below.

- RT LMP pricing is generated based on aggregated 5-minute intervals averaged up to hourly values. RT generation dispatch setpoints are based on the current 5-minute interval. A subset of an hour's 5-minute LMP pricing can greatly impact the average hourly RT price. In such a situation, MISO would have limited opportunity to direct, and the generator would have little opportunity to move, in response to that pricing. This may give the false appearance the generator is not responding to pricing and dispatch signals appropriately.
- The ramp rate of the unit is not large enough keep up with volatile RT pricing.
- The unit is ramping online.
- The unit is ramping offline.
- Unit testing, requiring a fixed MW output, is delayed, or extended beyond the expected DA schedule.

- There are physical configuration transitions required within a plant to move from one operating level to another operating level. Those transitions take time and may not be advisable in response to short term pricing spikes.
- The unit has dropped to minimum output levels, but the actual RT energy output slightly fluctuates moment to moment, resulting in RT production slightly higher than minimum output.

CERTIFICATE OF SERVICE

I, S. Laurie Williams, hereby certify that I have this day, served or caused to be served copies of the following document on the attached list of persons by electronic filing or e-mail.

**Sierra Club Initial Comments: Otter Tail Power 2020 Annual Compliance Filing**

**Docket No. E999/CI-19-704**

Dated this 8<sup>th</sup> day of June 2020

/s/ S. Laurie Williams

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## Service List Member Information

## Electronic Service Member(s)

| Last Name                      | First Name     | Email                                | Company Name                       | Delivery Method    | View Trade Secret |
|--------------------------------|----------------|--------------------------------------|------------------------------------|--------------------|-------------------|
| Anderson                       | Christopher    | canderson@allete.com                 | Minnesota Power                    | Electronic Service | No                |
| Archer                         | Alison C       | aarcher@misoenergy.org               | MISO                               | Electronic Service | No                |
| Commerce Attorneys             | Generic Notice | commerce.attorneys@ag.state.mn.us    | Office of the Attorney General-DOC | Electronic Service | Yes               |
| Ferguson                       | Sharon         | sharon.ferguson@state.mn.us          | Department of Commerce             | Electronic Service | No                |
| Gerhardson                     | Bruce          | bgerhardson@otpc.com                 | Otter Tail Power Company           | Electronic Service | No                |
| Gleckner                       | Allen          | gleckner@fresh-energy.org            | Fresh Energy                       | Electronic Service | No                |
| Havey                          | Kim            | kim.havey@minneapolismn.gov          | City of Minneapolis                | Electronic Service | No                |
| Larson                         | Douglas        | dlarson@dakotaelectric.com           | Dakota Electric Association        | Electronic Service | No                |
| Oehlerking Boes                | Leann          | lboes@mnpower.com                    | Minnesota Power                    | Electronic Service | No                |
| Olson                          | Randy          | rolson@dakotaelectric.com            | Dakota Electric Association        | Electronic Service | No                |
| Residential Utilities Division | Generic Notice | residential.utilities@ag.state.mn.us | Office of the Attorney General-RUD | Electronic Service | Yes               |
| Ricker                         | Isabel         | ricker@fresh-energy.org              | Fresh Energy                       | Electronic Service | No                |
| Seuffert                       | Will           | Will.Seuffert@state.mn.us            | Public Utilities Commission        | Electronic Service | Yes               |
| Sweet                          | Lynnette       | Regulatory.records@xcelenergy.com    | Xcel Energy                        | Electronic Service | No                |
| Tommerdahl                     | Stuart         | stommerdahl@otpc.com                 | Otter Tail Power Company           | Electronic Service | No                |
| Tulloh                         | Brian          | btulloh@misoenergy.org               | MISO                               | Electronic Service | No                |

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