

Kentucky Power Company
KPSC Case No. 2018-00418
Commission Staff's First Set of Data Requests
Order Dated January 23, 2019

DATA REQUEST

KPSC 1_1 Refer to the application, paragraph 12, regarding Veloxint. Provide additional details regarding the operations of Veloxint, including the number of employees to be employed at the facility, the expected monthly energy and demand consumption, and whether the Veloxint facility will be separately metered from the other Braidy Facility.

RESPONSE

Kentucky Power is informed that Veloxint has developed the world's first efficiently scalable production of bulk nanocrystalline metal alloys. The technology combines traditional powder metallurgy process techniques with proprietary metal powder. The resulting alloys are two to five times stronger than traditional alloys made from the same input metals without adding weight, and offer unrivaled corrosion resistance. Braidy Industries acquired Veloxint to use its technology in the Braidy Atlas Mill operation.

The Veloxint facility currently is separately metered and is billed under Tariff G.S. The Veloxint facility uses on average approximately 50KW and 20,000 kWh per month. The KW demand at the time of full production is currently estimated to be up to 2MW. The monthly energy usage at the time of full production will depend upon the load factor; that load factor has yet to be determined.

Braidy does not currently have an estimated number of full-time employees to be employed at the Veloxint facility.

Witness: Ranie K. Wohnhas

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KPSC 1_2 Refer to the application, paragraph 13, regarding the Braidy Service Center and the Braidy Life Center. Refer also to the application, Exhibit 2, page 2 of 18, regarding the description of the Braidy Service Center. Provide additional details regarding the purpose and function of the Braidy Service Center and the Braidy Life Center, including the number of employees to be employed at each center, the expected monthly energy and demand consumption, and whether the two centers will be separately metered from the other Braidy Facility.

RESPONSE

The Braidy Service Center is a building to be used solely for the purposes of storing maintenance equipment and spare parts used in the Braidy Atlas Mill and other areas of the Braidy Facility.

The Braidy Life Center has been part of the overall project since the initial meeting in connection with the first site visit. At that meeting, the Braidy team shared its view of the facility and the employee and life balance Braidy intended to provide. The center will include a cafeteria, childcare center, fitness facility, and a wellness clinic. In addition there will be a large conference center, classrooms, and some of the communication and technical equipment associated with the mill, along with some storage space. Both of these buildings currently use minimal amounts of electricity.

The estimated demand and energy to be used at each of these facilities once the mill is in full production has not yet been determined. Braidy currently does not have an estimated number of full-time equivalent employees to be employed at the Braidy Service Center and the Braidy Life Center.

Witness: Ranie K. Wohnhas

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KPSC 1_3

Regarding the expected number of employees to be employed at the Braidy Service Center, the Braidy Life Center, and Veloxint, explain whether the level of staffing at these facilities are included in the 500-600 number of employees referenced in the application, paragraph 11 .

RESPONSE

Yes. The 500-600 employees referenced in paragraph 11 of the Application include persons to be employed at the Braidy Service Center, the Braidy Life Center, and Veloxint.

Witness: Ranie K. Wohnhas

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KPSC 1_4 Provide an aerial map depicting the locations of the Braidy Atlas Mill, the Braidy Service Center, the Braidy Life Center, and the Veloxint facility. Identify in this map the point of delivery for electric power and energy to be provided by Kentucky Power.

RESPONSE

The requested aerial map currently is not available. Kentucky Power will seasonably supplement this response with the map when it is available.

Witness: Ranie K. Wohnhas

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KPSC 1_5

Refer to the application, paragraph 16, which states that "[t]he Special Contract provides that (Kentucky Power] will supply energy and capacity to the Braidy Facility up to 180 MW of metered demand at a fixed, annual rate per kilowatt-hour (kWh) of energy used." Given that the Braidy Facility is comprised of four separate facilities located at three different addresses, explain how the point of delivery is configured such that the provision of electric service will be in compliance with 807 KAR 5:041 , Section 9(2), which provides that a utility shall regard each point of delivery as an independent customer and meter the power delivered at each point.

RESPONSE

Kentucky Power will provide service through a single meter at one point of delivery. The point of delivery will be the Braidy-owned substation (please see Article 2.2 of the Special Contract). All of the facilities identified in the Special Contract will be served from the Braidy-owned substation. Kentucky Power's current distribution facilities to each of those buildings will then be removed.

Witness: Ranie K. Wohnhas

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KPSC 1_6

Refer to the application, paragraph 19.

a. Regarding the contractually required level of employment, explain why the Special Contract provides for a level of employment (440 full-time equivalent employees) that is lower than what Braidy Industries, Inc. (Braidy), anticipates employing (approximately 550 full-time equivalent employees).

b. Explain whether Braidy has communicated to Kentucky Power about how it intends to honor the commitment to "advocate for and work to attract new industrial development and supply chain providers to Kentucky Power's service territory."

RESPONSE

a. The full-time employee number specified in paragraph 19 was negotiated by Kentucky Power and Braidy Industries; it represents the parties' agreement concerning the minimum number of full-time employees to be maintained at the Braidy Facility to entitle Braidy Industries to receive the Special Contract rates. The parties also recognized that staffing can vary over a ten-year period in response to changing economic conditions and technological developments. Four hundred and forty full time equivalent employees, which represents approximately 75 percent to 88 percent of the anticipated work force, was agreed to by Kentucky Power and Braidy Industries as providing Braidy the required flexibility to manage its operations, thereby aiding its ongoing economic viability, while ensuring that the economic development and other benefits upon which the Special Contract rates are predicated are substantially realized.

b. Braidy kept Kentucky Power informed from the inception of the parties' Special Contract negotiations regarding Braidy's efforts to recruit both potential Braidy Atlas Mill suppliers, and Braidy Atlas Mill customers, to locate in the Company's service territory. The Company is informed that as part of these recruitment efforts Braidy has provided potential supply chain providers and end product customers with information regarding, but are not limited to, available sites, transportation possibilities, various incentives, and rates.

Braidy worked with Silver Liner (in connection with its location in Pikeville), with EnerBlu before it selected Kentucky, and with Kentucky Power on its Appalachian Sky initiative. Braidy executives also traveled to the 2017 International Air Show to share their experiences and to promote the opportunity available in eastern Kentucky.

Witness: Ranie K. Wohnhas

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KPSC 1_7

Refer to Exhibit 2 of the application, page 19 of 19, Bill Illustration Addendum, line 4.1 B, Monthly Billing Energy. Indicate how the Monthly Billing Energy amounts were determined, explain why they appear to be based on different load factors, and provide the estimated load factor for the Braidy Facility.

RESPONSE

Line 4.1 B is a hypothetical amount created as an example to demonstrate all facets of the Special Contract's bill calculation and does not represent any estimate of the Customer's expected use.

Witness: Alex E. Vaughan

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KPSC 1_8 Refer to the Direct Testimony of Matthew J. Satterwhite, pages 7-8. Provide in more detail the nature of Braidy's business and how it will bring in "associated businesses and suppliers." Include in this response any economic analysis or empirical studies reviewed or provided to Kentucky Power in support of this statement.

RESPONSE

Braidy Industries is the first new fully integrated aluminum rolling mill built in the United States in over 30 years. They will focus on Series 5000, 6000, and 7000 aluminum sheet and plate products for the automotive and aerospace industries. Further information regarding the nature of Brady Industries' business may be found at the Braidy Industries website: www.braidyindustries.com.

Braidy is located within 300 of miles of multiple automotive and aerospace manufacturing facilities. Braidy is in discussion with over 20 supplier/vendors considering locating a facility with or near Braidy. Braidy attracts a cross section of potential suppliers and consumers of its product including automotive, aerospace, food and beverage, and oil and lubes. The location of Braidy suppliers, as well as consumers of Braidy's output, in close proximity to the Braidy EastPark Industrial Center facility, will lower costs to Braidy and improve the market for its products. Suppliers to the Braidy Facility, as well as consumers of Braidy's output, similarly can benefit from being located in proximity to the Braidy Facility. A successful implementation of these industries will also attract indirect advantages in support industries in medical and healthcare as well as shopping, food and entertainment.

The Company has not reviewed or received any analyses or studies regarding the ability of Braidy to "bring in associated businesses and suppliers."

Witness: Matthew J. Satterwhite

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KPSC 1_9 Refer to the Direct Testimony of Ranie K. Wohnhas (Wohnhas Testimony), page 4. Explain why Kentucky Power chose to enter into the Special Contract rather than utilizing the discounted rates set forth in Kentucky Power's Economic Development Rate Tariff.

RESPONSE

The Commonwealth of Kentucky was competing with multiple locations across the country to attract Braidy Industries. Site proponents were given very few facts but asked to design a bid that included a few constants so Braidy could compare bids and determine which sites to visit. Among the minimum requirements to enter into negotiations with Braidy to locate the Braidy Facility was the ability to offer a ten-year determinate rate contract. Kentucky Power's Economic Development Rate Tariff, by contrast, provides for discounts from the Company's tariffed rates. Those tariffed rates can, and would be expected to, change over a ten-year period. The Company's Economic Development Rate Tariff was not responsive to the minimum requirements established by Braidy and would not have allowed Kentucky Power to enter into negotiations to secure the Braidy Facility.

Witness: Matthew J. Satterwhite

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KPSC 1_10

Refer to the Wohnhas Testimony, pages 4-5. Confirm that only the incremental usage above the 180 MW contractual limit will be billed at Tariff I.G.S. demand and energy charges, plus all surcharges and riders.

RESPONSE

Confirmed.

Witness: Ranie K. Wohnhas

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KPSC 1_11

Refer to the Wohnhas Testimony, page 5, regarding the Braidy Service Center. Explain the need to establish a definition for the Braidy Service Center in the Special Contract, and why the purpose of the center is explicitly set forth in the Special Contract.

RESPONSE

The phrase "service center" is broadly encompassing. Defining the term "Braidy Service Center" ensures that Kentucky Power and Braidy have a common understanding of the service center activities eligible to receive the Special Contract rates. There could be other entities collocating on the Braidy site. To avoid confusion, misunderstandings, and disputes later the parties determined it appropriate to identify the sites and activities that would be eligible for the Special Contract rate.

Witness: Ranie K. Wohnhas

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KPSC 1_12

Refer to the Wohnhas Testimony, page 6, regarding the statement that "Veloxint currently is being served under the applicable Company tariff ."

- a. Identify the rate schedule that Veloxint is currently being served under.
- b. Identify the date upon which Kentucky Power started providing service to Veloxint.
- c. Confirm that Veloxint is currently a Kentucky Power customer.

RESPONSE

a. The rate schedule for the Veloxint site is the General Service Secondary tariff (tariff 215). Service is being provided to the Veloxint site in the name of Braidy Industries Inc.

b. July 20, 2018.

c. Kentucky Power cannot confirm the statement. Please see the Company's response to KSPC 1_12a.

Witness: Ranie K. Wohnhas

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KPSC 1_13 Refer to the Wohnhas Testimony, page 9. From the beginning of negotiations, the peak capacity of the Braidy Facility increased from 60 MW to 180 MW. Explain the factors that led to the increased peak capacity.

RESPONSE

The estimated peak capacity for phase 1 (see below) of the Braidy Facility evolved as Braidy Industries worked with its equipment supplier and electrical contractor to develop plans for the Braidy Facility.

Braidy originally indicated to Kentucky Power in mid-2018 that it expected a peak load of 60MW. Braidy Industries informs the Company that this initial estimate was based upon input from its equipment supplier. This input, the Company understands, was based upon the supplier's experience.

Braidy and its electrical contractor, Kiewit, subsequently further developed plans for the Braidy Facility. Based on this work, Braidy and Kiewit informed Kentucky Power that the estimated full connected load for the Braidy Facility would be approximately 200MW. (Full connected load represents the load when all electrical equipment is running at the same time).

Kentucky Power next discussed this estimate with Braidy and Kiewit. Based on these discussions, Braidy and Kentucky Power agreed to include a peak load of 180MW in the Special Contract filed with the Commission on December 21, 2018.

On January 17, 2019, Braidy informed Kentucky Power that based on its subsequent detailed discussions with Kiewit, Braidy and Kiewit have now estimated a phase 1 peak load of approximately 102MW. Braidy Industries informed Kentucky Power that this reduction in the anticipated peak load resulted from an increased understanding, as development plans for the mill progressed, of how the full mill would operate.

Braidy anticipates developing the mill in two phases. The first phase, which is anticipated to begin production in late 2021, is estimated to have an approximate 102MW peak load. The second phase (for which there is not yet currently an estimated date for production) would result in an increase in the approximate peak load to 145MW. Braidy and Kentucky Power have agreed to revisit the peak demand after operation of phase 1 for one year. Kentucky Power will then seek Commission approval to modify the Special Contract to the agreed upon going forward level of peak demand.

Witness: Ranie K. Wohnhas

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DATA REQUEST

KPSC 1_14 Refer to the Direct Testimony of Alex E. Vaughn, Confidential Exhibit AEV-1, page 1 of 2. Explain how the amounts in column (a), NEC Cost, and the estimated fixed cost contribution were determined and provide the calculations for those amounts along with any other assumptions. Include in this response a break out of the NEC Cost by fuel and purchase power.

RESPONSE

Please refer to KPCO_R_KPSC_1_14_ConfidentialAttachment1.pdf for the calculation of the NEC (net energy cost) in column A of Confidential Exhibit AEV-1. The computation of the estimated fixed cost contribution included in Company Witness Vaughan's Confidential Exhibit AEV-1 is column C times 1,051,200 MWh.

Witness: Alex E. Vaughan

KPCO Forecasted
 NET ENERGY COST AND REQUIREMENT

NET ENERGY COST -- FUEL ONLY (\$000)

	2020	2021	2022	2023	2024	2025	2026	2027	2028
FOSSIL	[REDACTED]								
NUCLEAR									
HYDRO+PUMP STR									
CC (INC GAS RES FEES)									
CT (INC GAS RES FEES)									
GAS STEAM (INC GAS RES FEES)									
OWNED WIND									
OWNED SOLAR									
TOTAL GENERATION									
PLUS:									
MKT PURCHASES	[REDACTED]								
WIND PURCHASES									
SOLAR PURCHASES									
OTHER PURCHASES									
AFFILIATED PURCHASES (AEG)	[REDACTED]								
LESS:									
GEN FOR SALES									
PURCH RESOLD	[REDACTED]								
UNIT POWER SOLD									
NET TOTAL	[REDACTED]								

NET ENERGY REQUIREMENT (GWH)

FOSSIL	[REDACTED]								
NUCLEAR									
HYDRO+PUMP STR									
CC									
CT									
GAS STEAM									
OWNED WIND									
OWNED SOLAR									
TOTAL GENERATION									
PLUS:									
MKT PURCHASES	[REDACTED]								
WIND PURCHASES									
SOLAR PURCHASES									
OTHER PURCHASES									
AFFIL PURCH (AEG)	[REDACTED]								
MARGINAL LOSSES									
LESS:									
GEN FOR SALES	[REDACTED]								
PURCH RESOLD									
UNIT POWER SOLD									
NET TOTAL	[REDACTED]								

NET COST \$/MWH [REDACTED]

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KPSC 1_15 Provide an estimate of the expected fixed costs to provide service to Braidy over the term of the contract.

RESPONSE

The Company does not have an estimate of the fixed cost associated with serving the Braidy load over the 10-year term of the Special Contract. When Braidy begins commercial operation and purchases power from the Company under the Special Contract, it will be providing a contribution to the Company's existing fixed costs that will benefit the Company and all other customers. The Company estimates that Special Contract revenues also will cover the marginal cost of serving the Braidy load over the term of the agreement.

Witness: Alex E. Vaughan

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KPSC 1_16 Provide a comparison calculation, similar to the Exhibit 2 bill illustration, showing the rate that would be paid by Braidy if it were required to be served under Kentucky Power's Tariff 1.G.S.

RESPONSE

Please refer to KPCO_R_KPSC_1_16_Attachment1.xlsx for the requested information. The attachment illustrates the calculation utilizing both the original 180MW and the more recent 102MW peak load referenced in the Company's response to KPSC 1_13.

Witness: Alex E. Vaughan

Kentucky Power Company
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DATA REQUEST

KPSC 1_17 Refer to Kentucky Power's Application in Case No. 2018-00378,² paragraph 21 , regarding Kentucky Power's expected capacity deficit situation beginning in the 2022/2023 PJM Interconnection, LLC, planning year. Explain in detail how Kentucky Power plans to serve the Braidy Facility load if Kentucky Power does not have sufficient internal capacity to serve its native load beginning June 1, 2022.

RESPONSE

As a result of the expected expiration of the Rockport lease agreement on December 22, 2022, Kentucky Power projects it will lack sufficient capacity to serve its native load beginning June 1, 2022 even without the addition of the Braidy load. Because the Company currently estimates that it will have to procure additional capacity to serve its internal load obligation upon the termination of the Rockport lease, with or without the additional Braidy load, the addition of the Braidy load will change the amount of capacity to be procured but not the need to obtain additional capacity. The Company currently estimates that the cost of replacement capacity after the Rockport lease expires will be equal to or less than the cost of capacity under the Rockport lease. Therefore, the Company does not expect that its overall average cost of capacity to serve its native load will increase following the expiration of the Rockport lease. Because the Braidy Special Contract is estimated to provide a fixed cost contribution towards the current (existing) average cost of capacity, it is reasonable to assume that it will continue to do so post June 1, 2022.

Witness: Alex E. Vaughan

Kentucky Power Company
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KPSC 1_18 Explain why the contract does not contain any minimum required usage.

RESPONSE

The Braidy Facility represents a transformative investment in the Company's service. Based on the size of the investment by Braidy Industries, as well as the nature of that investment, the Company agreed during the negotiations that a minimum take provision would not be required during the term of the special contract.

Witness: Alex E. Vaughan

Kentucky Power Company
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DATA REQUEST

KPSC 1_19 Explain whether the Monthly Energy Charge is designed to recover all variable costs and makes a contribution to fixed costs regardless of the amount of demand consumed by the Braidy Facility.

RESPONSE

The Company estimates that fixed (but annually increasing) energy charge for all kWh associated with the Customer's first 180 MW of demand will recover all variable costs and make a contribution to fixed costs. This response does not change as a result of the events described in the Company's response to KPSC 1_13.

All usage over 180 MW of demand will be billed at the standard I.G.S. tariff rates.

Witness: Alex E. Vaughan

VERIFICATION

The undersigned, Alex E. Vaughan, being duly sworn, deposes and says he is the Regulatory Pricing & Analysis Manager for American Electric Power, that he has personal knowledge of the matters set forth in the foregoing responses and the information contained therein is true and correct to the best of his information, knowledge, and belief.



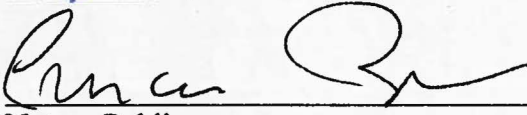
Princess M. Brown
Notary Public, State of Ohio
My Commission Expires 04-19-2020


Alex E. Vaughan

Ohio)
)
County of Franklin)

Case No. 2018-00418

Subscribed and sworn before me, a Notary Public, by Alex E. Vaughan this
7 day of February, 2019.



Notary Public

My Commission Expires 4/19/2020

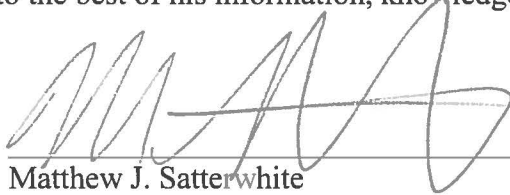
VERIFICATION

The undersigned, Matthew J. Satterwhite, being duly sworn, deposes and says he is the Vice President of Regulatory Services for American Electric Power, that he has personal knowledge of the matters set forth in the foregoing responses and the information contained therein is true and correct to the best of his information, knowledge, and belief.




Princess M. Brown
Notary Public, State of Ohio
My Commission Expires 04-19-2020

of Ohio)
)
County of Franklin)


Matthew J. Satterwhite

Case No. 2018-00418

Subscribed and sworn before me, a Notary Public, by Matthew J. Satterwhite this
7th day of February, 2019.


Notary Public

My Commission Expires 4/19/2020