

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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| APPLICATION OF BIG RIVERS ELECTRIC CORPORATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT TWO 161 KV TRANSMISSION LINES IN HANCOCK COUNTY, KENTUCKY |) | CASE NO. |
| |) | 2015-00051 |
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ORDER

On April 7, 2015, Big Rivers Electric Corporation (“Big Rivers”) filed an application, pursuant to KRS 278.020(2) and 807 KAR 5:120, requesting approval for a Certificate of Public Convenience and Necessity (“CPCN”) to construct two 161-kilovolt (“kV”) transmission lines in Hancock County, Kentucky.¹ The proposed transmission lines are needed to serve the anticipated expansion of an aluminum mill owned by Aleris Rolled Products, Inc. (“Aleris”) located in Lewisport, Kentucky.² The proposed transmission lines are approximately 1.7 miles and 2 miles in length, respectively.³ The routes for the proposed transmission lines begin at the Big Rivers Coleman Extra High Voltage (“EHV”) Substation, which is approximately 1.5 miles east of the Aleris aluminum mill.⁴ From the EHV Substation, the lines will extend west to two substations at the Aleris aluminum mill.⁵ The cost of the transmission lines, including the purchase

¹ Application at numbered paragraph 4.

² *Id.*

³ *Id.*

⁴ *Id.* at numbered paragraph 6.

⁵ *Id.*

price of the necessary easements, is approximately \$1.4 million.⁶ The annual cost to maintain and operate the proposed transmission lines is estimated to be \$27,000.⁷ The proposed construction project will be self-financed by Big Rivers.⁸

Thomas Baird, a property owner in the path of one of the proposed transmission lines, is the only intervenor in this matter. By Order dated May 1, 2015, the Commission, pursuant to KRS 278.020(8), extended the statutory period in which a decision must be issued from 90 days to 120 days from the date of the filing of the application. The May 1, 2015 Order also established a procedural schedule for the processing of this case, which included a deadline for the filing of intervention requests, two rounds of discovery, and a deadline for requesting a public hearing. The May 1, 2015 Order noted that, pursuant to KRS 278.020(8) and KRS 278.255(3), the Commission retained an independent consultant, Qk4, Inc., to assist the Commission in reaching its decision.

Given that there have not been any requests for a public hearing, and there being no written comments opposing the proposed transmission lines filed into the record of this proceeding, the Commission finds that a public hearing is not necessary in the public interest or for the protection of substantial rights. Accordingly, the matter is before the Commission for a decision based upon the evidentiary record. Based on the following reasons and finding that the public convenience and necessity require

⁶ *Id.* at numbered paragraph 12.

⁷ *Id.*

⁸ *Id.*

construction of the proposed transmission lines, the Commission hereby issues a CPCN to Big Rivers.

STATEMENT OF THE CASE

Big Rivers, a rural electric cooperative organized pursuant to KRS Chapter 279, owns and operates facilities that generate and transmit electric energy for sale at wholesale to its member distribution cooperatives which jointly own it: Jackson Purchase Energy Corporation, Kenergy Corp. (“Kenergy”), and Meade County Rural Electric Cooperative Corporation.⁹ These member cooperatives distribute power to approximately 114,000 retail customers in 22 western Kentucky counties.¹⁰

As stated previously, Big Rivers proposes to construct two 161-kV transmission lines from its Coleman EHV Substation in northern Hancock County to connect to two substations at the Aleris aluminum mill, also located in northern Hancock County. Big Rivers estimates the cost to construct the proposed transmission lines to be \$1.4 million.

Big Rivers noted that the proposed transmission lines are needed to provide transmission service to the anticipated expanded Aleris load. Big Rivers currently provides transmission service to Aleris, which is located in Kenergy’s service territory, through its 161-kV system connected to the Hancock County substation.¹¹ With a planned expansion of 33-megawatts (“MW”) (expected running load) up to a maximum

⁹ *Id.* at numbered paragraph 2.

¹⁰ *Id.*

¹¹ Application, Exhibit B at 1.

of 72 MW, Big Rivers states that its current transmission system would not be able to provide adequate service to Aleris.¹²

In analyzing the most appropriate transmission plan to serve the 33-MW Aleris load expansion, Big Rivers conducted a transmission study to determine the most cost-effective and reliable transmission service option to Aleris. Based on this study, Big Rivers concluded that the proposed transmission lines offer the most robust and flexible service plan, while also providing back-up service to both delivery point substations during outage conditions.¹³ The 1.7-mile 161-kV radial circuit would serve the existing 28-MW Aleris load at the existing 161/13.8-kV delivery point, which is located just south of the Aleris mill.¹⁴ The two-mile 161-kV radial circuit would provide service to a new 161/13.8-kV delivery point, to be located north of the Aleris mill necessary to serve the expanded 33-MW Aleris load.¹⁵ Based on the studies conducted by Big Rivers, a service plan based upon the proposed transmission lines would not cause any line loading or voltage problems on Big Rivers' transmission system, and adequate and reliable service could be expected with the proposed 161-kV service plan.¹⁶ The existing 161-kV transmission circuits from Big Rivers' Hancock County substation to its Martin-Marietta substation will remain available as back-up feeds to both the existing

¹² *Id.*

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

Aleris load and the planned load expansion to allow service from Hancock County in the event of an emergency.¹⁷

Big Rivers also evaluated the option of leaving the topology unchanged and providing service to the entire Aleris load by expanding the existing 161/13.8-kV delivery point.¹⁸ Big Rivers' analysis indicated an increase risk to the bulk electric system and limited flexibility compared to the proposed alternative, with the high-side voltage at Aleris expected to drop to 91 percent with an outage at the Coleman EHV to Hancock County 161-kV circuit.¹⁹

Big Rivers states that the proposed transmission lines are a necessary part of several projects that together will enable it to serve the expansion of Aleris' aluminum mill.²⁰ The several other projects, which Big Rivers contends are ordinary extensions of existing systems in the usual course of business and do not require a CPCN, include the construction of a new transmission substation on the north side of the Aleris mill (estimated cost of \$5.8 million); construction of a 0.7-mile 161-kV transmission line out of Big Rivers' Hancock County Substation (estimated cost of \$400,000); modifications to the existing substation on the south side of the Aleris mill (estimated cost of \$800,000); and construction of two line terminals at the Coleman EHV Substation (estimated cost of \$1.15 million).²¹

¹⁷ *Id.*

¹⁸ *Id.* at 5.

¹⁹ *Id.*

²⁰ Application at numbered paragraph 8.

²¹ *Id.*; See also Big Rivers' Response to Commission Staff's Initial Request for Information, Item 2.c.

Big Rivers retained an outside consultant to conduct a study to determine the preferred routes for the two proposed transmission lines. The route selection study utilized the Electric Power Research Institute/Georgia Transmission Corporation Overhead Electric Transmission Line Siting Methodology (“EPRI/GTC Methodology”) to identify the preferred route for construction of the two new transmission lines.²² The EPRI/GTC Methodology was adapted for use in Kentucky through a stakeholder process at a workshop conducted in February 2006 in Lexington, Kentucky.²³ Using the siting model, Big Rivers’ siting team first developed Macro Corridors, which define larger geographic areas, characterized as a study area, in which the transmission lines might be sited, but which require more detailed study to determine the actual route.²⁴ From those Macro Corridors, the siting team then developed four Alternative Corridors that represent different perspectives for routing transmission lines.²⁵ The First Alternative Corridor, the Built Environment Perspective, seeks to minimize the impact on human development and activities, places, and cultural resources.²⁶ The Second Alternative Corridor, the Natural Environment Perspective, is concerned with protecting water resources, plants, and animals.²⁷ The Third Alternative Corridor, the Engineering Considerations Perspective, is geared toward maximizing co-location and consideration

²² Application, Exhibit C at 3.

²³ *Id.* at 5.

²⁴ *Id.* at 4.

²⁵ *Id.* at 5.

²⁶ *Id.* at 53.

²⁷ *Id.* at 40.

of physical restraints.²⁸ The Fourth Alternative Corridor, the Simple Average Perspective, weighs the other three alternative corridors as equally important.²⁹ After reviewing the four Alternative Corridors, Big Rivers identified five Alternate Routes along the Alternative Corridors.³⁰ These alternate routes reflect the potential centerline paths of a transmission line. Two of the Alternate Routes, Routes A³¹ and B,³² connect the Coleman EHV Substation site with the proposed 161-kV transmission line running north of the Aleris mill.³³ The three other Alternate Routes, Routes C,³⁴ D,³⁵ and E,³⁶ connect

²⁸ *Id.* at 23.

²⁹ *Id.* at 81.

³⁰ *Id.* at 85.

³¹ Route A leaves the Coleman EHV Substation site going northeast, and then turning at a 90-degree angle to the northwest. After a slight slant to the west, the route continues for 0.78 miles until it turns sharply to the southwest. The route then goes 0.61 miles before turning due west, then proceeds 0.5 miles to the final turn to the southwest to end at the new substation north of the Aleris mill. See Application, Exhibit C at 109.

³² Route B exits the Coleman EHV Substation site on the opposite side from where Route A exited. The route goes southwest for 0.25 miles before following the existing right-of-way for another 0.58 miles. The route then turns northwest until it passes a body of water east of the Aleris mill. The route then turns west for 0.37 miles and turning southwest again before ending at the new substation north of the Aleris mill. See Application, Exhibit C at 109.

³³ *Id.* Exhibit C at 85.

³⁴ Route C exits the Coleman EHV Substation site going northwest before making two 90-degree turns to go in the opposite direction. The route then goes 0.39 miles before it intersects the existing right-of-way and follows that for 0.59 miles. The route crosses the railroad, then proceeds southwest for 0.54 miles. The route then takes a sharp left turn, going northwest and finishing at the existing substation south of the Aleris mill. See Application, Exhibit C at 109.

³⁵ Route D follows the same path as Route C until it intersects the existing right-of-way. At that point, Route D goes 0.03 miles further north and changes direction to the southwest. This continues until a sharp turn is made after 0.54 miles to go into the existing substation south of the Aleris mill. See Application, Exhibit C at 110.

³⁶ Route E uses the same path as Routes C and D until the beginning of the existing right-of-way. Route E goes about 0.4 miles farther south than Routes C and D. The route goes westward parallel to the existing right-of-way until a slant is made after 0.62 miles. This slant goes in a southwestern direction and continues until a sharp northwestern turn is made to go into the existing substation south of the Aleris mill. See Application, Exhibit C at 110.

the Coleman EHV Substation with the second proposed transmission line running south of the Aleris mill.³⁷ The Alternate Routes were evaluated using the Alternate Route Evaluation Model, which used statistical data divided into three categories similar to the perspectives used to create the four Alternative Corridors.³⁸ The statistics were normalized and weights assigned based on Alternate Route Evaluation Model.³⁹ The model then compares each of the five alternate routes using a standard set of criteria.⁴⁰ Based on the alternative route modeling and upon the expert judgment of its siting team,⁴¹ Big Rivers determined that Route B was the preferred route for the proposed northern line, and Route D was the preferred route for the proposed southern line.⁴²

DISCUSSION

To establish that the public convenience and necessity require the construction of a new facility, an applicant must demonstrate the need for the proposed facilities and that the proposed construction will not result in the wasteful duplication of facilities.⁴³

“Need” requires:

³⁷ *Id.* Exhibit C at 85.

³⁸ *Id.* at 88.

³⁹ *Id.*

⁴⁰ *Id.* at 105.

⁴¹ In the expert judgment phase, the Big Rivers siting team considered factors that did not readily lend themselves to quantification but which were nevertheless important in the selection of the preferred routes. Each factor was assigned a percentage weight based on its overall importance. The factors considered were visual, community, project management, special permit, accessibility, reliability, maintenance cost, and double circuit opportunity. See Application, Exhibit C at 111-116.

⁴² Application, Exhibit C at 116.

⁴³ *Kentucky Utilities Company v. Public Service Commission*, 252 S.W.2d 885 (Ky. 1952).

[A] showing of a substantial inadequacy of existing service, involving a consumer market sufficiently large to make it economically feasible for the new system or facility to be constructed or operated.

[T]he inadequacy must be due either to a substantial deficiency of service facilities, beyond what could be supplied by normal improvements in the ordinary course of business; or to indifference, poor management or disregard of the rights of consumers, persisting over such a period of time as to establish an inability or unwillingness to render adequate service.⁴⁴

“Wasteful duplication” is defined as “an excess of capacity over need” and “an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of physical properties.”⁴⁵ To demonstrate that a proposed facility does not result in wasteful duplication, we have held that the applicant must demonstrate that a thorough review of all reasonable alternatives has been performed.⁴⁶ Selection of a proposal that ultimately costs more than an alternative does not necessarily result in wasteful duplication.⁴⁷ All relevant factors must be balanced.⁴⁸ The statutory touchstone

⁴⁴ *Id.* at 890.

⁴⁵ *Id.*

⁴⁶ Case No. 2005-00142, *Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for a Certificate of Public Convenience and Necessity for the Construction of Transmission Facilities in Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky* (Ky. PSC Sept. 8, 2005).

⁴⁷ See *Kentucky Utilities Co. v. Pub. Serv. Comm'n*, 390 S.W.2d 168, 175 (Ky. 1965). See also Case No. 2005-00089, *Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity for the Construction of a 138 kV Electric Transmission Line in Rowan County, Kentucky* (Ky. PSC Aug. 19, 2005), Final Order.

⁴⁸ Case No. 2005-00089, *East Kentucky Power Cooperative, Inc.* (Ky. PSC Aug. 19, 2005), Final Order at 6.

for ratemaking in Kentucky is the requirement that rates set by the Commission must be fair, just and reasonable.⁴⁹

Although Big Rivers has not yet submitted a special contract setting forth the terms and conditions for the provision of electric and transmission service for the expanded Aleris load for the Commission's review and approval,⁵⁰ we nevertheless find that Big Rivers has established sufficient evidence to demonstrate that the proposed transmission lines are needed to serve Aleris's imminent plans to expand its operation at the Lewisport mill. We note that in a July 27, 2015 letter, Aleris, through its Vice President, North America Automotive, formally notified the Commission, advising and assuring of its dedication to successfully completing the automotive body sheet expansion project.⁵¹ The letter provided that: Aleris has approved the expansion project for construction, and all necessary capital to fund the project has been obtained; all necessary construction permits have been obtained; construction on the expansion project began in December 2014 and is projected to be complete in August 2017; the construction of the expansion project is 20 percent complete; 60 additional jobs will be created by the expansion project; and Aleris is actively negotiating with Big Rivers and Kenergy on an amended retail electric service agreement and anticipates completion of that agreement in the near future.⁵² In addition to the assurances by Aleris with respect to the progress and completion of the expansion project, we find that Big

⁴⁹ KRS 278.190(3).

⁵⁰ See Big Rivers' Response to Commission Staff's Supplemental Request for Information, Item 1.

⁵¹ See July 27, 2015 Letter from Andrew L. Ishmael, Vice President, North American Automotive to Jeff Derouen, Executive Director, Kentucky Public Service Commission (filed July 31, 2015).

⁵² *Id.*

Rivers has secured adequate protection in the form of a May 13, 2015 letter of credit wherein, among other things, Aleris agrees to reimburse Big Rivers up to \$3.93 million if Aleris ceases or terminates the Aleris expansion project within 12 months from the date of the letter of credit.⁵³ The letter of credit defines cessation or termination of the Aleris expansion project to include a contingency in which “there is no reasonable prospect for an amended retail electric service agreement between Aleris and Kenergy Corp. that will address the cost to Big Rivers of the Expanded Transmission Facilities.”⁵⁴ Pursuant to the letter of credit, Aleris also agrees that Big Rivers will not be obligated to continue work on the proposed transmission lines and associated projects beyond the date on which Big Rivers’ costs on such projects will exceed \$3.93 million, provided that Big Rivers will give Aleris 30 days’ advance notice to allow Aleris to increase the reimbursement expenditure limits.⁵⁵ In light of the July 27, 2015 Aleris letter affirming to the actions taken by Aleris to date to carry forward and implement the expansion of the Aleris aluminum mill in Lewisport, Kentucky, and protections safeguarded by the reimbursement provided for in the letter of credit, the Commission finds that there is a need for the proposed transmission lines.

The Commission further finds that construction of the proposed 161-kV transmission lines is reasonable and will not result in the wasteful duplication of facilities. We note that the cost of the proposed transmission lines is approximately \$1.4 million, which would not have a material financial impact on Big Rivers or its rates.

⁵³ See Big Rivers’ Response to Commission Staff’s Supplemental Request for Information, Item 2.a., Attachment 1 of 3.

⁵⁴ *Id.*

⁵⁵ *Id.*

The evidence also supports Big Rivers' selection of the routes. Route B, involving the proposed transmission line to the north of the Aleris mill, is the shortest route and, unlike Route A, would not have a visual impact on any occupied residential homes and on any structures that are potentially eligible for listing on the Natural Register for Historic Places. Both preferred routes, Route B and Route D, were selected to avoid impacts to the built and natural environments, including residences, forested areas, and water resources, including the complete avoidance of stream crossings and wetland impacts. Lastly, we note that the Commission's retained consultant in its report, filed on June 17, 2015, also found that the selected routes were situated in such a way that no scenic degradation is anticipated to result from the construction of the proposed transmission lines.

IT IS THEREFORE ORDERED that:

1. Big Rivers is granted a CPCN to construct and operate the proposed transmission lines as set forth in its application.
2. Big Rivers shall file a survey of the final location of the line after any modifications are finalized as authorized herein and before construction begins.
3. Big Rivers shall file "as-built" drawings or maps within 60 days of the completion of the construction authorized by this Order.

By the Commission

ENTERED
AUG 04 2015
KENTUCKY PUBLIC
SERVICE COMMISSION

ATTEST:



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