

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF DUKE ENERGY)	
KENTUCKY, INC. FOR A CERTIFICATE OF)	CASE NO.
PUBLIC CONVENIENCE AND NECESSITY)	2022-00084
AUTHORIZING THE PHASE ONE REPLACEMENT)	
OF THE AM07 PIPELINE)	

ORDER

On March 29, 2022, Duke Energy Kentucky, Inc. (Duke Kentucky) filed an application pursuant to KRS 270.020 and 807 KAR 5:001, Section 15, seeking a Certificate of Public Convenience and Necessity (CPCN) to construct phase one of a five-phase project to replace its AM07 natural gas pipeline. No party requested intervention in this proceeding. Duke Kentucky responded to four sets of requests for information from Commission Staff. On August 3, 2022, Duke Kentucky requested that this matter be submitted on the written record. This matter stands submitted for a decision based on the written record.

LEGAL STANDARD

No utility may construct or acquire any facility to be used in providing utility service to the public until it has obtained a CPCN from this Commission.¹ To obtain a CPCN, the utility must demonstrate a need for such facilities and an absence of wasteful duplication.²

¹ KRS 278.020(1). Although the statute exempts certain types of projects from the requirement to obtain a CPCN, the exemptions are not applicable.

² *Kentucky Utilities Co. v. Pub. Serv. Comm'n*, 252 S.W.2d 885 (Ky. 1952).

“Need” requires:

[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.³

“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.”⁴ To demonstrate that a proposed facility does not result in wasteful duplication, the Commission has held that the applicant must demonstrate that a thorough review of all reasonable alternatives has been performed.⁵ Although cost is a factor, selection of a proposal that ultimately costs more than an alternative does not necessarily result in wasteful duplication.⁶ All relevant factors must be balanced.⁷

³ *Kentucky Utilities Co.*, 252 S.W.2d at 890.

⁴ *Kentucky Utilities Co.*, 252 S.W.2d at 890.

⁵ 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), Order at 11.

⁶ 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.

⁷ Case No. 2005-00089, *East Kentucky Power Cooperative, Inc.* (Ky. PSC Aug. 19, 2005), final Order at 6.

BACKGROUND

Duke Kentucky’s plan to replace the AM07 pipeline was described in its prior rate proceeding, Case No. 2021-00190.⁸ Duke Kentucky intends a five-phase construction plan involving the replacement of approximately 13.7 miles out of approximately 16 miles of pipeline in Boone County and Kenton County, Kentucky.⁹ The existing pipeline is constructed primarily from A.O. Smith (AOS) steel pipe, installed in 1956.¹⁰ The present application sought approval for phase one, which involves abandoning a section of the existing pipeline and replacing it with an approximately 1.5-mile length of 24-inch steel transmission line to a new regulator station with an in-line inspection (ILI) receiver feeding into an approximately 2500-foot length of 24-inch steel distribution pipeline.¹¹

Duke provided the estimated costs of each phase of construction as follows:

	Construction Cost ¹²
Phase 1	\$32,246,474
Phase 2	\$39,350,000
Phase 3	\$47,210,100
Phase 4	\$32,101,000
Phase 5	\$30,388,000
Total:	\$181,295,574

⁸ Case No. 2021-00190, *Electronic Application of Duke Energy Kentucky, Inc. for: 1) An Adjustment of The Natural Gas Rates; 2) Approval of New Tariffs, and 3) All Other Required Approvals, Waivers, and Relief* (Ky. PSC Dec. 28, 2021), final Order at 6.

⁹ Application at 1–2.

¹⁰ Direct Testimony of Brian R. Weisker (Weisker Testimony) at 5.

¹¹ Application at 2–3.

¹² Weisker Testimony at 6.

Duke Kentucky estimates the cost of required testing of abandoned pipeline for contaminants at approximately \$350 to \$400 per linear foot,¹³ which for 9,600 feet¹⁴ of abandoned pipeline would total \$3,360,000 to \$3,840,000. An additional cost is associated with grouting any portion of the abandoned pipeline that is above the allowable threshold level for contaminants and would depend on the results of the inspection. The estimated annual operations and maintenance cost for the new stretch of pipeline is less than \$10,000,¹⁵ and \$439,000 for all phases.¹⁶ Testing required by the Pipeline and Hazardous Materials Safety Administration (PHMSA) would be required ten years after the construction of the new pipeline and every seven years afterwards at a cost of \$300,000 using the ILI tool.¹⁷

Duke Kentucky's stated purposes for the replacement of the AM07 pipeline were twofold. First, Duke Kentucky claimed that AOS pipe has a long history of failures due to hard spots in the pipe body along with failures on the longitudinal seam.¹⁸ Duke Kentucky asserted that replacement of this 66-year-old pipe will increase safety and reliability of the pipeline, support future load growth, and maintain pressures.¹⁹ Second, the new pipeline

¹³ Duke Kentucky's Response to Commission Staff's Second Request for Information (Staff's Second Request) (filed July 8, 2022), Item 4. Comparatively, the cost of removal instead of abandonment is \$1,000 to \$2,000 per linear foot. Duke Kentucky's Response to Commission Staff's First Request for Information (Staff's First Request) (filed June 3, 2022), Item 4d.

¹⁴ Response to Staff's First Request, Item 7.

¹⁵ Weisker Testimony at 8.

¹⁶ Duke Kentucky's Response to Staff's Second Request, Item 3.

¹⁷ Duke Kentucky's Response to Commission Staff's Fourth Request for Information (Staff's Fourth Request) (filed Nov. 18, 2022), Item 3c.

¹⁸ Weisker Testimony at 5.

¹⁹ Application at 3, 5.

would allow the use of the ILI tool, which will allow cheaper and more robust inspection of pipeline.²⁰ Absent the use of the ILI tool for PHMSA testing, Duke Kentucky would be required to perform pressure testing.²¹ Duke Kentucky provided estimates indicating that the cost of pressure testing the existing portion of pipeline to be replaced in phase one would be \$14,741,200 every seven years.²² This would include \$5 million for providing temporary gas while bypassing portions of the existing pipeline.²³ Duke Kentucky stated that these costs would not include the cost of remedying deficiencies in the pipeline discovered during pressure testing, which cannot be predicted, and which would also increase the downtime of the pipeline and therefore increase temporary gas cost.²⁴

DISCUSSION AND FINDINGS

Having considered the application and all evidence in the record, the Commission finds that the CPCN should be granted. Either (1) replacement of the AM07 pipeline and use of ILI testing or (2) bypassing the pipeline for pressure testing is necessary to comply with PHMSA regulations. Although the \$32,250,000 in known costs involved in replacement exceeds the \$14,741,200 in known pressure testing costs, the pressure testing would be required every seven years. As a result, the cost of pressure testing the existing pipeline would exceed the cost of replacement and ILI testing after 21 years:²⁵

²⁰ Application at 4.

²¹ 49 C.F.R. § 192.921(a)(2).

²² Duke Kentucky's Response to Staff's Fourth Request, Attachment 3b. This table includes \$242,100 in pipeline abandonment costs that are included in error, as abandonment would not be required for pressure testing instead of replacing the pipeline.

²³ Duke Kentucky's Response to Staff's Fourth Request, Item 3a.

²⁴ Duke Kentucky's Response to Staff's Fourth Request, Item 3c.

²⁵ The useful life of the replacement pipeline is approximately 67 years. Duke Kentucky's Response to Staff's Second Request, Item 2d, stating 1.49% depreciation rate.

	Proposed Replacement and Maintenance Costs	Pressure Testing Costs ²⁶
Year 0	\$32,250,000	
Year 7		\$14,741,200
Year 10	\$300,000	
Year 14		\$14,741,200
Year 17	\$300,000	
Year 21		\$14,741,200
Total	\$32,850,000	\$44,223,600

Replacement also has additional benefits over pressure testing. First, replacement with new pipe means no additional and uncertain expenditures to fix problems with the AOS pipe during pressure testing or during the potential continued use of the existing pipe. The volatility of natural gas prices could also add cost to temporary gas used during pressure testing in future years. Second, testing with the ILI tool allows more detailed inspection. Therefore, between the two testing options, replacement of the AM07 pipeline and using the ILI tool is cheaper and more reasonable than pressure testing over the life of the proposed construction.

Regarding wasteful duplication, Duke Kentucky did not consider alternative materials for use in constructing the proposed pipeline, stating “industry standard API 5L steel pipe was selected based on acceptance by PHMSA code (49 CFR part 192), suitability for the operating pressure, and availability in the marketplace.” Duke Kentucky

²⁶ The cost of pressure testing does not include any costs to repair deficiencies identified while performing the hydrotest. Duke Kentucky’s Response to Staff’s Fourth Request, Item 4c.

considered an alternative plan for the length of pipeline replaced in phase one that did not change the overall cost of the project.²⁷ Duke Kentucky did compare the costs of abandoning the old pipeline versus removing it. Removal would cost four to five times more than abandonment. Abandonment addresses the issue of environmental contamination by requiring grouting of any contaminated pipeline. Therefore, abandonment is the least-cost reasonable alternative compared to removal.

The Commission notes that this case was significantly delayed by Duke Kentucky's failure to provide information necessary to determine whether the proposal was the least cost, most reasonable option, which has been the standard used for years in CPCN cases, and Duke Kentucky's insistence, contrary to law, that ILI is required by PHMSA.

IT IS THEREFORE ORDERED that:

1. Duke Kentucky's request for a CPCN for the proposed project described in its application is granted.
2. Duke Kentucky shall immediately notify the Commission upon knowledge of any material changes to the project, including, but not limited to, a material increase in costs and any significant delays in construction.
3. Any material deviation from the construction approved by this Order shall be undertaken only with the prior approval of the Commission.
4. Duke Kentucky shall file with the Commission documentation of the total costs of the projects, including the cost of construction and all other capitalized costs, (e.g. engineering, legal, administrative, etc.) within 60 days of the date that construction authorized under this CPCN is substantially completed. Construction costs shall be

²⁷ Duke Kentucky's Response to Staff's First Request, Item 1a.

classified into appropriate plant accounts in accordance with the Uniform System of Accounts for sewer utilities as prescribed by the Commission.

5. Duke Kentucky shall file a copy of the “as-built” drawings, if any, and a certified statement that the construction has been satisfactorily completed in accordance with the plans and specifications within 60 days of the substantial completion of the construction certificated herein.

6. Any documents filed in the future pursuant to ordering paragraph 2 through 5 shall reference this case number and shall be retained in the post-case correspondence file for this proceeding.

7. The Executive Director is delegated authority to grant reasonable extensions of time for filing any documents required by this Order upon Duke Kentucky’s showing of good cause for such extension.

8. This case is closed and is removed from the Commission's docket.

PUBLIC SERVICE COMMISSION



Chairman

Vice Chairman



Commissioner



ATTEST:



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