

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of Duke)
Energy Ohio, Inc., for a Certificate of)
Environmental Compatibility and Public) Case No. 16-0253-GA-BTX
Need for the C314V Central Corridor)
Pipeline Extension Project.)

**MERIT BRIEF
OF
DUKE ENERGY OHIO, INC.**

I. INTRODUCTION

In this proceeding before the Ohio Power Siting Board (Board), Duke Energy Ohio, Inc., (Duke Energy Ohio or Company) seeks permission to improve its natural gas distribution system for the benefit of residents, businesses, and governments throughout the Company’s service area. The proposed Central Corridor Pipeline (CCP) would allow the Company to begin the process of retiring its outdated propane-air facilities, to improve the balance of supply into its system, and to more efficiently upgrade and replace other aging distribution infrastructure.

Duke Energy Ohio has met its burden of proof under Ohio law. Staff of the Board agrees and recommends certification on the alternate route.¹ The Board should, therefore, grant the requested certificate of environmental compatibility and public need.

¹ Staff Exhibit 1, Amended Staff Report.

II. APPLICABLE LAW

A. Jurisdiction

The Board has the sole jurisdiction, in Ohio, to approve proposals for the siting of major utility facilities.² The facilities over which it has such jurisdiction include, with regard to natural gas, any gas pipeline that is greater than five hundred feet long, is more than nine inches in diameter, and is designed to transport gas at a maximum allowable operating pressure (MAOP) greater than 125 pounds per square inch gauge (psig).³ CCP, as proposed, is greater than 500 feet long, is greater than 9 inches in diameter, is designed with an MAOP greater than 125 psi, and is not subject to FERC jurisdiction. Thus, it falls within the bounds of the Board's jurisdiction.

B. Criteria

The Ohio General Assembly has carefully crafted the criteria by which the Board must consider applications for the siting of major utility facilities. Those criteria are spelled out in statute and the information necessary for the Board's review is further detailed and amplified through administrative rules promulgated by the Board.⁴ Each of these criteria, together with the evidence supporting it, will be addressed below:

The board shall not grant a certificate for the construction, operation, and maintenance of a major utility facility, either as proposed or as modified by the board, unless it finds and determines all of the following:

- (1) The basis of the need for the facility if the facility is an electric transmission line or gas pipeline;
- (2) The nature of the probable environmental impact;

² R.C. 4906.03; 4906.04.

³ R.C. 4906.01(B)(1)(c). Note also that MAOP is defined as the maximum pressure at which a pipeline, or a segment thereof, may be operated, under the terms of 49 C.F.R.192, as was effective on February 18, 2014. O.A.C. 4906-1-01(CC).

⁴ R.C. 4906.10; O.A.C. 4906-5.

(3) That the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations;

(4) In the case of an electric transmission line or generating facility, that the facility is consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems and that the facility will serve the interests of electric system economy and reliability;

(5) That the facility will comply with Chapters 3704., 3734., and 6111. of the Revised Code and all rules and standards adopted under those chapters and under sections 1501.33, 1501.34, and 4561.32 of the Revised Code. In determining whether the facility will comply with all rules and standards adopted under section 4561.32 of the Revised Code, the board shall consult with the office of aviation of the division of multi-modal planning and programs of the department of transportation under section 4561.341 of the Revised Code.

(6) That the facility will serve the public interest, convenience, and necessity;

(7) In addition to the provisions contained in divisions (A)(1) to (6) of this section and rules adopted under those divisions, what its impact will be on the viability as agricultural land of any land in an existing agricultural district established under Chapter 929. of the Revised Code that is located within the site and alternative site of the proposed major utility facility. Rules adopted to evaluate impact under division (A)(7) of this section shall not require the compilation, creation, submission, or production of any information, document, or other data pertaining to land not located within the site and alternative site.

(8) That the facility incorporates maximum feasible water conservation practices as determined by the board, considering available technology and the nature and economics of the various alternatives.

C. Burden of Proof

As is usual in cases before administrative agencies, the applicant in this case has the burden of proving all of the elements necessary for Board approval.⁵ Such elements are the precise criteria set forth in R.C. 4906.10; no more, no less.

III. DESCRIPTION OF PROJECT

A. Proposed Routes

The proposed CCP is a 13- to 14-mile, high-pressure natural gas distribution line, 20 inches in diameter, designed for a typical operating pressure of 400 psig and an MAOP of 500 psig. CCP is part of the Company's long-term plan for safety and reliability, by retiring propane-air facilities, improving the system balance, and supporting the upgrade and replacement of aging infrastructure.⁶

Both the preferred route and the alternate route begin at the southern terminus of Line C314, an existing 24-inch pipeline, at the WW Feed Station, near the intersection of Hamilton, Warren, and Butler Counties. Either route would run south to end at Line V, an existing 20-inch line, in the Fairfax area or the Norwood area.⁷

The route identified as the preferred route is approximately 14 miles long and is the easternmost of those presented to the local communities. After its start at the WW Feed Station, it heads west to Conrey Road and then south along Conrey Road. After turning east on the south side of Kemper Road, it turns south on Deerfield Road, passing under I-275. The route would then turn east toward I-71, which it parallels south to Glendale-Milford Road. It turns west on Glendale-

⁵ *In the Matter of the Application of Black Fork Wind Energy, L.L.C. for a Certificate to Site a Wind-Powered Electric Generating Facility in Crawford and Richland Counties, Ohio*, Case No. 10-2865-EL-BGN, Entry on Rehearing, ¶ 66 (March 26, 2012).

⁶ Duke Energy Ohio Exhibit 5, Amended Application, March 2017, pg. 2-1.

⁷ Duke Energy Ohio Exhibit 5, Amended Application, March 2017, pg. 2-2.

Milford Road until it turns south along the I&O SORTA railroad between I-71 and Reed Hartman Highway. The route then heads south along Kenwood Road and then the I&O/SORTA Railroad to East Galbraith Road. It turns east to the area of Kenwood Mall and then south paralleling I-71 again. Once it reaches Red Bank Road, it continues to tie into Line V in the Fairfax area.⁸

The approximately 13-mile alternate route is the westernmost of those presented to the public. Starting at the WW Feed Station, it heads west to Conrey Road and then south under I-275 near the Blue Ash Sports Center. It travels south along Reed Hartman Highway toward Summit Park, where it turns west along Glendale-Milford Road. Once it reaches a Norfolk Southern railroad in Evendale, it heads south, paralleling the railroad, through Evendale, Reading, Roselawn, and Golf Manor, ending at the Norwood Station on Line V.⁹

B. Construction Methodologies

Construction is planned to occur primarily within an area that is 80 feet wide, generally centered on the pipeline. However, the exact work area will likely vary, with the 80-foot width considered the maximum space needed. Ideally, the permanent right of way will range from 30 to 50 feet wide and will be cleared of vegetation where necessary.¹⁰

The Company expects to work with local communities and agencies to develop appropriate traffic control plans, and will maintain communication with property owners and tenants along the route, so as to minimize disruption.

A trench will be excavated, approximately five feet wide and six feet deep.¹¹ The several intermittent, perennial, and ephemeral streams or jurisdictional drainage channels that will be crossed by either route will be evaluated on a case-by-case basis in conjunction with Board Staff,

⁸ Duke Energy Ohio Exhibit 5, Amended Application, March 2017, pg. 2-6.

⁹ Duke Energy Ohio Exhibit 5, Amended Application, March 2017, pp. 2-5 to 2-6.

¹⁰ Duke Energy Ohio Exhibit 5, Amended Application, March 2017, pp. 5-2 to 5-3.

¹¹ Duke Energy Ohio Exhibit 5, Amended Application, March 2017, pg. 5-3.

the U.S. Army Corps of Engineers, the Ohio Environmental Protection Agency, and construction engineers. Generally, such streams will be crossed either by trenching or by using horizontal directional drilling (HDD). The various advantages and disadvantages of each method will be evaluated with reference to the circumstances in the area.¹²

Handling of the pipe itself will be minimized to prevent damage to the pipe and its coating. To the extent possible, the pipe will therefore be strung along the right of way directly from the delivery trucks. If necessary, it will be stockpiled at staging areas, with padding prior to being loaded onto stringing trucks. As needed, pipe will be handled using spreader bars, fabric slings, padded forklifts, or other methods to prevent damage to end bevels and the coating. When stockpiling or stringing pipe, padding will be used to protect the coating and the pipe will be properly supported to prevent distortion of the pipe roundness or damage to factory bevels.

Individual sections of pipe will be strung along the right of way, bent as needed to fit the contour of the trench, and then welded into a continuous pipeline. Each weld will be x-rayed, coated, and examined for any flaws. Once any needed coating repairs are completed, the pipeline will be lowered into the trench. Cathodic protection and any other monitoring systems will be installed. The pipeline will be strength-tested according to industry standards, prior to use.¹³

After the pipe itself is installed, the trench will be backfilled and restored with topsoil or pavement, to a similar condition as it was in prior to construction, or otherwise restored as agreed with the landowner at any given location.¹⁴

¹² Duke Energy Ohio Exhibit 5, Amended Application, March 2017, pg. 5-4.

¹³ Duke Energy Ohio Exhibit 5, Amended Application, March 2017, pp. 5-5 to 5-6.

¹⁴ Duke Energy Ohio Exhibit 5, Amended Application, March 2017, pg. 5-3.

IV. PROCEDURAL REQUIREMENTS

Duke Energy Ohio commenced this proceeding on March 8, 2016, with the filing of a preapplication notification letter, pursuant to the Board's requirements.¹⁵ In that letter, the Company informed the Board that two public information meetings would be held, on March 22 and March 23, 2016, also per Board rules.¹⁶ Notice of those meetings was provided by mail and through publication in the newspaper.¹⁷ A third public information meeting was scheduled for June 15, 2016, with notice mailed to property owners and residents and publication made in the local newspaper.¹⁸

The application itself was initially filed on September 13, 2016, which was within 90 days of the third public information meeting, as required.¹⁹ On the basis of comments received at the three public information meetings, as well as those received directly by the Company through its project website and otherwise, the application proposed a pipeline with significant reductions in both the diameter and the pressure at which it was expected to operate.²⁰ While the meetings had discussed the concept of a 30-inch line operating at 600 psig, the reductions spelled out in the application reduced that to a 20-inch line with a typical operating pressure of 400 psig.

Because of those changes, however, the Board asked that the Company hold a fourth public information meeting to discuss the new design. A fourth public information meeting was therefore scheduled for January 26, 2017, with notice mailed to property owners and residents and publication made in the local newspaper.²¹

¹⁵ O.A.C. 4906-3-03(A).

¹⁶ O.A.C. 4906-3-03(B).

¹⁷ O.A.C. 4909-3-03(B) (proof of notification filed March 29, 2016, and April 4, 2016).

¹⁸ O.A.C. 4909-3-03(B) (proof of notification filed June 16, 2016, and July 5, 2016).

¹⁹ O.A.C. 4906-03-03(B).

²⁰ Duke Energy Ohio Exhibit 2, Application, September 2016.

²¹ O.A.C. 4909-3-03(B) (proof of notification filed January 6, 2017, and February 2, 2017).

The application was amended on January 20, 2017, to reflect route adjustments.²² Supplemental information was filed on February 13 and 24, 2017, and on March 3, 2017.²³ On March 3, 2017, the Board's Staff sent the Company a letter indicating that the application complied with all applicable filing requirements. In compliance with applicable rules and the letter itself, Duke Energy Ohio served copies of the certified application on local officials.²⁴

On April 13, 2017, an administrative law judge scheduled public and adjudicatory hearings, as well as various procedural deadlines. Pursuant to that schedule, Staff filed its Staff Report on May 31, 2017, recommending approval of the alternate route. Following requests by various intervenors for an extension of the schedule, an administrative law judge rescheduled the hearings. On August 23, 2017, however, the Company filed a motion seeking a suspension of the procedural schedule in order to allow the Company to further examine certain environmental concerns. The motion was granted and the proceeding remained suspended for approximately eight months.

On April 13, 2018, Duke Energy Ohio moved for reestablishment of the procedural schedule and also filed additional supplemental information. On June 29, 2018, Board Staff filed its assessment of that supplemental information, concluding that the new information resulted in changes to the proposed project, requiring sufficient time for an additional review by Staff. Duke Energy Ohio filed two reports on environmental research performed during the suspension period, on July 26, 2018.

A new procedural schedule was issued on December 18, 2018, establishing dates for a public hearing and an adjudicatory hearing, as well as deadlines for the filing of testimony. In compliance with that schedule, the public hearing was held on March 21, 2019, following

²² Duke Energy Ohio Exhibit 3, Amendment, January 2017.

²³ Duke Energy Ohio Exhibit 4, Amended Application, February 2017, Duke Energy Ohio Exhibit 5, Amended Application, March 2017, and Duke Energy Ohio Exhibit 6, Application Supplemental Information, April 2018.

²⁴ O.A.C. 4906-03-06, 4906-03-07, and 4906-03-08 (proof of satisfaction filed on March 30, 2017).

publication of notice in the local newspaper.²⁵ The adjudicatory hearing commenced on April 9, 2019, and concluded on April 11, 2019.

V. SATISFACTION OF CRITERIA

As discussed above, in order for the Board to grant an applicant a certificate under R.C. 4906.10, it must consider and determine each of the eight statutory criteria.²⁶ Those criteria will be discussed below.

A. Basis of Need – R.C. 4906.10(A)(1)

As the Company has explained since the outset of this project, CCP will benefit customers of Duke Energy Ohio in three identifiable, important ways: (1) Construction of CCP will allow the Company to retire its propane-air peaking facilities, while maintaining safe and reliable service to customers. (2) The addition of CCP to Duke Energy Ohio's distribution system will help the Company to improve the balance of supply as between wholesale providers north of the Cincinnati area and those located south of Cincinnati. (3) The Company's use of CCP will provide sufficient redundancy in the distribution system to allow for the efficient replacement of aging infrastructure in the area. All three of these goals are important and all three will be benefitted by the approval and ultimate construction of CCP.

1. The Company's Propane-Air Peaking Facilities Must Be Retired.

The Company's distribution system in southwestern Ohio relies, for purposes of peak usage on cold, winter days, on the injection of a mixture of propane and air into the system. This propane-air currently comes from two plants, one of which is located in Cincinnati and the other of which is in Kentucky. Both were constructed in the mid-twentieth century and supplement the natural gas supply by withdrawing propane from manmade caverns lying deep within bedrock. Once the

²⁵ Proof of publication filed March 19, 2019.

²⁶ R.C. 4906.10. Note that R.C. 4906.10(A)(4) relates only to electric facilities and therefore will not be discussed.

propane is withdrawn, it is vaporized and mixed with air using above-ground equipment, so that the heat content is equivalent to that of natural gas, and is then injected into the system to travel to customers' facilities together with natural gas.

As Duke Energy Ohio witness Adam Long testified, the above-ground portions of the peaking facilities have been inspected, repaired, and maintained through the years, although there are difficulties inherent in doing so. For example, Mr. Long indicated that many parts are unavailable and must be custom made for the purpose. In addition, Mr. Long explained that the propane plants must be tested each year before they may actually be needed, in order to allow time to accomplish any repairs that may be necessary. Nevertheless, when called upon by the Company, the plants have successfully provided sufficient peaking service that, along with the curtailment of service to interruptible customers, the Company's firm customers in southwestern Ohio have never suffered the impacts of an unpredicted winter outage.

The possibility of continued maintenance and repair of the propane facilities that mix air with the propane and inject it into the system says absolutely nothing, however, about continued reliance on the storage caverns themselves. The caverns, hundreds of feet underground, cannot be inspected; the only possible inspection is the monitoring of the area to determine whether propane has leaked to the surface. And if it were found to have leaked, there is no possible repair of the caverns or, specifically, the pressure dome. Propane, being heavier than air and extremely combustible, is not something that can be allowed to continue to leak. Propane would stay at ground level or in the soil and pool in the lowest areas it found, where the risk would be enormous. Therefore, a leaking propane cavern would simply have to be abandoned, regardless of what need there might be for additional fuel on a cold, winter day.

Duke Energy Ohio is aware of similar, third-party owned and operated underground propane storage caverns located in southwestern Ohio that are of a comparable age and formation to Duke Energy Ohio's own storage caverns, and that have been forced into retirement due to geological failure resulting in unrepairable leaks. Additionally, the Commission previously acknowledged impacts of geological failure of similar propane caverns and the related risk of geological failure at the East End propane facility as evidenced by a recent order.²⁷ Proactively addressing such risks is not only prudent, but itself is in the public interest. Duke Energy Ohio is unwilling to simply wait and see if and when this aged infrastructure reaches the point of no return and place its delivery system at risk for an infinite period into the future. The local businesses and residents should be similarly unwilling to allow such a risk to persist. The Company has endeavored to create a system that will be safe, reliable, and sustainable, such that it will be able to continue to serve its customers on peak days. The propane-air peaking facilities must be retired and construction of the proposed CCP would accomplish that goal, replacing the ten percent portion of supply that is currently provided by the caverns.

2. **Other Infrastructure Is Aging and Must Be Replaced.**

Duke Energy Ohio witness Gary Hebbeler discussed the history and development of the Company's distribution system in southwestern Ohio. As he explained, the system originated from manufactured gas plants, two of which were adjacent to the Ohio River. As natural gas became available from transmission lines in southern Kentucky, the system expanded in a manner that was designed to move that natural gas from south to north.²⁸ Not surprisingly for a system that had its

²⁷ *In the Matter of the Regulation of the Purchased Gas Adjustment Clause Contained in the Rate Schedules of Duke Energy Ohio, Inc., and Related Matters*, Case No. 15-218-GA-GCR, *et al.*, Opinion and Order, pg. 22 (September 7, 2016).

²⁸ Duke Energy Ohio Exhibit 7, Direct Testimony of Gary J. Hebbeler, pg. 4.

origins more than 180 years ago, the current infrastructure comprises lines that were installed at many different times, some of which are reaching the end of their useful lives.²⁹

When the Company determines that an existing pipeline needs to be replaced, for whatever reason, it must ensure that safe and reliable service can continue during the replacement process or, if not, that any resultant outage is brief and not during a cold-weather period. To make this determination, the Company relies on a pipeline simulation model known as Synergi, to portray the behavior of real-life systems and permit the testing of experimental changes to the system.³⁰

As shown by the Synergi modelling and as discussed by Mr. Hebbeler, different lines, and different portions of those lines can be replaced with different techniques. As he stated in response to a question concerning repair or replacement work on Line A:

Repair, we can – we can work around a small repair. If you had a large replacement, that would be different, probably a different action than a smaller replacement. The smaller, more confined the area is to take care of, the easier it is to – to remediate that situation to keep customers from – from having an adverse impact.³¹

Mr. Hebbeler, through continued cross-examination by reference to his prior deposition, provided additional clarity on this point:

[I]t makes a difference of the length of replacement and, like I said, the location and the length of the replacement.

...

You could bring laterals over from different areas to try to serve that section, but that may not be sustainable in high flows. It just depends on what you have in the network to supply that area. Line A is the main artery down through the system, and it supplies a lot of neighborhoods.³²

It is indisputable that, regardless of whether CCP is built or not, Duke Energy Ohio will continue to have the obligation to maintain its system such that it is safe and reliable. It is also indisputable

²⁹ Duke Energy Ohio Exhibit 7, Direct Testimony of Gary J. Hebbeler, pg. 4.

³⁰ Duke Energy Ohio Exhibit 8, Direct Testimony of Adam Long, pp. 12-13.

³¹ Tr. Vol. I, pg. 28.

³² Tr. Vol. I, pp. 29, 30.

that many repairs and some replacements can be made without causing heating-season outages to customers. An example of such a replacement occurred recently on Line A, in an area well north of the central corridor. The Company replaced approximately one-third of a mile of Line A in Butler County in a period of time starting in early May 2018 and ending in mid-September 2018.³³ Thus, exactly as explained by Mr. Hebbeler, a very short section of Line A, in a northern area that was not part of the central corridor, was successfully replaced without hardship to customers. However, Line A extends all the way from Line V, at the southern end of the central corridor area, to a point farther north than Lebanon, Ohio,³⁴ a distance of approximately 35 miles. The replacement of Line A, or portions thereof, is not a short project. The construction of the proposed CCP “will greatly help facilitate repairs and replacement along Line A.”³⁵

The situation is no different for other lines in the system that need to be replaced. As indicated by the Company, Lines A, V, EE, and AM07 are all slated for replacement in the next few years.³⁶ Without CCP, those replacements will be lengthier and more difficult.

3. Improving the Balance of Supply Is Critical.

Duke Energy Ohio currently receives approximately 55 percent of its natural gas supply from transmission lines located south of the Cincinnati area,³⁷ all of which goes through one gate station in Kentucky.³⁸ This southern focus was logical – even necessary – years ago, when natural gas was not being produced in large quantities in northern areas and when the transmission lines

³³ *In the Matter of the Application of Duke Energy Ohio, Inc., for a Construction Notice for Line A000B Natural Gas Pipeline Replacement Project*, Case No. 18-498-GA-BNR.

³⁴ Duke Energy Ohio Exhibit 8, Direct Testimony of Adam Long, Attachment AL-1.

³⁵ Tr. Vol. I, pg. 31.

³⁶ *In the Matter of Duke Energy Ohio, Inc.'s Long-Term Forecast Report for Gas Demand, Gas Supply and Facility Projections*, Case No. 17-1317-GA-FOR, Report, pp. 5-4, *et seq.* (June 1, 2017).

³⁷ Duke Energy Ohio Exhibit 8, Direct Testimony of Adam Long, pg. 10.

³⁸ Duke Energy Ohio Exhibit 7, Direct Testimony of Gary J. Hebbeler, pg. 7.

only existed to the south. Now, however, the situation has changed, as more natural gas supply has become available from north of the area.

Indeed, southern suppliers are limited as to the amount of natural gas and the pressure that can be delivered into the Company's system. No more gas is available than is being obtained now, meaning that the Company must be able to rely on receiving 45 percent from the north, or through use of the peaking facilities. In addition, if the full contracted quantities of gas were, for some reason, not available from the south, more supply would be needed from the north.³⁹

CCP, as proposed, would provide for the movement of additional supply from the north into the Duke Energy Ohio distribution system. While it will not eliminate the Company's dependence on southern supply, it will undeniably improve the balance.⁴⁰ As explained by Duke Energy Ohio witnesses, the system would continue, after construction of CCP, to receive about 45 to 50 percent of the natural gas supply for a peak day from the southern suppliers. CCP would increase the amount coming from the north, not only by the 5 to 10 percent differential but also by the amount currently being provided by the propane-air peaking facilities. The change can be represented clearly in a simple table:

	Current Situation	With CCP Preferred Route	With CCP Alternate Route
Percent of Supply from South	55	45	50
Percent of Supply from North	35	55	50
Percent of Supply from Propane	10	0	0

³⁹ Duke Energy Ohio Exhibit 8, Direct Testimony of Adam Long, pg. 10.

⁴⁰ Duke Energy Ohio Exhibit 7, Direct Testimony of Gary J. Hebbeler, pp. 13-14.

This is a valuable change in balance. While it does not accomplish as much as would have been obtained with the originally proposed 30-inch line at 600 psig, the change could mean the difference between a widespread outage in the winter-heating months or no outage at all.

B. The Nature of the Probable Environmental Impact – R.C. 4906.10(A)(2)

As noted above, before it can grant a certificate to construct, operate, and maintain CCP, the Board must determine the nature of the probable environmental impact. In this portion of its consideration, the Board generally considers:

- socioeconomic impacts such as demographics, land use, residential structures, land use plans and regional development, parks and recreation, liability insurance, economics, aesthetics, and cultural, archaeological, and architectural resources;
- ecological impacts such as geology, slopes, and foundation soil suitability; surface waters; threatened and endangered species; and vegetation; and
- public services and facilities such as public services and traffic, roads and bridges, and noise.⁴¹

In this particular case, it is also appropriate to account for areas near the proposed routes that are or might be environmentally compromised.

1. Socioeconomic, Ecological, Public Services and Facilities

Data relating to socioeconomic and ecological impacts, as well as impacts on public services and facilities, were presented by the Company in its application and in responses to Staff's data requests. This information was reviewed by Staff and included in the Staff Report for consideration by the Board.

⁴¹ See, e.g., Staff Exhibit 1, Amended Staff Report.

2. Pristine Superfund Site

What is known today as the Pristine Superfund Site is a tract of about three acres of land on the west side of the railroad tracks through Reading, Ohio. The alternate route is proposed to be located on the east side of those same railroad tracks, approximately 100 feet from the edge of the Pristine property. Over the years, the site has been used for industrial processes such as cleaning drums and the manufacturing of sulfuric acid and fertilizer, resulting in substantial environmental impacts. Business operations at the site ceased in 1981 after numerous violations had been found and environmental remediation began.⁴²

For purposes of the approval of CCP, the relevant issue is what impact the construction, operation, and maintenance of CCP will have on the Pristine site or on other areas as a result of the proximity of the Pristine site to the alternate route. The answer is none.

Duke Energy Ohio witness Julianne Schucker, who reviewed the publicly available records of the Pristine-area remediation, discussed the pre-remediation conditions of the site and compared it to the current conditions. Pointing out that the alternate route is located east of the boundary of the Pristine site, Ms. Schucker concluded that construction and operation of the pipeline along that route would have no impact on the remediation, as there were no impacts to soils or groundwater in this area of CCP and the groundwater flows to the south and southwest of the site, away from the proposed alternate route for CCP.⁴³

Ms. Schucker also noted that testing performed by Burns & McDonnell, a Duke Energy Ohio contractor, confirmed that soil impacts did not extend east of the site boundary toward the railroad tracks and that groundwater impacts do not extend east across the site boundary because onsite contamination migrated away from the alternate route, both horizontally to the

⁴² Duke Energy Ohio Exhibit 14, Direct Testimony of Julianne Schucker, pp. 2-3.

⁴³ Duke Energy Ohio Exhibit 14, Direct Testimony of Julianne Schucker, pg. 8.

south/southwest and vertically to the lower aquifer.⁴⁴ As that lower aquifer is found at depths of 75 feet or more below ground surface, it is far deeper than is planned for CCP.⁴⁵

Ms. Schucker opined that the pipeline would not impact remediation and would not result in any increased risk of exposure for the general public.⁴⁶ She also opined that neither the pipeline nor the construction workers installing the pipeline would be at risk due to the proximity of the Pristine site.⁴⁷

3. Industrial Areas

Knowing the industrial nature of portions of the alternate route, Duke Energy Ohio also spent substantial effort investigating the environmental conditions in areas other than near the Pristine site, hiring Burns & McDonnell to conduct an environmental screening. The purpose of the screening was, among other things, to identify potential environmental impacts associated with the current and historical usage of properties along the alternate route, adjoining properties, and adjacent offsite sources.⁴⁸ Specifically, as reported by Duke Energy Ohio witness Daniel Earhart, the first step comprised a review of environmental database reports for properties within one-half mile of the centerline of the alternate route. Sites with insufficient information available were investigated further, through other existing data.⁴⁹

On the basis of the initial investigations, Burns & McDonnell identified locations where soil and groundwater (if present) would be evaluated, down to the depth of the planned pipeline at

⁴⁴ Duke Energy Ohio Exhibit 14, Direct Testimony of Julianne Schucker, pg. 9.

⁴⁵ Duke Energy Ohio Exhibit 14, Direct Testimony of Julianne Schucker, pg. 5.

⁴⁶ Duke Energy Ohio Exhibit 14, Direct Testimony of Julianne Schucker, pp. 10-11.

⁴⁷ Duke Energy Ohio Exhibit 14, Direct Testimony of Julianne Schucker, pp. 1-12.

⁴⁸ Duke Energy Ohio Exhibit 12, Direct Testimony of Daniel P. Earhart, pp. 2-3.

⁴⁹ Duke Energy Ohio Exhibit 12, Direct Testimony of Daniel P. Earhart, pg. 4.

that location. The samples were then analyzed for the presence of contaminants.⁵⁰ Geotechnical samples were also collected and analyzed.⁵¹

Mr. Earhart reported that no analyzed samples exceeded the applicable screening standards. He recommended that construction considerations along the alternate route should include soil and groundwater management, as well as worker health and safety protocols.⁵²

C. The Minimum Adverse Environmental Impact – R.C. 4906.10(A)(3)

In order to provide the Board with the information needed for its determination that the proposal for CCP represents that minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, the Company presented its route selection study. That study was the outcome of a process designed to identify practical route corridors that would achieve the technical aims of CCP while avoiding or minimizing impacts on the existing natural and built environment. Once potential corridors were identified, they were compared to each other using relevant information to reach a short list of suitable routes. The study continued until the first presentation of those routes to the public, after which further adjustments could be (and were) made, outside of the route selection study.⁵³

As discussed by Board Staff:

[A] typical route selection process has three steps:

- (1) Define a study area that encompasses the entire region where the pipeline may be located;
- (2) Consider all possible alignments within the study area; and

⁵⁰ Duke Energy Ohio Exhibit 12, Direct Testimony of Daniel P. Earhart, pp.4-5, 8.

⁵¹ Duke Energy Ohio Exhibit 12, Direct Testimony of Daniel P. Earhart, pg.5.

⁵² Duke Energy Ohio Exhibit 12, Direct Testimony of Daniel P. Earhart, pp. 10-11.

⁵³ Duke Energy Ohio Exhibit 9, Direct Testimony of James Nicholas, pg.3.

(3) Create a justifiable method for eliminating alternatives.⁵⁴

And, as confirmed by Staff, this is precisely what was done by the Company in its process that resulted in the preferred and alternate routes.⁵⁵

Duke Energy Ohio witness James Nicholas described the process used for this project, starting with the presentation, by the Company, of basic project requirements which, here, sought a pipeline from the terminus of Line C-314 to a portion of Line V.⁵⁶ The study area, as presented by the Company, covered approximately 90 square miles, “roughly defined by Interstate 275 on the north, the Mill Creek Valley on the west, the Duck Creek Valley to the south, and the Little Miami River to the east.” However, in addition to that main area, the study also considered routes through Madeira and Indian Hill.

The route selection study team then collected and mapped data, used to identify viable routes that would minimize constraints and maximize the use of opportunities. The team visited the identified routes and then compared them on the basis of criteria designed to minimize the overall combined effects on ecology, land use, and cultural resources.⁵⁷ Comparisons were initially based on quantifiable criteria in the categories of land use, ecological, cultural, and engineering. After the quantifiable comparison was completed, the resultant list of routes was then reviewed for constructability and qualitative issues.⁵⁸

In order confirm the results of the route selection study, the Company also hired an engineering consultant to evaluate possible routes based on engineering and constructability. This

⁵⁴ Staff Exhibit 1, Amended Staff Report, pp. 47-48 (*citing* Jason Luettinger and Thayne Clark, “Geographic Information System-based Pipeline Route Selection Process,” *Journal of Water Resources Planning and Management*, May/June 2005: pg. 194).

⁵⁵ Staff Exhibit 1, Amended Staff Report, pg. 48.

⁵⁶ Duke Energy Ohio Exhibit 9, Direct Testimony of James Nicholas, pp.4, 6.

⁵⁷ Duke Energy Ohio Exhibit 9, Direct Testimony of James Nicholas, pp.4, 5.

⁵⁸ Duke Energy Ohio Exhibit 9, Direct Testimony of James Nicholas, pg.5.

resulted in the adjustment of some segments, the addition of some new routes, and the deletion of some routes.⁵⁹

The Company also responded to public concerns by evaluating additional possible routes, outside the original study area. Specifically, the team considered routes that were east of the original area which, it was hoped, would be less impactful due to the lower housing density. However, the study found that the additional length of such routes resulted in similar or larger impacts overall, even without considering the impacts of any additional lateral line that would have been required, in order to get the gas where it is needed. Such routes were also found to have greater environmental impacts than those in the central corridor.⁶⁰

The two routes ultimately presented for consideration by the Board were ones that ranked, numerically, six and three. These routes were chosen out of those in the top group on the basis of qualitative factors such as constructability.⁶¹ The result of this process is the offering of both the preferred and the alternate routes – both of which are routes that represent the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives.

D. Compliance with Laws Concerning Air, Water, Solid Waste, and Aviation – R.C. 4906.10(A)(5)

The proposed project will not produce air pollution and therefore does not impact any air quality limitations. Fugitive dust will be controlled as recommended in the Staff Report. Similarly, the project will not use significant amounts of water, other than for hydrostatic testing. Discharge of that water will be completed under terms of applicable permits.

⁵⁹ Duke Energy Ohio Exhibit 9, Direct Testimony of James Nicholas, pp. 11-12.

⁶⁰ Duke Energy Ohio Exhibit 9, Direct Testimony of James Nicholas, pg.12.

⁶¹ Duke Energy Ohio Exhibit 9, Direct Testimony of James Nicholas, pg.14.

The Staff Report also recommends limitations to control solid waste and notes that, with regard to this underground facility, there are no identifiable impacts on aviation.

E. Public Interest, Convenience, and Necessity – R.C. 4906.10(A)(6)

Pursuant to this criterion, the Board must determine that the facility will serve the public interest, convenience, and necessity. The factors that go into this determination are not defined, but a review of previous certificates granted by the Board indicates that safety is often an important consideration, together with the need for the project and public participation in the process.⁶²

As the Board is aware, many members of the public have been involved in this proceeding and have expressed their concerns about the need for and safety of CCP. Because safety is Duke Energy Ohio's top priority, the Company substantially reduced both the size and the pressure of the planned pipeline and added additional safety measures. Due to the need for the project and the current level of safety of this line, as well as the safety improvements that will directly result from the retirement of propane-air peaking facilities, the Board should conclude that CCP, as proposed, will serve the public interest, convenience, and necessity.

The Company's original design for a pipeline through the central corridor area was based on a 30-inch diameter pipe, operating at 600 psig.⁶³ As described in the application and in Mr. Hebbeler's testimony, that plan was altered in direct response to comments and concerns raised by local officials and members of the public. It is significant that, due to the changes made at that

⁶² See, e.g., *In the Matter of the Application of American Transmission Systems, Incorporated and The Cleveland Electric Illuminating Company for a Certificate of Environmental Compatibility and Public Need for the Geauga County 138 kV Transmission Line Supply Project*, Case No. 07-171-EL-BTX, Opinion, Order, and Certificate, pg. 36 (Nov. 24, 2008); *In the Matter of the Application of Harrison Power Transmission, LLC for a Certificate of Environmental Compatibility and Public Need for the Harrison Power 138 kV Transmission Line Project*, Case No. 17-2084-EL-BTX, Opinion, Order, and Certificate, pp. 22-23 (November 15, 2018); *In the Matter of the Application of Columbia Gas of Ohio, Inc., for a Certificate of Environmental Compatibility and Public Need for the Construction of the Ackerman Road Natural Gas Pipeline Project*, Case No. 11-3534-GA-BTX, Opinion, Order, and Certificate, pg. 12 (March 26, 2012).

⁶³ Duke Energy Ohio Exhibit 2, Application, September 2016.

time, the line will now be categorized by the Pipeline and Hazardous Materials Safety Administration (PHMSA) as a high-pressure distribution line rather than a transmission line.⁶⁴

In this regard, however, it must be understood that the recategorization of the line was not the Company's goal; the goal was to increase the level of safety and the attainment of that goal is demonstrated by the recategorization. PHMSA established definitions for transmission and distribution lines based, in large part, on safety considerations, as it was aware of the change in likely damage mechanics as the safety factor in a pipe diminishes.⁶⁵ Specifically, PHMSA uses the measurement known as specified minimum yield strength (SMYS) to determine how a pipeline should be treated. SMYS measures how close the pressure in a pipeline is to the minimum guaranteed strength. Based on its knowledge and history, PHMSA requires that all pipelines with a SMYS of 20 percent or greater be designated as transmission lines and maintained in accordance with transmission standards. Another way of looking at that requirement is that the less stringent, distribution requirements apply to a line constructed such that the pipe could withstand more than five times the maximum pressure it will actually be subjected to.⁶⁶

With regard to CCP, the SMYS of the redesigned proposal is 19 percent. This line could withstand pressures of more than five times the planned maximum operating pressure. It is, therefore, a high-pressure distribution line, subject to distribution integrity requirements. Nevertheless, in the interest of public safety, Duke Energy Ohio has affirmed that it will enhance the safety factors for CCP as if it were a transmission line:

- CCP will be constructed of pipe with a wall thickness that is more than twice what is required even for a transmission line in a Class 4 location.

⁶⁴ Staff Exhibit 1, Amended Staff Report, pp. 54-55.

⁶⁵ Duke Energy Ohio Exhibit 15, Direct Testimony of Bruce L. Paskett, PE, pp. 9-10.

⁶⁶ Duke Energy Ohio Exhibit 15, Direct Testimony of Bruce L. Paskett, PE, pg. 13.

- CCP will have shut-off valves every five miles, consistent with Class 4 transmission requirements.
- CCP is being designed with facilities to enable in-line assessments.
- CCP is being designed with remote control valves at the beginning and end points, as well as at intermediate block valve locations.
- CCP will be installed with approximately 48 inches of cover, which is twice what is required for distribution lines and a foot more than what is required for transmission lines.
- CCP will be installed and tested, during construction, in accordance with transmission requirements, including x-rays of pipe girth welds and inspections by qualified personnel.
- CCP will be hydrostatically pressure tested after it is in the ditch, consistent with transmission requirements.
- CCP will be strength-tested for a minimum of eight hours at a minimum pressure of 1.5 times the MAOP.
- CCP will be assessed from the interior, using an ILI device, prior to being placed in service, again within ten years, and then every seven years thereafter.
- Warning tape will be installed in the ground above the pipeline.⁶⁷

This pipeline will far exceed the federal and state safety requirements. As has been demonstrated elsewhere in this initial brief, it is a necessary addition to Duke Energy Ohio's distribution system. It indisputably serves the public interest, convenience, and necessity.

F. Impact on Agricultural Land – R.C. 4906.10(A)(7)

The Board is required to determine the impact of the project on agricultural land. As stated by Duke Energy Ohio witness Stephen Lane, there is no active agricultural land affected by CCP.⁶⁸

G. Water Conservation – R.C. 4906.10(A)(8)

As CCP would not consume water in its operations, conservation issues are irrelevant.

⁶⁷ Duke Energy Ohio Exhibit 15, Direct Testimony of Bruce L. Paskett, PE, pp. 39-40.

⁶⁸ Duke Energy Ohio Exhibit 10, Direct Testimony of Stephen R. Lane, pg. 8.

VI. CONCLUSION

Duke Energy Ohio respectfully requests that the Board approve its application in this proceeding and issue a Certificate of Environmental Compatibility and Public Need for the Central Corridor Pipeline, as proposed herein.

Respectfully submitted,

DUKE ENERGY OHIO, INC.

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and accurate copy of the foregoing document was served this 13th day of May, 2019, by U.S. mail, postage prepaid, or by electronic mail upon the persons listed below.

/s/ Jeanne W. Kingery

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