

# Staff Report of Investigation

Groves Road-Shannon 138 kV Transmission Line  
AEP Ohio Transmission Company

Case No. 21-0199-EL-BTX

October 3, 2022



Power Siting  
Board

Mike DeWine, Governor | Jenifer French, Chair

**In the Matter of the Application of )**  
**AEP Ohio Transmission Company, Inc. for a Certificate )**  
**of Environmental Compatibility and Public Need for the ) Case No. 21-0199-EL-BTX**  
**Construction of the Groves Road-Shannon 138 kV )**  
**Transmission Line Project )**

## **Staff Report of Investigation**

Submitted to the  
OHIO POWER SITING BOARD

BEFORE THE POWER SITING BOARD OF THE STATE OF OHIO

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Chair, Public Utilities Commission  
Director, Department of Agriculture  
Director, Department of Development  
Director, Environmental Protection Agency  
Director, Department of Health

Director, Department of Natural Resources  
Public Member  
Ohio House of Representatives  
Ohio Senate

To the Honorable Power Siting Board:

In accordance with the Ohio Revised Code (R.C.) 4906.07(C) and rules of the Ohio Power Siting Board (Board), the staff of the Public Utilities Commission of Ohio (Staff) has completed its investigation in the above matter and submits its findings and recommendations in this Staff Report for consideration by the Board.

The findings and recommendations contained in this report are the result of Staff coordination with the following agencies that are members of the Board: Ohio Environmental Protection Agency, the Ohio Department of Health, the Ohio Department of Development, the Ohio Department of Natural Resources, and the Ohio Department of Agriculture. In addition, Staff coordinated with the Ohio Department of Transportation, the Ohio Historic Preservation Office, the U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers.

In accordance with R.C. 4906.07(C) and 4906.12, copies of this Staff Report have been filed with the Docketing Division of the Public Utilities Commission of Ohio to be served upon the Applicant or its authorized representative, the parties of record, and pursuant to Ohio Administrative Code 4906-3-06, the main public libraries of the political subdivisions in the project area.

The Staff Report presents the results of Staff's investigation conducted in accordance with R.C. Chapter 4906 and the rules of the Board, and does not purport to reflect the views of the Board nor should any party to the instant proceeding consider the Board in any manner constrained by the findings and recommendations set forth herein.

Respectfully submitted,



Theresa White  
Executive Director  
Ohio Power Siting Board

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## **I. EXECUTIVE SUMMARY**

The authority of the Ohio Power Siting Board (Board or OPSB) is prescribed by Ohio Revised Code (R.C.) Chapter 4906. R.C. 4906.10 specifies that 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 eight specified criteria. Staff investigated the application presented by AEP Ohio Transmission Company, Inc. (Applicant) and recommends that the Board approve the Applicant's request for a certificate of environmental compatibility and public need subject to the proposed conditions contained in this report.

## **II. POWERS AND DUTIES**

### **OHIO POWER SITING BOARD**

The authority of the Board is prescribed by R.C. Chapter 4906. R.C. 4906.03 authorizes the Board to issue certificates of environmental compatibility and public need for the construction, operation, and maintenance of major utility facilities defined in R.C. 4906.01. Included within this definition of major utility facilities are: electric generating plants and associated facilities designed for, or capable of, operation at 50 megawatts (MW) or more; electric transmission lines and associated facilities of a design capacity of 100 kilovolts (kV) or more; and gas pipelines greater than 500 feet in length and more than nine inches in outside diameter, and associated facilities, designed for transporting gas at a maximum allowable operating pressure in excess of 125 pounds per square inch. In addition, pursuant to R.C. 4906.20, the Board authority applies to economically significant wind farms, defined in R.C. 4906.13(A) as wind turbines and associated facilities with a single interconnection to the electrical grid and designed for, or capable of, operation at an aggregate capacity of five MW or greater but less than 50 MW. R.C. 4906.13 excludes from economically significant wind farms, one or more wind turbines and associated facilities that are primarily dedicated to providing electricity to a single customer at a single location and that are designed for, or capable of, operation at an aggregate capacity of less than 20 MW, measured at the customer's point of interconnection (POI) to the electrical grid.

Membership of the Board is specified in R.C. 4906.02(A). The voting members include: the Chair of the Public Utilities Commission of Ohio (PUCO or Commission) who serves as Chair of the Board; the directors of the Ohio Environmental Protection Agency (Ohio EPA), the Ohio Department of Health (ODH), the Ohio Department of Development (ODOD), the Ohio Department of Agriculture (ODA), and the Ohio Department of Natural Resources (ODNR); and a member of the public, specified as an engineer, appointed by the Governor from a list of three nominees provided by the Ohio Consumers' Counsel. In addition, the Board shall include four legislative members who may participate fully in all the Board's deliberations and activities except that they shall serve as nonvoting members.

### **NATURE OF INVESTIGATION**

The Board has promulgated rules and regulations, found in Ohio Administrative Code (Ohio Adm.Code) 4906:1-01 et seq., which establish application procedures for major utility facilities and economically significant wind farms.

#### **Application Procedures**

Any person that wishes to construct a major utility facility or economically significant wind farm in this state must first submit to the Board an application for a certificate of environmental compatibility and public need.<sup>1</sup> The application must include a description of the facility and its location, a summary of environmental studies, a statement explaining the need for the facility and how it fits into the Applicant's energy forecasts (for transmission projects), and any other information the Applicant or Board may consider relevant.<sup>2</sup>

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1. R.C. 4906.04 and 4906.20.

2. R.C. 4906.06(A) and 4906.20(B)(1).

Within 60 days of receiving an application, the Chair must determine whether the application is sufficiently complete to begin an investigation.<sup>3</sup> If an application is considered complete, the Board or an administrative law judge will cause a public hearing to be held 60 to 90 days after the official filing date of the completed application.<sup>4</sup> At the public hearing, any person may provide written or oral testimony and may be examined by the parties.<sup>5</sup>

### **Staff Investigation and Report**

The Chair will also cause each application to be investigated and a report published by the Board's Staff not less than 15 days prior to the public hearing.<sup>6</sup> The report sets forth the nature of the investigation and contains the findings and conditions recommended by Staff.<sup>7</sup> The Board's Staff, which consists of career professionals drawn from the staff of the PUCO and other member agencies of the Board, coordinates its investigation among the agencies represented on the Board and with other interested agencies such as the Ohio Department of Transportation (ODOT), the Ohio Historic Preservation Office (OHPO), and the U.S. Fish and Wildlife Service (USFWS).

The technical investigations and evaluations are conducted pursuant to Ohio Adm.Code 4906-1-01 et seq. The recommended findings resulting from Staff's investigation are described in the Staff Report pursuant to R.C. 4906.07(C). The report does not represent the views or opinions of the Board and is only one piece of evidence that the Board may consider when making its decision. Once published, the report becomes a part of the record, is served upon all parties to the proceeding and is made available to any person upon request.<sup>8</sup> A record of the public hearings and all evidence, including the Staff Report, may be examined by the public at any time.<sup>9</sup>

### **Board Decision**

The Board may approve, modify and approve, or deny an application for a certificate of environmental compatibility and public need.<sup>10</sup> If the Board approves, or modifies and approves an application, it will issue a certificate subject to conditions. The certificate is also conditioned upon the facility being in compliance with applicable standards and rules adopted under the Ohio Revised Code.<sup>11</sup>

Upon rendering its decision, the Board must issue an opinion stating its reasons for approving, modifying and approving, or denying an application for a certificate of environmental compatibility and public need.<sup>12</sup> A copy of the Board's decision and its opinion is memorialized upon the record and must be served upon all parties to the proceeding.<sup>13</sup> Any party to the proceeding that believes its issues were not adequately addressed by the Board may submit within

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3. Ohio Adm.Code 4906-3-06(A).

4. R.C. 4906.07(A) and Ohio Adm.Code 4906-3-08.

5. R.C. 4906.08(C).

6. R.C. 4906.07.

7. Ohio Adm.Code 4906-3-06(C).

8. R.C. 4906.07(C) and 4906.10.

9. R.C. 4906.09 and 4906.12.

10. R.C. 4906.10(A).

11. R.C. 4906.10.

12. R.C. 4906.11.

13. R.C. 4906.10(C).

30 days an application for rehearing.<sup>14</sup> An entry on rehearing would then be issued by the Board within 30 days and may be appealed within 60 days to the Supreme Court of Ohio.<sup>15</sup>

## CRITERIA

Staff developed the recommendations and conditions in this *Staff Report of Investigation* pursuant to the criteria set forth in R.C. 4906.10(A), which reads, in part:

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;
- (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 section 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; and
- (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.

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<sup>14</sup> R.C. 4903.10 and 4906.12.

<sup>15</sup> R.C. 4903.11, 4903.12, and 4906.12.

### **III. APPLICATION**

#### **APPLICANT**

AEP Ohio Transmission Company, Inc. (Applicant) is a public utility as defined in R.C. 4905.02 and 4905.03. The Applicant is an affiliate of American Electric Power (AEP). AEP is one of the largest electric utilities in the United States, delivering electricity to nearly 5.5 million customers in 11 states. AEP also owns the nation's largest electric transmission system, comprised of more than 40,000 miles. AEP's utility unit, AEP Ohio, provides electricity to 1.5 million customers in Ohio.

#### **HISTORY OF THE APPLICATION**

On March 3, 2021, the Applicant filed a motion for limited waiver of Ohio Adm.Code 4906-5-08(B) as to the requirements to provide fully developed information regarding the Alternate Route and to conduct a field survey on the non-shared portion of the Alternate Route. The motion was granted.

On September 22, 2021, the Applicant filed a motion for waiver and request for approval to hold an alternative public informational meeting. The motion was denied.

The Applicant held online public informational meetings in open house format in November 2020 and December 2021. The Applicant held an in-person open house public informational meeting in December 2021. The meetings were held to discuss the proposed project with interested persons and landowners.

On March 8, 2022, the Applicant filed its application for a certificate of environmental compatibility and public need to construct the project.

On May 6, 2022, the Executive Director of the OPSB issued a letter of compliance regarding the application to the Applicant.

On June 2, 2022, the Applicant filed a Notice of Adjustment, consisting of an adjustment of approximately 0.1 mile.

A local public hearing has been scheduled for October 18, 2022, at 6:00 p.m.

The adjudicatory hearing is scheduled to commence on November 16, 2022, at 10:00 a.m.

This summary of the history of the application does not include every filing in case number 21-0199-EL-BTX. The docketing record for this case, which lists all documents filed to date, can be found online at <http://dis.puc.state.oh.us>.

## **PROJECT DESCRIPTION**

The Applicant proposes to construct, own, operate, and maintain the approximately 5.2 to 6.6-mile Groves Road-Shannon 138 kV electric transmission line in Franklin County, Ohio.<sup>16</sup> The \$21.5 million project is intended to address asset renewal and structural overloading concerns of several lines in the southeast Columbus area.

This project is one of several electric transmission projects proposed by the Applicant as part of its overall plan of improvements in the southeast Columbus area.

The proposed project involves the installation of a new 138 kV overhead electric transmission line between the existing Groves Road and Shannon Substations, retirement of the Refugee Switch, retirement of the Refugee-Groves Road 138 kV transmission line, and installation of a circuit breaker at the Shannon Station. Both routes proposed by the Applicant make use of the right-of-way of the existing Bixby-Groves Road 138 kV transmission line or the right-of-way of the existing Refugee-Groves Road 138 kV transmission line. The Applicant has proposed an approximately 60-foot right-of-way for the new transmission line and steel monopoles for support. The Applicant utilized field survey data to further identify route alternatives and to ultimately select its Preferred and Alternate routes.

Once completed, the new transmission line would replace approximately 2.4 miles of the existing Refugee-Groves Road 138 kV transmission line. That line has been in service since 1952 and serves southeast Columbus and other communities in Franklin County. With installation of the new 138 kV transmission line, the Refugee-Groves Road 138 kV transmission line and the Refugee Switch would then be taken out of service.

### **Preferred Transmission Line Route**

The Applicant's Preferred Route is approximately 6.6 miles long and mostly follows along the existing Refugee-Groves 138 kV and the Astor-Shannon 138 kV transmission lines' rights-of-way.

The Preferred Route exits the Groves Road Substation to the north and then wraps around the substation to follow the existing Refugee-Groves Road 138 kV transmission line right-of-way along Groves Road for approximately 0.8 miles. The Preferred Route would cross overhead Interstate 270. The Preferred Route then travels north along the east side of Cloverleaf Street approximately 0.25 mile. Next the Preferred Route travels east along a railroad corridor, south of Hilton Corporate Drive, and crosses both the Big Walnut Creek and Interstate 270. The Preferred Route follows the northern edge of the railroad corridor for approximately 2.2 miles to just north of the Refugee Switch. The Preferred Route then continues south predominately following the existing Astor-Shannon 138 kV transmission line, for approximately three miles, until the line terminates at the Shannon Substation. This approximately three-mile-long segment proposes to utilize double-circuit structures to efficiently hold the Groves Road-Shannon circuit and rebuilt Astor-Shannon circuit. This segment would combine two circuits into the existing right-of-way for the Astor-Shannon 138 kV transmission line. The rebuild of the Astor-Shannon 138 kV transmission line will be the subject of a separate and future application to the Board.

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16. "Application to the Ohio Power Siting Board for a Certificate of Environmental Compatibility and Public Need" (application), AEP Ohio Transmission Company, Inc., Docket No. 21-0199-EL-BTX, filed on March 8, 2022.

### **Alternate Transmission Line Route**

The Applicant's Alternate Route is approximately 5.2 miles long, and parallels on the west side of the right-of-way of the existing Bixby-Groves Road 138 kV transmission line.

The Alternate Route exits the Groves Road Substation to the north and then wraps around the substation to follow the existing 138 kV line south for approximately 1.8 miles. The Alternate Route would also cross overhead Interstate 270. The Alternate Route then travels another 1.8 miles east along Winchester Pike Road to Shannon Road. The Alternate Route then travels along Shannon Road for approximately one mile to the Shannon Station.

Both the Preferred and Alternate routes are shown on the maps in this report.

### **Refugee-Groves Road 138 kV Transmission Line and Refugee Switch Retirements**

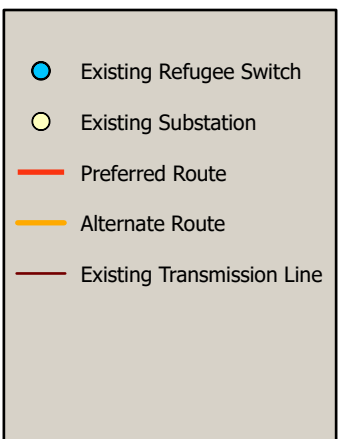
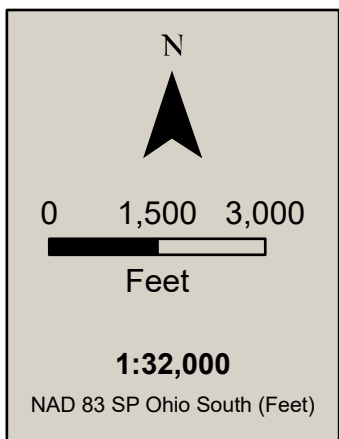
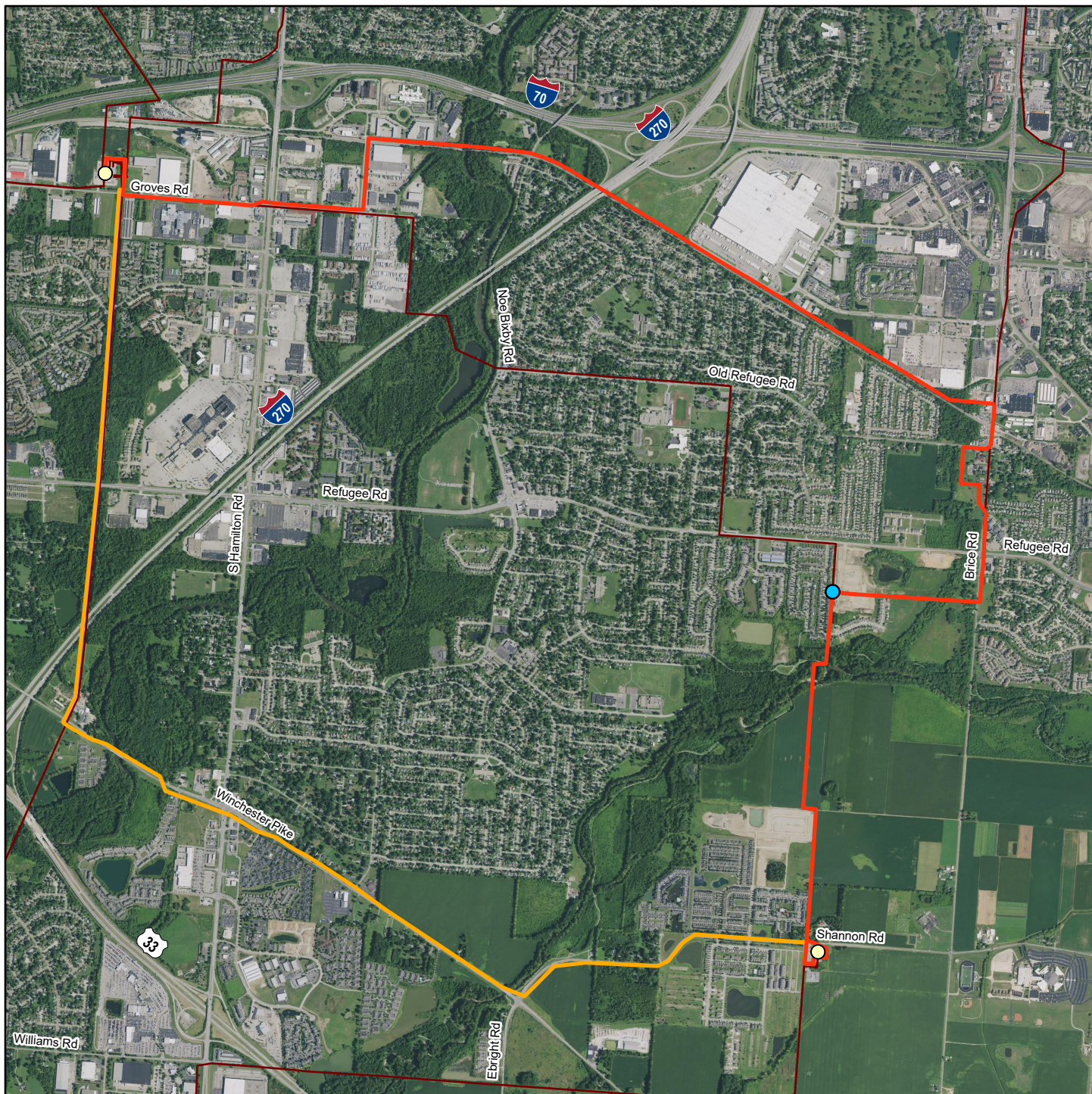
As part of this project, the Applicant plans to retire approximately 3.2 miles of the existing Refugee-Groves Road 138 kV electric transmission line.

The new double circuit configuration of the Groves Road–Shannon transmission line would create individual circuits between Groves Road and Shannon substations and between Shannon and Brice substations. This configuration would allow the Applicant to sectionalize the individual circuits and reduce the risk of potential misoperation and over-tripping of the three-terminal line in its existing configuration around Refugee Switch. The Applicant would then be able to retire and eliminate the Refugee Switch.

### **Project Schedule**

The Applicant plans to complete final transmission line engineering design work in June 2023; this would include memorializing final location of poles and plans issued for construction. Construction is anticipated to begin February 2023 and be completed around November 2024. The project would then be placed in service November 2024.





## Overview Map

### 21-199-EL-BTX

#### Groves Road-Shannon 138 kV Transmission Line Project

Maps are presented solely for the purpose of providing a visual representation of the project in the staff report, and are not intended to modify the project as presented by the Applicant in its certified application and supplemental materials.























## **IV. CONSIDERATIONS AND RECOMMENDED FINDINGS**

In the Matter of the Application of AEP Ohio Transmission Company, Inc. for a Certificate of Environmental Compatibility and Public Need, Staff submits the following considerations and recommended findings pursuant to R.C. 4906.07(C) and 4906.10(A).

### **Considerations for R.C. 4906.10(A)(1)**

#### **BASIS OF NEED**

The Applicant submitted an application to the Board for a Certificate of Environmental Compatibility and Public Need to construct up to a 6.6-mile-long 138 kV electric transmission line in Franklin County, Ohio from the Groves Road Substation to the Shannon Substation.

#### **Purpose of Proposed Facility**

The Applicant indicates that the purpose of the proposed project is to address asset renewal and structural overloading issues associated with the existing Refugee-Groves Road 138 kV line, the Astor-Brice 138 kV line, the Brice-Shannon-Groves 138 kV, and the Shannon-Bixby 138 kV circuits.

#### **System Conditions, Local Requirements, and Other Pertinent Factors**

The Applicant states that a significant portion of the existing Refugee-Groves Road 138 kV transmission line has become physically overloaded, according to National Electric Safety Code (NESC) heavy loading standards. The transmission line is unable to support the weight of new under-build telecom connectivity lines needed for SCADA-related equipment, fiber networking, and station relaying requirements to support AEP's communication between the Astor and Shannon substations. The Refugee-Groves Road 138 kV line section is also part of a three-terminal circuit which has limited options for sectionalizing in order to isolate faulted sections of the transmission line in the event of anomalies.

The Applicant states that it performed an engineering study of the line which showed that approximately one-third of the line structures are overloaded physically with respect to the NESC heavy loading conditions. The existing Refugee-Groves Road 138 kV transmission line consists of wood monopoles, and over time many of these wood poles have had streetlights, traffic signals, electric distribution lines, telecommunication, pole-mounted transformers, and other infrastructure attached to them. During extreme weather events, the physically overloaded poles may experience stresses exceeding design values, leading to damage, structural failures, or outages. Staff observed several examples of physical overloading, rotting, and splitting of the wood poles for the Groves Road-Refugee and Astor-Shannon 138 kV transmission lines.

The new configuration would allow for proper sectionalizing of the circuits involved, thereby reducing the opportunities for mis-operations and excessive trips due to the existing three-terminal configuration at the Refugee Switch.

The Applicant cites an additional benefit from the Astor-Shannon segment of the project. A rebuild of this segment would allow the addition of telecom connection for SCADA equipment, relaying requirements, and fiber networking to support communication between the Astor and Shannon substations. This telecom equipment is necessary to improve operation of the grid in this area. If

the required telecom equipment were to be added to the existing structures without further replacement or a rebuild of those structures, then a greater number of structures along the existing Astor-Shannon segment would be classified as physically overloaded, according to NESC guidelines.

### **Long-Term Forecast Report Reference**

This project was included in the Applicant's 2022 Long-Term Forecast Report, using PUCO Form FE-T9 on pages 53 and 54 of that report. The Applicant's Long-Term Forecast Report was filed in the PUCO docket Case No. 22-1501-EL-FOR on April 12, 2022.<sup>17</sup>

### **Electric Power System Economy and Reliability**

The proposed project is not expected to adversely impact the existing bulk power system (BPS). The Applicant claims the project is needed to address and relieve overloading issues and asset renewal associated with the line. The Applicant has noted and has provided a spreadsheet of 43 open conditions on the line section, and these conditions include split and rotted poles, missing and broken guy lines, ground leads and insulator problems. Customers along the line have experienced two momentary and three extensive outages between 2015 and 2020 resulting in more than two and a half million customer minutes of interruption.

### **Options to Eliminate the Need for the Project**

The Applicant considered an electrical alternative to eliminate the need for the project.

The Applicant first considered replacement of the Refugee Switch with construction of a new substation. There would be existing right-of-way limitations and siting challenges associated with the Refugee-Groves Road 138 kV line which render this option unfeasible. Secondly, the Applicant considered retiring the Refugee-Groves Road 138 kV line, but this option would have reduced or compromised reliability to multiple substations that serve numerous customers in the Columbus area.

### **Recommended Findings**

Staff recommends that the Board find that the basis of need for the project has been demonstrated and therefore complies with the requirements specified in R.C. 4906.10(A)(1), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

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17. <https://dis.puc.state.oh.us/> (Accessed September 29, 2022).

## **Considerations for R.C. 4906.10(A)(2)**

### **NATURE OF PROBABLE ENVIRONMENTAL IMPACT**

Pursuant to R.C. 4906.10(A)(2), the Board must determine the nature of the probable environmental impact of the proposed facility. Staff has found the following with regard to the nature of the probable environmental impact.

#### **Socioeconomic Impacts**

##### *Regional Planning*

The Applicant states the project would support development in Franklin County through increased reliability and availability of electric power in the area for all user types (i.e., residential, commercial, industrial, etc.). The Applicant states this project would not conflict with any plans within the county. Staff agrees this project would be unlikely to have any negative impacts on plans in the area and would likely support development in the area.

##### *Land Use*

This project would cross through Blacklick Estates, the City of Columbus, the Village of Brice, and Madison and Truro townships, all in Franklin County. Land uses that occur within the 60-foot-wide right-of-way of both routes include agricultural, commercial, county road/highway, forested, hospital/office/school, industrial/facility, landscaped/maintained, old field, open space/recreational, place of worship, residential (including planned residential), railroad, scrub -shrub, and surface water. The top land uses within the right-of-way of the Preferred Route are residential (14.2 percent), industrial (13.4 percent), and landscaped (10.8 percent). The top land uses within the right-of-way of the Alternate Route are county road/highway (22.1 percent), agricultural (13.9 percent), and residential (13.6 percent). Any impacts from construction would be contained to the right-of-way, which would be restored after construction is complete, through soil grading, seeding, and mulching. The Applicant states the only permanent impacts to the right-of-way would be from tree and other vegetation clearing, and any use such as lawn care, farming, or livestock grazing that do not interfere with “the safe and reliable operation of the transmission line” would be able to continue.<sup>18</sup>

In the Preferred Route, the Applicant proposes to rebuild approximately three miles of the existing Shannon-Astor 138 kV transmission line from single circuit to double circuit, therefore combining both lines along the same structures and route. The Applicant also states this three-mile portion of the Shannon-Astor line is planned to be rebuilt as part of the Applicant’s greater Southeast Columbus Area Improvements Project.<sup>19</sup> Paralleling these two transmission lines would minimize new or additional impacts by siting that portion of the route along an existing line. For example, the Preferred Route would have fewer structures within 200 feet of the 60-foot right-of-way than the Alternate Route: fewer cemeteries, communication towers, multi-family residential dwellings, and fewer places of worship.<sup>20</sup> The Preferred Route would utilize slightly more existing right-of-way, both in quantity and as a percentage of the entire line.

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18. Application, p. 7-12.

19. Application, p. 7-12.

20. When discounting those structures within 200 feet of the Shannon-Astor line.



The Preferred Route would parallel a railroad corridor for 2.3 miles and the existing Shannon-Astor transmission line for three miles, for a total of 5.3 miles. These two portions of the Preferred Route have negligible additional land use impacts. The total length of those two portions of the Preferred Route is a tenth of a mile (0.1 mile) longer than the entire Alternate Route. This means that for approximately the length of the entire Alternate Route, the Preferred Route has minimal land use impacts, and therefore fewer impacts overall than the Alternate Route.

There are 1,544 residences within 1,000 feet of the Preferred Route, most of which are located within 250 feet of the existing Shannon-Astor line or are adjacent to the active railroad that occurs along segments of the Preferred Route. None of these residences would be located within the 60-foot-wide right-of-way. Both routes cross minimal residential land: 14.2 percent and 13.6 percent, respectively. Of the 14.2 percent residential land use within the 60-foot right-of-way, the Applicant states a majority of this is comprised of “proposed residential communities.”<sup>21</sup> The Applicant states residential land use would not be “impeded by the Project” and land use impacts to residential land would be minimal.<sup>22</sup>

### *Recreation*

Two parks occur within 100 feet of the Preferred Route, on the opposite side of the railroad – Sol Shenk Parkland (95 feet) and Walnut View Parkland (80 feet). There would be one park crossed over by the Preferred Route – Chatterton Brice Parkland – which would occur within existing maintained right-of-way. The Applicant states there would not be any new tree clearing in Chatterton Park for this project. There are two parks within 100 feet of the Alternate Route, one of which is as close as approximately 50 feet at its closest. No parks are located within the right-of-way of the Alternate Route, however there is 0.03 acres of the Shannon Road Park easement that would be crossed by this route.<sup>23</sup> There is no tree clearing proposed or other impacts due to this park being crossed over. Staff opines the land use of recreational resources would not be impacted by this project.

### *Aesthetics*

The area surrounding both routes of this proposed transmission line are relatively flat in nature, and comprised of suburban and urban residential areas, commercial and institutional developments, industrial sites, agricultural fields, woodlots, wetlands, and floodplains. There are major transmission lines, distribution lines, large industrial and commercial buildings, and railroads along and within the right-of-way for both routes.

As mentioned in the Land Use section, the Preferred Route proposes to rebuild approximately three miles of the existing Shannon-Astor 138 kV transmission line as double circuit. This would combine two transmission lines along one route with shared structures. Doing so would reduce visual impacts by paralleling this transmission line along an existing transmission line where visual impacts already occur. By adding an additional line to the existing structures of the Shannon-Astor transmission line, visual impacts to the surrounding area would increase minimally. Continuing the route on a separate single circuit line where a transmission line does not already occur would add to the visual landscape and introduce new visual impacts that this routing does not.

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21. Application, p. 7-13.

22. Application, p. 7-13.

23. Application, p. 7-14.

The Preferred Route additionally reduces visual impacts by mirroring a railroad track. Along this segment of the route, the transmission line would be located along the opposite side of the railroad track from residences. There is existing vegetative screening between these residences and the railroad. As part of the Alternate Route along Winchester Pike, the transmission line would stretch along the front of residences and necessitate tree clearing of existing vegetative screening present in the front yards of those residences.

The Applicant minimized potential for visual impacts by selecting routes that occur in developed areas, where existing transmission lines occur, by proposing to rebuild the existing Shannon-Astor 138kV transmission line to be double circuit, and by siting along active transportation corridors such as the railroad and major roads. The Applicant has taken steps to reduce the visual impact of this project. It is Staff's opinion that this project would not significantly conflict visually with the surrounding area. Staff recommends the Preferred Route for visual impacts.

### *Cultural Resources*

The Applicant's consultant conducted a Phase I cultural resource survey to ascertain potential impacts to historical properties and archaeological sites. The survey included a review of the National Register of Historic Places (NRHP) and analysis of sites that may be eligible for inclusion in the NRHP. The consultant's survey focused on a 1,000-foot radius around the project area. The consultant's survey included archaeological resources and known sites, landmarks, historical structures, bridges, cemeteries, and historic districts.

The consultant reidentified one previously identified archaeological site. This site was previously determined to be not eligible for listing on the NRHP. The consultant recommended and OHPO concurred that no further archaeological work is necessary for the project. The consultant also conducted a historical/architectural survey and identified 108 architectural resources. The consultant recommended that none of these resources are eligible for listing in the NRHP. OHPO concurred and recommends a finding of no adverse effect to historical properties. Staff agrees with these findings.

### *Economics*

The Applicant will be responsible for the construction, ownership, and operation and maintenance of the proposed project. The Applicant's total estimated intangible and capital cost for the Preferred Route was \$21.5 million and for the Alternate Route was \$17.8 million. The following table provides a breakdown of these cost estimates.

<b>Intangible and Capital Costs</b>		
	<b>Preferred Route</b>	<b>Alternate Route*</b>
Land and Land Rights	\$2,431,668	\$5,380,947
Structures and Improvements	-	-
Substation Equipment	-	-
Towers and Fixtures	-	-
Poles and Fixtures	\$9,058,870	\$5,218,803
Overhead Conductors and Devices	\$3,999,805	\$1,004,096
Underground Conductors and Insulation	-	-
Underground-to-Overhead Conversion Equipment	-	-
Right-of-way Clearing, Roads, Trails, or other Access	\$8,260,473	\$6,187,589
Total	\$21,481,000	\$17,791,435

\* The cost of the Alternate Route does not account for the rebuilding of three miles of the Shannon-Astor 138 kV transmission line, which is included in the Preferred Route and which would add approximately \$7M to the cost for the Alternate Route for an equal comparison.

The Applicant would remit property taxes annually on the installed utility facilities. The Applicant estimates the total projected annual year property tax revenue at \$1.81 million for the Preferred Route and \$1.57 million for the Alternate Route.

### *Liability Insurance*

The Applicant is self-insured and maintains additional bodily injury and property damage liability insurance of at least \$1,000,000 for each occurrence.

## **Geology**

### *Surficial/Glacial*

The project area lies within the glaciated margin of the state and includes several Wisconsinan-age glacial features including but not limited to ground moraine, alluvium and alluvial terraces. Glacial drift along the Preferred and Alternate routes ranges from approximately 45 feet to 285 feet in thickness with the thinnest drift occurring in the northernmost section of the proposed project.

### *Bedrock<sup>24</sup>*

24. “Since its inception in 1837, the ODNR Division of Geological Survey has researched and mapped the state’s glacial and surficial geology. Today, highly detailed mapping and meticulous studies continue to inform and broaden our knowledge of Ohio’s glacial past.” (ODNR, *Glacial Geology in Ohio* <<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/geologic-survey/glacial-geology>>).

“Since collaborating with the U.S. Geological Survey to release the first statewide *Glacial Map of Ohio* in 1961, the ODNR Division of Geological Survey has mapped the unconsolidated geologic materials found at Ohio’s surface with increasing detail.” (ODNR, *Glacial & Surficial Geologic Maps*, <<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/geologic-survey/glacial-geology/glacial-surficial-geologic-maps>>).

The uppermost bedrock unit throughout the study area is the Ohio and Olentangy shales Undivided. Due to the glacial drift thickness cited above and the proposed structure depths, bedrock is not expected to be encountered.

#### *Karst*<sup>25</sup>

The nearest known karst features in Ohio are in excess of 10 miles from the project area.<sup>26</sup> Therefore, no karst features are known nor are they expected to be encountered during the proposed construction.

#### *Oil/Gas and Mining*<sup>27</sup>

ODNR records indicate that no oil and gas well activity occurs within several hundred feet of either the Preferred or Alternate route.<sup>28</sup>

No present or historic mining activity is documented within several miles of the study area.<sup>29</sup>

#### *Seismic Activity*

No earthquake epicenters have been documented within a 20-mile radius of the study area.<sup>30</sup> No known geologic structural features typically associated with seismic activity occur near the proposed routes. The United State Geological Survey classifies the central Ohio region as a low seismic hazard area.<sup>31</sup>

Blasting will not be a part of the proposed project. Therefore, there will be no seismicity induced by blasting.<sup>32</sup>

#### *Soils*

Several soil series exist throughout the study area including the Eldean, Kokomo, and Crosby series. Most soils have a high rating with regard to corrosion against steel and a low rating for corrosion against concrete.<sup>33</sup> “Corrosive resistant concrete mix designs will be required for pier foundations. All direct embedded poles will have a ground sleeve at the ground line as well as a

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25. Karst is a geologic feature formed within carbonate rocks through mineral dissolution caused by movement of water. Most common features include the formation of caves or the formation of sinkholes at the surface. Generally, karst features, and the likelihood of karst development are most prevalent in areas where the carbonate bedrock is overlain by 20 feet or less of glacial till material. Limestone and dolomite are the most common carbonate bedrock. Generally, Limestone is more prone to dissolution than dolomite.

26. ODNR Karst Geology Viewer Interactive Map  
[https://gis.ohiodnr.gov/website/dgs/karst\\_interactivemap/](https://gis.ohiodnr.gov/website/dgs/karst_interactivemap/)

27. ODNR Division of Oil & Gas states: “[t]he Division is responsible for regulating Ohio’s oil and natural gas industry and for the protection of all Ohioans and our environment while ensuring the state’s abundant natural resources are managed properly.” (ODNR, Division of Oil & Gas, <<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/oil-gas/division-of-oil-and-gas/division-of-oil-and-gas>>).

28. ODNR Oil and Gas Well Viewer Interactive Map  
<https://gis.ohiodnr.gov/MapViewViewer/?config=OilGasWells>

29. ODNR Mines Viewer Interactive Map <https://gis.ohiodnr.gov/MapViewViewer/?config=OhioMines>

30. ODNR Earthquake Epicenter Locator Interactive Map  
<https://gis.ohiodnr.gov/MapViewViewer/?config=Earthquakes>

31. USGS 2018 Long-term National Seismic Hazard Map <https://www.usgs.gov/media/images/2018-long-term-national-seismic-hazard-map>

32. Application at page 7-10.

33. NRCS Websoil Survey <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

below-grade protection of a ceramic epoxy urethane exterior coating that extends to two feet above grade line.”<sup>34</sup> The overlying soils are generally silty or clay loams that are generally expected to be suitable for foundation construction.<sup>35</sup>

No major grading is anticipated for either of the proposed routes. “There may be minor back dragging to remove ruts and return the ground underneath the timber mats to original condition. In addition in areas with gravel, the topsoil will be pulled back and re-spread once construction is completed. Only areas disturbed during construction may require minimal grading, but the entire right-of-way will not be graded.”<sup>36</sup> “Approximately 1.5 miles of the Preferred and approximately 0.9 miles of the Alternate routes cross areas mapped with slopes greater than 12 percent. In general, transmission line poles will be placed on ridge tops to allow spanning of stream valleys and reduce the possibility that the line will interfere with vegetation where terrain is challenging. Poles will be placed on stable ridge tops rather than more unstable steep slopes. Slope and soil mechanics will be carefully considered in the decision-making process where access roads must be improved or constructed. In these areas, soils with the lowest slope and erosion characteristics will be used to construct access roads to the transmission pole locations.” “During construction, The Company will implement a SWPPP [Stormwater Pollution Prevention Plan] and associated BMPs [Best Management Practices] as necessary to control erosion and sedimentation in areas with slopes exceeding 12 percent. Once construction is complete, soils will be revegetated and stabilized. As a result, no erosional impacts resulting from slopes exceeding 12 percent are expected.”<sup>37</sup>

“Permanent access roads are not anticipated for the Project. Access to routes across agricultural fields could pose a challenge if conditions become wet, compared to access across those same fields to routes that parallel local road.”<sup>38</sup> Some existing gravel driveways will be upgraded by adding additional gravel. New access road design for gravel access roads typically require removal of topsoil and 6-10” of gravel aggregate placed and compacted. The Company will also utilize timber matting in areas where gravel may not be suitable.”<sup>39</sup>

### *Conclusion*

The majority of poles will be varying types of self-supporting steel poles to be installed via direct embedment methods. Where necessary, due to site-specific conditions and structure type, installation of a concrete foundation may be used. The excavation of each concrete foundation will be approximately 5.5 to eight feet in diameter and 20 to 35 feet deep.<sup>40</sup> “The Company anticipates that foundations will only be required at some angle structures that will be ultimately determined during the engineering design. When required, foundations will be engineered based on the results of geotechnical soil boring and laboratory test results to ensure they are sited in locations considered suitable based on soil and rock properties and surface slope.”<sup>41</sup> Thirty-six angle structures are estimated for the Preferred route and 26 for the Alternate Route.

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34. Applicant’s September 19, 2022 response to Staff’s third data request.

35. Application at page 8-43.

36. Applicant’s September 19, 2022 response to Staff’s third data request.

37. Application at pages 8-42 through 8-43.

38. Application at page 52.

39. Applicant’s September 19, 2022 response to Staff’s third data request.

40. Application at page 5-7.

41. Application at page 8-43.

According to the Applicant, “[t]ransmission line construction activities, such as vegetation clearing, access road construction, grading, and foundation construction, can affect soil and water resources by disturbing the native structure of the soil, and thereby creating areas of higher erosion potential, compaction, and lower soil permeability/fertility, and by delivering eroded soil to nearby streams through sedimentation. Therefore, flat terrain is preferred to mitigate erosion potential, and the Routing Study considers prime farmland soils and slopes as factors when comparing routes.”<sup>42</sup> “No terrain constraints or geological hazards were identified in the study area.”<sup>43</sup>

The geology and soils along both routes are expected to be suitable for foundation construction. Staff recommends that the geotechnical evaluation at concrete foundation sites include hydrogeological consideration given the significant excavation size. Staff also recommends that the final detailed engineering drawings of the final project design shall account for geological features and include the identity of the registered professional engineer(s), structural engineer(s), or engineering firm(s), licensed to practice engineering in the state of Ohio who reviewed and approved the designs. Staff recommends that the Applicant provide a final geotechnical engineering report to Staff at least 30 days prior to the preconstruction conference.

Based on the data and considerations provided within the application submittal to date, and based on implementation of Staff’s recommended conditions, there appears to be no particular geological features or soil conditions along the Preferred or Alternate routes that are incompatible with construction of the proposed transmission line project. Geotechnical investigations will confirm the preliminary suitability assessment.

## **Ecological Impacts**

### *Surface Waters*<sup>44</sup>

The Preferred Route crosses six perennial streams, totaling 667 linear feet within the right-of-way. The Alternate Route crosses four streams, totaling 440 linear feet within the right-of-way. This includes three perennial and one intermittent stream. No in-water work is proposed.

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42. Application at page 30.

43. Application at page 49.

44. The Ohio EPA website states: “The Division of Surface Water ensures compliance with the federal Clean Water Act and works to increase the number of water bodies that can be safely used for swimming and fishing. The division issues permits to regulate wastewater treatment plants, factories and storm water runoff; develops comprehensive watershed plans aimed at improving polluted streams; and samples streams, lakes and wetlands — including fish, aquatic insects and plants — to determine the health of Ohio’s water bodies.” (Ohio EPA, About Us: Surface Water, <https://www.epa.ohio.gov/About#127147228-surface-water>); The U.S. Army Corps of Engineers website states: “The U.S. Army Corps of Engineers (USACE) Regulatory Program involves the regulating of discharges of dredged or fill material into waters of the United States and structures or work in navigable waters of the United States, under section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act of 1899.” (USACE, Obtain a Permit, <https://www.usace.army.mil/Missions/Civil-Works/RegulatoryProgram-and-Permits/Obtain-a-Permit/>); The Ohio Department of Natural Resources (ODNR) website states: “The Division of Water Resources manages statewide oversight of dams & levees, floodplains, and the collection and management of data related to the state's water resources.” (ODNR, Division of Water Resources, <https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-odnr/waterresources/water-resources> ).

The Applicant has committed to not conduct mechanized clearing within 25 feet of any streams and removal would be limited to trees that have the potential to interfere with the safe construction and operation of the transmission line.

Existing culverts would be used where stream crossings are necessary. If new stream crossings are needed, they would be crossed by either a temporary culvert or a temporary access bridge. Best management practices (BMPs) would be used where streams would be crossed by construction vehicles. Once the project is in operation, no significant impacts to streams are anticipated.

The Preferred Route includes ten delineated wetlands within the environmental survey corridor totaling 1.81 acres. This includes five Category 1 and five Category 2 wetlands. No Category 3 wetlands were delineated.<sup>45</sup>

The Alternate Route includes eight delineated wetlands within the environmental survey corridor totaling 3.38 acres. This includes three Category 1 wetlands, four Category 2 wetlands, and one Category 1 or 2 gray zone wetland. No Category 3 wetlands were delineated.

The Applicant would avoid the placement of pole structures within wetlands to the extent practical. One structure is proposed within a wetland in the Alternate Route. No additional fill would be placed in the wetland beyond the placement of the pole and borehole backfill. Where temporary construction access through a wetland cannot be avoided, protective construction matting would be used to minimize impacts from construction vehicles. The Applicant has committed to using non-mechanized clearing techniques for cutting woody vegetation within the wetland areas. Once the transmission line is in operation, no significant impacts to wetlands are anticipated.

Seventeen ponds totaling 5.4 acres were delineated within the environmental survey corridor. The Applicant indicated that all identified ponds are considered non-jurisdictional as they are manmade features constructed in an upland or non-jurisdictional waters. No ponds would be impacted by this project.

The Applicant stated that it would obtain coverage under the Ohio EPA General National Pollutant Discharge Elimination System (NPDES) Permit. Sedimentation that may occur as a result of construction activities would be minimized through BMPs, such as silt fences and filter socks. BMPs would be outlined in the Applicant's SWPPP required as part of the NPDES Permit. Coverage under the U.S. Army Corps of Engineer's (USACE) Nationwide Permit Program may also be required depending on final structure placement and access road locations. The project crosses portions of a Federal Emergency Management Agency (FEMA) designated Zone AE 100-year floodplain.<sup>46</sup> The Applicant would coordinate with the local floodplain administrator and would obtain a floodplain permit if required.

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45. Wetlands falling within the purview of the Clean Water Act are regulated within Ohio by R.C. 6111, et seq. and Ohio Adm.Code 3745-1-50, et seq. Ohio Adm.Code 3745-1-54 establishes wetland categories.

46. A FEMA 100-year floodplain is defined as: Any area that has a one percent chance of experiencing a base flood in any given year.

### Threatened and Endangered Species<sup>47</sup>

The Applicant requested information from the ODNR and the USFWS regarding state and federal listed threatened and endangered plant and animal species. Additional information was provided through field assessments and review of published ecological information. The following table provides the results of the information requests, field assessments, and document review.

MAMMALS				
Common Name	Scientific Name	Federal Status	State Status	Presence in Project Area
Indiana bat	<i>Myotis sodalis</i>	Endangered	Endangered	Known range. Applicant has committed to adhering to the seasonal tree cutting dates.
northern long-eared bat	<i>Myotis septentrionalis</i>	Threatened	Threatened	Known range. Applicant has committed to adhering to the seasonal tree cutting dates.
tricolored bat	<i>Perimyotis subflavus</i>	N/A	Endangered	Known range. Applicant has committed to adhering to the seasonal tree cutting dates.
little brown bat	<i>Myotis lucifugus</i>	N/A	Endangered	Known range and the project is within the vicinity of records of this species. Applicant has committed to adhering to the seasonal tree cutting dates.
MUSSELS				
Common Name	Scientific Name	Federal Status	State Status	Presence in Project Area
purple cat's paw	<i>Epioblasma o. obliquata</i>	Endangered	Endangered	Known range. No in-water work is planned. No impacts are anticipated.
clubshell	<i>Pleurobema clava</i>	Endangered	Endangered	Known range. No in-water work is planned. No impacts are anticipated.
northern riffleshell	<i>Epioblasma torulosa rangiana</i>	Endangered	Endangered	Known range. No in-water work is planned. No impacts are anticipated.
rayed bean	<i>Villosa fabalis</i>	Endangered	Endangered	Known range. No in-water work is planned. No impacts are anticipated.

47. Based on agency coordination with the USFWS and the ODNR, identified species of concern are, in general, defined as those species that are protected under the federal Endangered Species Act of 1973, as amended (16 U.S.C. §§ 1531-1544) and/or according to the Conservation of Natural Resources within R.C. 1518.01-1518.99; 1531.25; and 1531.99. See also e.g., R.C. 1531.08 states, in part: "In conformity with Section 36 of Article II, Ohio Constitution, providing for the passage of laws for the conservation of the natural resources of the state, including streams, lakes, submerged lands, and swamplands, and in conformity with this chapter and Chapter 1533. of the Revised Code, the chief of the division of wildlife has authority and control in all matters pertaining to the protection, preservation, propagation, possession, and management of wild animals and may adopt rules under section 1531.10 of the Revised Code for the management of wild animals." One of the missions of the ODNR is to "conserve and improve the fish and wildlife resources and their habitats and promote their use and appreciation by the public so that these resources continue to enhance the quality of life for all Ohioans." In carrying out this mission, the ODNR considers the "status of native wildlife species [to be] very important" and therefore lists wildlife species needing protection. (ODNR, State Listed Species, <https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/aboutODNR/wildlife/state-listed-species>).



MUSSELS				
snuffbox	<i>Epioblasma triquetra</i>	Endangered	Endangered	Known range. No in-water work is planned. No impacts are anticipated.
rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	Threatened	Threatened	Known range. No in-water work is planned. No impacts are anticipated.
elephant ear	<i>Elliptio crassidens crassidens</i>	N/A	Endangered	Known range. No in-water work is planned. No impacts are anticipated.
long solid	<i>Fusconaia maculata maculate</i>	N/A	Endangered	Known range. No in-water work is planned. No impacts are anticipated.
Ohio pigtoe	<i>Pleurobema cordatum</i>	N/A	Endangered	Known range. No in-water work is planned. No impacts are anticipated.
pocketbook	<i>Lampsilis ovata</i>	N/A	Endangered	Known range. No in-water work is planned. No impacts are anticipated.
washboard	<i>Megaloniaias nervosa</i>	N/A	Endangered	Known range. No in-water work is planned. No impacts are anticipated.
black sandshell	<i>Ligumia recta</i>	N/A	Threatened	Known range. No in-water work is planned. No impacts are anticipated.
fawnsfoot	<i>Truncilla donaciformis</i>	N/A	Threatened	Known range. No in-water work is planned. No impacts are anticipated.
pondhorn	<i>Unio merus tetralasmus</i>	N/A	Threatened	Known range. No in-water work is planned. No impacts are anticipated.
threehorn wartyback	<i>Obliquaria reflexa</i>	N/A	Threatened	Known range. No in-water work is planned. No impacts are anticipated.

FISH				
Common Name	Scientific Name	Federal Status	State Status	Presence in Project Area
scioto madtom	<i>Noturus trautmani</i>	Endangered	Endangered	Known range. No in-water work is planned. No impacts are anticipated.
goldeye	<i>Hiodon alosoides</i>	Endangered	N/A	Known range. No in-water work is planned. No impacts are anticipated.
Iowa darter	<i>Etheostoma exile</i>	Endangered	N/A	Known range. No in-water work is planned. No impacts are anticipated.
popeye shiner	<i>Notropis ariommus</i>	Endangered	N/A	Known range. No in-water work is planned. No impacts are anticipated.

FISH				
northern brook lamprey	<i>Ichthyomyzon fossor</i>	Endangered	N/A	Known range. No in-water work is planned. No impacts are anticipated.
spotted darter	<i>Etheostoma maculatum</i>	Endangered	N/A	Known range. No in-water work is planned. No impacts are anticipated.
shortnose gar	<i>Lepisosteus platostomus</i>	Endangered	N/A	Known range. No in-water work is planned. No impacts are anticipated.
tonguetied minnow	<i>Exoglossum laurae</i>	Endangered	N/A	Known range. No in-water work is planned. No impacts are anticipated.
lake chubsucker	<i>Erimyzon sucetta</i>	Threatened	N/A	Known range. No in-water work is planned. No impacts are anticipated.
paddlefish	<i>Polyodon spathula</i>	Threatened	N/A	Known range. No in-water work is planned. No impacts are anticipated.
Tippecanoe darter	<i>Etheostoma tippecanoe</i>	Threatened	N/A	Known range. No in-water work is planned. No impacts are anticipated.
BIRDS				
Common Name	Scientific Name	Federal Status	State Status	Presence in Project Area
American bittern	<i>Botaurus lentiginosus</i>	N/A	Endangered	Known range. No suitable habitat in project area. No impacts are anticipated.
black-crowned night heron	<i>Nycticorax nycticorax</i>	N/A	Threatened	Known range. No suitable habitat in project area. No impacts are anticipated.
cattle egret	<i>Bubulcus ibis</i>	N/A	Endangered	Known range. No suitable habitat in project area. No impacts are anticipated.
lark sparrow	<i>Chondestes grammacus</i>	N/A	Endangered	Known range. No suitable habitat in project area. No impacts are anticipated.
least bittern	<i>Ixobrychus exilis</i>	N/A	Threatened	Known range. No suitable habitat in project area. No impacts are anticipated.
northern harrier	<i>Circus hudsonis</i>	N/A	Endangered	Known range. No suitable habitat in project area. No impacts are anticipated.
sandhill crane	<i>Grus canadensis</i>	N/A	Threatened	Known range. No suitable habitat in project area. No impacts are anticipated.
upland sandpiper	<i>Bartramia longicauda</i>	N/A	Endangered	Known range. No suitable habitat in project area. No impacts are anticipated.

In the event that the Applicant encounters listed species during construction, Staff recommends that the Applicant contact Staff, the ODNR, and the USFWS, as applicable, within 24 hours. Staff recommends that activities that could adversely impact the identified listed animals be immediately halted until an appropriate course of action has been agreed upon by the Applicant, Staff, and the appropriate agencies. Staff also recommends that if the Applicant encounters any listed species prior to construction, the Applicant include in final engineering documents, the location and how impacts would be avoided during construction.

Tree clearing would be necessary for the proposed project. The project is within range and within the vicinity of records for the state endangered little brown bat (*Myotis lucifugus*), therefore the presence of this species has been established in the project area. The project is also within the range of state and federal endangered Indiana bat (*Myotis sodalis*), the state and federal threatened northern long-eared bat (*Myotis septentrionalis*), and the state endangered tricolored bat (*Perimyotis subflavus*). As tree roosting species in the summer months, the habitat of these species may be impacted by the project. In order to avoid impacts to these species, Staff recommends the Applicant adhere to seasonal tree cutting dates of October 1 through March 31 for all trees three inches or greater in diameter, unless coordination efforts with the ODNR and the USFWS allows a different course of action. Further, mapping of any habitat areas should be provided to the construction contractor along with instructions to avoid these areas during the restricted dates. The Applicant has committed to limiting tree clearing for the project to the seasonal cutting dates of October 1 through March 31 in order to avoid impacts to bat species.

During the winter months, bats hibernate in caves and abandoned mines, also known as hibernacula. The ODNR Division of Wildlife recommended that a desktop assessment is conducted, followed by a field assessment if needed, to determine if any potential hibernaculum is present within the project area. The Applicant performed a desktop review which did not identify any potential hibernaculum within the project area.

Impacts to other listed species would be avoided as no impacts to suitable habitats are proposed for the project and no in-water work is anticipated.

### *Vegetation*

The Preferred and Alternate Routes cross through mostly landscaped areas, urban areas, and successional hardwood woodland. The Preferred Route would result in 11.2 acres of tree clearing while the Alternate Route would result in 6.5 acres of tree clearing. Impacts to vegetation along both routes would be limited to the initial clearing for the proposed transmission line right-of-way and along access roads, and operational maintenance clearing activities. Trees adjacent to the proposed right-of-way, which are significantly encroaching or prone to failure, may require clearing to allow for safe operation of the transmission line. Vegetative wastes generated during construction would be wind-rowed or chipped and disposed of appropriately depending on landowner requests. The Applicant does not anticipate the use of herbicides during construction.

## **Public Services, Facilities, and Safety**

### *Safety*

The Applicant stated that it would comply with all applicable safety standards set by the Occupational Safety and Health Administration (OSHA), safety standards of the PUCO, the North American Electric Reliability Corporation (NERC) Reliability Standards, and industry best practices for construction. The Applicant also intends to utilize and maintain an approximately 60

feet wide right-of-way for the proposed project. The Applicant's design would meet the requirements of the NESC.

#### *Communications*

Because the Applicant has incorporated minimization of radio interference into the design of the transmission line, the Applicant does not expect AM or FM radio or microwave path interference to occur from the operation of the proposed transmission line along either the Preferred or Alternate route.

Any likely source of television interference would be localized, and due to defective hardware, that could be easily detected and replaced. The Applicant indicates that it will maintain the transmission line in good condition, which should avoid impacts to television reception. Also, once detected, the Applicant would repair or replace the defective hardware to eliminate the interference.

#### *Roads and Bridges*

The Preferred and Alternate routes are planned to utilize public road right-of-way, public land, and private easements to access and construct the project site. Railroad crossing permits may be required.

An increase in truck traffic is anticipated during construction for the purpose of equipment access and equipment and material deliveries. The Applicant does not anticipate any additional traffic during operation of the facility beyond routine maintenance. Either detours or lane closures would be necessary at different stages of the project, and Staff recommends the Applicant obtain and comply with appropriate road closure permitting agencies such as the City of Columbus, Franklin County Engineer and ODOT.

#### *Noise*

Most noise impacts associated with this project would occur during the proposed construction period. Construction noise would include excavation, hydro-vac-ing, conduit installation, backfilling, and rock hammering and/or breaking. The total duration of construction of the pipeline is expected to be 13 months. The Applicant would mitigate noise impacts by using standard construction techniques and limiting construction activities to daylight hours, to the extent feasible. Occasional, short term, noise impacts would also occur, associated with maintenance and repair activities, throughout the life of the facility.

The Applicant would notify property owners or tenants of the upcoming construction activities for the pipeline in the same manner as required for the public information program, as stated in Ohio Adm.Code 4906-3-03(B)(2), including the potential for the after-hours activities.

Although the Applicant states that construction activity will generally be limited to daylight hours, Staff recommends a condition that limits general construction activities to daylight hours unless the noise impact from the construction activities do not rise above ambient levels at sensitive receptors. If extraordinary circumstances, that include noise impacts above ambient levels at sensitive receptors, require nighttime construction activities, the Applicant shall notify Staff and affected property owners or tenants before the construction occurs.

**Recommended Findings**

Staff recommends that the Board find that the Applicant has determined the nature of the probable environmental impact for the proposed facility, and therefore complies with the requirements specified in R.C. 4906.10(A)(2), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

### **Considerations for R.C. 4906.10(A)(3)**

#### **MINIMUM ADVERSE ENVIRONMENTAL IMPACT**

Pursuant to R.C. 4906.10(A)(3), the proposed facility must represent the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, along with other pertinent considerations.

##### **Route Selection**

The Applicant completed a route selection process that resulted in the identification of the Preferred and Alternate transmission line routes. Land use constraints were identified and categorized by evaluating various land uses. The Applicant's analysis centered on the avoidance and minimization of impacts to residential and commercial density, ecological and cultural resources, and engineering factors. Once potential routes were identified, field investigations were conducted to collect additional data. A ranking system was used to weigh the data to produce potential candidate routes. Thirty-five candidate routes were scored and analyzed. The Applicant held a virtual open house from November 16 to December 4, 2020 for the public to learn about and comment on these potential routes. This list was then narrowed to 31 potential routes based on feedback from the open house, in large part to avoid Columbus parks and protected areas. The Applicant then developed two route alternatives. The Applicant held an in-person open house December 15, 2021 and a virtual open house December 15 to December 20, 2021 for comment on the two route alternatives. Following feedback from the public, the Applicant finalized its analysis and chose the Preferred Route and Alternate Route. The final two routes selected represent minimal adverse impacts of the project.

##### **Minimizing Impacts**

While both the Preferred and Alternate routes are viable, Staff concludes that the Preferred Route is a more efficient land use and minimizes potential impacts from the Applicant's overall southeast Columbus area improvements projects.

As mentioned in the Land Use section, the Preferred Route proposes to rebuild approximately three miles of the existing Shannon-Astor 138 kV transmission line as double circuit. This would efficiently consolidate two transmission lines along one right-of-way with shared structures. This would reduce visual impacts by installing the new transmission line circuit along an existing transmission line corridor where visual impacts presently exist. The Preferred Route would parallel a railroad corridor for 2.3 miles and the existing Shannon-Astor transmission line for three miles, for a total of 5.3 miles. These two portions of the Preferred Route have negligible new or additional land use impacts. The total length of those two portions of the Preferred Route is a tenth of a mile (0.1 mile) longer than the entire Alternate Route. This means that for approximately the length of the entire Alternate Route, the Preferred Route has minimal land use impacts, and therefore fewer impacts overall than the Alternate Route.

Geologic features are similar for both routes and no portion of either route is precluded from construction due to geological features or soil condition concerns. Further geotechnical investigations during the final engineering design phase should confirm the preliminary suitability assessment and final structure design requirements.

There is an identified need for a new transmission line that could eliminate the poor physical condition (e.g., split/rotted poles, missing/broken guying and ground leads, and insulator issues) and physical heavy overloading of the structures of the existing Refugee-Groves Road 138 kV transmission line. The Preferred Route would satisfy that need. The Preferred Route also rebuilds approximately three miles of the Shannon-Astor 138 kV transmission line, which the Applicant indicates will be rebuilt in the future regardless.<sup>48</sup> The Preferred Route minimizes overall costs and duration of construction in the project area by essentially combining two components of the larger southeast Columbus area improvement project.

The cost of the Alternate Route does not account for consolidation of those three miles of rebuilding (i.e., the three miles of the Shannon-Astor 138 kV transmission line), which would add approximately \$7M to its cost for an equal comparison. The Applicant intends to submit a separate Letter of Notification to rebuild the Shannon-Astor 138 kV line to the Board within approximately six months after the Board's approval of the Groves Road-Shannon 138 kV transmission line. Selection of the Preferred Route reduces the total length of that Shannon-Astor 138 kV electric transmission line rebuild project by approximately three miles and \$7,000,000. According to the Applicant, due to the development and constraints in the area, the Applicant anticipates that Shannon-Astor 138 kV line would be rebuilt within the existing right-of-way and greenfield routes would likely not be considered. If the Alternate Route were selected then the Letter of Notification would propose to rebuild the entire length of the existing Shannon-Astor 138 kV transmission line. The Preferred Route consolidates the costs and impacts from construction of the Groves Road-Shannon and Shannon-Astor circuits, at least for a three-mile segment.

## **Conclusion**

The Preferred Route utilizes a much higher percentage of existing right-of-way or combines an existing electric transmission line into a common easement right-of-way by using a double-circuit configuration, thereby minimizing potential land use conflicts.

The Alternate Route would result in the clearing of significantly more greenfield impacts and construction along the high traffic area of Winchester Pike.

## **Recommended Findings**

Staff recommends that the Board find that the Preferred Route represents the minimum adverse environmental impact, and therefore complies with the requirements specified in R.C. 4906.10(A)(3), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

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48. 2021 Long-Term Forecast Report of AEP Ohio Transmission Company, Inc. and Related Matters, Docket No. 22-0151-EL-FOR, filed on April 12, 2022; PUCO Form FE-T9, page 54.

## **CONSIDERATIONS FOR R.C. 4906.10(A)(4)**

### **ELECTRIC GRID**

Pursuant to R.C. 4906.10(A)(4), the Board must determine that the proposed electric facilities are 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 facilities will serve the interests of electric system economy and reliability.

#### **PJM Interconnection, LLC**

Upgrades to the transmission system are part of the PJM Interconnection, LLC (PJM) Regional Transmission Expansion Plan (RTEP).<sup>49</sup> The Applicant submitted the statement of need to the PJM Subregional RTEP Committee – Western on November 29, 2018 and submitted the solution on June 19, 2020. The project was assigned the supplemental ID number s2282.<sup>50</sup> Supplemental projects, or upgrades, refer to transmission expansion or enhancements not needed to comply with PJM reliability, operational performance, Federal Regulatory Energy Commission (FERC) Form No. 715, economic criteria or State Agreement Approach projects.<sup>51</sup>

#### **Load Flow Studies and Contingency Analysis**

As part of the M-3 Process, the project was studied under PJM's "do-no-harm" analysis which investigates supplemental projects for any adverse impacts to the transmission network.<sup>52</sup> This analysis is performed by PJM after the solution is reviewed at a sub-regional RTEP meeting and prior to the proposed solution being posted to the local plan. The analysis includes steady-state N-1 and N-1-1 thermal and voltage studies, as well as a short-circuit breaker duty capability study.<sup>53</sup> According to the Applicant, no thermal overloads or voltage anomalies or imbalances were predicted by those studies.

#### **NERC Planning Criteria**

NERC is responsible for the development and enforcement of the federal government's approved reliability standards, which are applicable to all owners, operators, and users of the BPS. As an owner, operator, and/or user of the BPS, the Applicant is subject to compliance with various NERC

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49. PJM is the regional transmission organization charged with planning for upgrades to the regional transmission system in Ohio. Significant alterations to the transmission system located in the PJM control area are required to submit planned projects for review of system impacts.

50. <https://www.pjm.com/-/media/committees-groups/committees/srrtep-w/postings/aep-local-plan-submission-of-the-supplemental-projects-for-2020-rtep.ashx> (Accessed September 14, 2022)

51. PJM Manual 14B: PJM Region Transmission Planning Process, Revision 51, Effective Date: December 15, 2021.

52. The PJM M-3 Process generally encapsulates: (1) asset management projects, (2) supplemental projects, and (3) other transmission expansions or enhancements not needed to comply with PJM reliability, operational performance, FERC Form No. 715 criteria, economic planning, and public policy planning. See PJM, Open Access Transmission Tariff, VI, Attachment M-3.

53. An N-1-1 contingency is defined as a fault, followed by manual system adjustments, followed by another fault. An N-1 contingency is a single fault.

See PJM Manual 14B: PJM Region Transmission Planning Process, Revision 51, Effective Date: December 15, 2021 p. 125.



reliability standards. The NERC reliability standards are included as part of the system evaluations conducted by PJM.<sup>54</sup>

### AEP Planning Criteria

AEP Ohio Transmission Company, Inc. follows internal transmission planning reliability criteria to plan enhancements and expansion of its system. These criteria are required by the FERC and are filed as part of the annual FERC Form No. 715 filing. The criteria must comply with the NERC Reliability Standards and PJM planning and operating manuals for the BPS.<sup>55</sup>

AEP TRANSMISSION PLANNING RELIABILITY CRITERIA			
System Condition	Voltage (kV)	Voltage Limit	Thermal Limits
Normal	138 – 345	95 percent – 105 percent of nominal voltage in the pre-contingency state following the occurrence of any operating condition P0 of the NERC Reliability Standard TPL-001-4.	No facility may exceed its normal rating in the pre-contingency state following the occurrence of any operating condition in category P0 of the NERC Reliability Standard TPL-001-4.
Contingency (single and Multiple)	138 – 345	92 percent – 105 percent of nominal voltage in the post-contingency state following the occurrence of any operating condition P1 – P7 of the NERC Reliability Standard TPL-001-4. Following the occurrence of any operating condition in categories P1 – P7 of NERC TPL-001-4, a voltage deviation from system normal of eight percent or more is not acceptable at any station.	No facility may exceed its emergency rating in the post-contingency state following the occurrence of any operating condition in categories P1 – P7 of the NERC Reliability Standard TPL-001-4.

### Steady State Criteria

The Applicant's transmission system will be designed so that there are no thermal or voltage criteria violations for a maintenance outage followed by an unscheduled outage of any transmission element during off-peak load periods. Load shedding is not permitted to maintain facilities within voltage and thermal limits. Steady-state testing of the Applicant's transmission system is done in accordance with NERC Reliability Standard TPL-001-4.

54. PJM Interconnection, LLC is the regional transmission organization charged with planning for upgrades and administrating the generation queue for the regional transmission system in Ohio. Generators wanting to interconnect to the bulk electric transmission system located in the PJM control area are required to submit an interconnection application for review of system impacts. The interconnection process provides for the construction of expansions and upgrades of the PJM transmission system, as needed to maintain compliance with reliability standards with the addition of generation in its footprint.

55. American Electric Power – 2022 Filing, FERC Form 715 – Annual Transmission Planning and Evaluation Report, Part 4-Transmission Planning Reliability Criteria, <https://www.pjm.com/-/media/planning/planning-criteria/aep-planning-criteria.ashx> (Accessed September 14, 2022)

### **Recommended Findings**

Staff recommends that the Board find that the proposed 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 would serve the interests of electric system economy and reliability. Therefore, Staff recommends that the Board find that the facility complies with the requirements specified in R.C. 4906.10(A)(4), provided that any certificate issued by the Board for the proposed facilities include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

## **Considerations for R.C. 4906.10(A)(5)**

### **AIR, WATER, SOLID WASTE, AND AVIATION**

Pursuant to R.C. 4906.10(A)(5), the facility must comply with Ohio law regarding air and water pollution control, withdrawal of waters of the state, solid and hazardous wastes, and air navigation.

#### **Air<sup>56</sup>**

Air quality permits are not required for construction of the proposed facility. However, fugitive dust rules adopted under R.C. Chapter 3704 may be applicable to the construction of the proposed facility. The Applicant would control fugitive dust through dust suppression techniques such as irrigation, mulching, or application of tackifier resins. These methods of dust control are sufficient to comply with fugitive dust rules.

#### **Water<sup>57</sup>**

The Applicant would seek coverage, if needed, under the USACE Nationwide Permit 58 for Utility Line Activities for surface water impacts associated with the proposed transmission line.

The Applicant intends to submit a Notice of Intent for coverage under the Ohio EPA's NPDES general permit for stormwater discharges associated with construction activities.

The Applicant would submit a SWPPP to the Ohio EPA as part of the NPDES permit. This SWPPP would include crossing methods for each stream and indicate BMPs for construction activities that minimize erosion-related impacts to streams and wetlands. The Applicant has committed to identify wetlands, streams, and other environmentally sensitive areas before commencement of clearing or construction. The Applicant has also stated that no construction or access would be permitted in these areas unless clearly specified in the SWPPP. With these provisions, construction of this facility would comply with the requirements set forth under R.C. Chapter 6111.

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56. The Revised Code provides for the Ohio EPA to administer and enforce the provisions of R.C. Ch. 3704 with regards to air pollution control. See e.g., RC 3704.03, 3704.161. The Ohio EPA Division of Air Pollution Control ensures compliance with the federal Clean Air Act and the Emergency Planning and Community Right-to-Know Act as part of its mission to attain and maintain air quality at a level that protects the environment and public health. (Ohio EPA, Division of Air Pollution Control, <https://www.epa.ohio.gov/dapc/#188913097-featuredtopics>). The Division of Air Pollution Control develops and enforces rules in the Ohio Administrative Code, which assist the state of Ohio to: attain and maintain the National Ambient Air Quality Standards (NAAQS) contained in the Clean Air Act; fulfill the requirements set forth by the Ohio General Assembly in R.C. 3704; and protect and maintain healthy air quality for the citizens of the state of Ohio. (See, Ohio EPA, Division of Air Pollution Control Rules and Laws).

57. The Revised Code provides for the Ohio EPA to be the lead agency in administering the provisions of Ch. 6111 with regards to water quality. See e.g., RC 6111.041. For example, the Ohio EPA, among other things, "ensures compliance with the federal Clean Water Act and works to restore and enhance the integrity of Ohio's waters." (Ohio EPA Website, Division of Surface Water, <https://www.epa.ohio.gov/dsw/SurfaceWater/LiveTabId/113292#:~:text=Ensures%20compliance%20with%20the%20federal,the%20integrity%20of%20Ohio's%20waters.&text=We%20issue%20permits%20to%20regulate,aimed%20at%20improving%20polluted%20streams>). The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. (US EPA, Summary of Clean Water Act, <https://www.epa.gov/laws-regulations/summary-clean-water-act>).

### **Solid Waste<sup>58</sup>**

Debris generated during construction would consist of items such as conductor scrap, construction material packaging including cartons, insulator crates, conductor reels and wrapping, and used stormwater erosion control materials. Clearance poles, conductor reels and other materials with salvage value would be removed from the construction area for reuse or salvage. All construction-related debris would be disposed of in accordance with state and federal requirements in an Ohio EPA approved landfill or other appropriately licensed and operated facility.

The Applicant intends to have a Spill Prevention Plan in place and would follow the Spill Prevention Plan for any spill cleanup. The Applicant's solid waste disposal plans comply with solid waste disposal requirements set forth in R.C. Chapter 3734.

### **Aviation**

The anticipated height of the electric transmission support structures is expected to be approximately 86 to 100 feet tall. The Applicant also indicated that it would utilize vehicle-mounted cranes or equivalent equipment during the construction of the proposed facility. Those heights are under the height requirement from the Federal Aviation Administration (FAA), pursuant to 14 CFR Part 77.9(a), for filing a Form 7460-1. Staff has recommended as a condition that prior to the commencement of construction activities in areas that require permits or authorizations by federal or state laws and regulations, the Applicant shall obtain and comply with such permits or authorizations, including any permits necessary for aviation clearance. The Applicant shall provide copies of permits and authorizations, including all supporting documentation, to Staff within seven days of issuance or receipt by the Applicant. The Applicant shall provide a schedule of construction activities and acquisition of corresponding permits for each activity at the preconstruction conference.

According to the Applicant, the closest aviation facility is an unnamed private helipad approximately one mile north of the project. An aircraft would need to obtain permission to utilize that private-use facility. Staff found through the FAA that the nearest airports are the John Glenn Columbus International (CMH) and Rickenbacker International (LCK) airports which are between three and six miles from the proposed transmission line. Staff has found, through the FAA, that the nearest heliport is Nationwide Children's Hospital (OI95) which is approximately four miles from the Groves Road Substation.

In accordance with R.C. 4906.10(A)(5), Staff contacted the ODOT Office of Aviation during the review of this application in order to coordinate review of potential impacts of the facility on local airports. As of the date of this filing, no such concerns have been identified.

### **Recommended Findings**

Staff recommends that the Board find that the proposed facility complies with the requirements specified in R.C. 4906.10(A)(5), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

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58. The Revised Code generally provides for Ohio EPA to administer and enforce the provisions of Chapters 3714. and 3734., in particular with regard to solid waste facilities, infectious waste treatment facilities and construction and demolition debris facilities.

## **Considerations for R.C. 4906.10(A)(6)**

### **PUBLIC INTEREST, CONVENIENCE, AND NECESSITY**

Pursuant to R.C. 4906.10(A)(6), the Board must determine that the facility will serve the public interest, convenience, and necessity.

#### **Electromagnetic Fields**

Electric transmission lines generate electromagnetic fields (EMF) around the conductors, when energized. Electric fields are produced by electric charges or voltage.<sup>59</sup> The intensity of the electric field is a function of line voltage, the arrangement or configuration of the conductors on the transmission structure, and the distance from the transmission line.

Laboratory studies have failed to establish any strong correlation between exposure to EMF and detrimental effects on human health. Though no correlation has been established, there are still public concerns for the possibility of health effects due to exposure to the EMF of transmission lines.<sup>60</sup> Because these concerns exist, the Applicant has computed the EMF intensity associated with the new circuits.<sup>61</sup> The electric field intensities were computed using the anticipated maximum emergency loadings on the lines.

The maximum expected electric field intensity for this transmission line would be 0.56 kV/meter at the edge of the right-of-way. Normal operation or typical daily values of the EMF intensities would be lower than these computed maximum values thereby further reducing nominal EMF values. Additionally, physical structures and materials, such as walls of houses, provide shielding from electric fields.

Magnetic fields surrounding a conductor are a function of the current carried, the arrangement of the conductors, and the distance from the transmission line. The intensity of the maximum magnetic field for this project is expected to be 69.79 milligauss at the edge of the right-of-way. The Applicant has also tabulated the magnetic field intensities of many common household appliances and devices for comparison with the transmission lines.<sup>62</sup> The intensity of the earth's magnetic field at its surface ranges from 250 to 650 milligauss. The Applicant states that the construction and operation of the project would comply with the requirements of the NESC.

#### **Public Interaction and Participation**

The Applicant hosted virtual and in-person public informational meetings and maintains a website with information about the project. The Applicant has provided contact information for stakeholders to reach out with questions and concerns about the project.

The Applicant has committed to notify landowners or tenants by mail, telephone, or in person, depending on landowner preference, at least seven days prior to the start of construction. Staff

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59. For example, a plugged-in lamp cord produces an electric field, even if the lamp is turned off.

60. Information on Staff's consideration of potential health impacts of EMF can be found in the ODH fact sheet entitled Electromagnetic Fields (EMF) Summary and Assessments available on the ODH website at <https://odh.ohio.gov/know-our-programs/health-assessment-section/media/summary-emf>

61. Application for the Groves Road-Shannon 138-kV Tie-Line Project, 22-0199-EL-BTX, Table 7-1, page 7-3.

62. Application for the Groves Road-Shannon 138-kV Tie-Line Project, 22-0199-EL-BTX, Table 7.2, pages 7-4 to 7-6.

recommends that the Applicant be required to notify landowners or tenants again at least seven days prior to the start of operations. Staff further recommends that the Applicant submit to the OPSB a quarterly complaint summary report during construction and the first five years of operation of the facility.

As of September 28, 2022 the OPSB has not received any public comments in the record for this case. If filed, public comments are available to view online in the case record at <http://dis.puc.state.oh.us>.

The Administrative Law Judge scheduled a public hearing and an evidentiary hearing for this proceeding. The public hearing will be held on October 18, 2022, at 6 p.m. at Ohio History Connection, 800 East 17th Ave., Columbus, Ohio 43211. The evidentiary hearing is scheduled for November 16, 2022, at 10 a.m., in Hearing Room 11-D, at the offices of the Public Utilities Commission of Ohio, 180 E. Broad St., Columbus, Ohio 43215-3793.

### **Recommended Findings**

Staff recommends that the Board find that the proposed facility would serve the public interest, convenience, and necessity, and therefore complies with the requirements specified in R.C. 4906.10(A)(6), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

### **Considerations for R.C. 4906.10(A)(7)**

#### **AGRICULTURAL DISTRICTS AND AGRICULTURAL LAND**

Pursuant to R.C. 4906.10(A)(7), the Board must determine the facility's impact on the agricultural viability of any existing agricultural district land within the Preferred and Alternate routes of the proposed major utility facility. The agricultural district program was established under R.C. Chapter 929. Agricultural district land is exempt from sewer, water, and electrical service tax assessments.

Agricultural land can be classified as an agricultural district through an application and approval process that is administered through local county auditor's offices. Eligible land must be devoted exclusively to agricultural production or be qualified for compensation under a land conservation program for the preceding three calendar years. Furthermore, eligible land must be at least 10 acres or produce a minimum average gross annual income of \$2,500. According to the information supplied by the Applicant, no impacts to agricultural district land is planned.

The Preferred and Alternate routes are planned to temporarily impact approximately five acres of agricultural land each. No parcels designated as an Agricultural District are located within the study corridor of the proposed Preferred or Alternate routes.

No agricultural structures will be impacted by the project. The Applicant does not anticipate any permanent impacts to agricultural land, and pledges to resolve any damage that may happen to any field drainage tile affected by the project.

Staff agrees the Applicant has an adequate plan to mitigate the impact of the project on agricultural lands.

#### **Recommended Findings**

Staff recommends that the Board find that since no existing agricultural district is present in the project area, the impact of the proposed facility on the viability of agricultural land in an existing agricultural district has been determined, and therefore complies with the requirements specified in R.C. 4906.10(A)(7).

### **Considerations for R.C. 4906.10(A)(8)**

#### **WATER CONSERVATION PRACTICE**

Pursuant to R.C. 4906.10(A)(8), the proposed facility must incorporate maximum feasible water conservation practices, considering available technology and the nature and economics of the various alternatives.

During construction, the facility may require the use of minimal amounts of water for dust control. Dust suppression measures, such as irrigation, mulching, or the application of tackifier resins, would be implemented where necessary.

However, the transmission line would not require the use of any water during operation. Therefore, the facility would comply with and incorporate maximum feasible water conservation practices as specified under R.C. 4906.10(A)(8).

#### **Recommended Findings**

The Staff recommends that the Board find that the proposed facility would incorporate maximum feasible water conservation practices, and therefore complies with the requirements specified in R.C. 4906.10(A)(8), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.



## **V. RECOMMENDED CONDITIONS OF CERTIFICATE**

Following a review of the application filed by AEP Ohio Transmission Company, Inc. and the record compiled to date in this proceeding, Staff recommends that a number of conditions become part of any certificate issued for the proposed facility. These recommended conditions may be modified as a result of public or other input received subsequent to the issuance of this report. At this time, Staff recommends the following conditions to ensure conformance with the proposed plans and procedures as outlined in the case record to date, and to ensure compliance with all conditions listed in this Staff Report:

- (1) The Applicant shall install the Preferred Route, utilize equipment and construction practices, and implement mitigation measures as described in the application and as modified and/or clarified in supplemental filings, replies to data requests, and recommendations in this Staff Report of Investigation.
- (2) The Applicant shall conduct a preconstruction conference prior to the commencement of any construction activities. Staff, the Applicant, and representatives of the primary contractor and all subcontractors for the project shall attend the preconstruction conference. The conference shall include a presentation of the measures to be taken by the Applicant and contractors to ensure compliance with all conditions of the certificate, and discussion of the procedures for on-site investigations by Staff during construction. Prior to the conference, the Applicant shall provide a proposed conference agenda for Staff review and shall file a copy of the agenda on the case docket. The Applicant may conduct separate preconstruction conferences for each stage of construction.
- (3) Within 60 days after the commencement of commercial operation, the Applicant shall submit to Staff a copy of the as-built specifications for the entire facility. If the Applicant demonstrates that good cause prevents it from submitting a copy of the as-built specifications for the entire facility within 60 days after commencement of commercial operation, it may request an extension of time for the filing of such as-built specifications. The Applicant shall use reasonable efforts to provide as-built drawings in both hard copy and as geographically referenced electronic data.
- (4) The certificate shall become invalid if the Applicant has not commenced a continuous course of construction of the proposed facility within five years of the date of journalization of the certificate unless the Board grants a waiver or extension of time.
- (5) As the information becomes known, the Applicant shall file in the public docket the date on which construction will begin, the date on which construction was completed, and the date on which the facility begins commercial operation.
- (6) Prior to the commencement of construction activities in areas that require permits or authorizations by federal, state, or local laws and regulations, the Applicant shall obtain and comply with such permits or authorizations, including any permits necessary for aviation clearance. The Applicant shall provide copies of permits and authorizations, including all supporting documentation, to Staff within seven days of issuance or receipt by the Applicant, and shall file such permits and authorizations on the public docket. The Applicant shall provide a schedule of construction activities and acquisition of corresponding permits for each activity at the preconstruction conference. Any permit

violation received by the Applicant from the permitting agency shall be provided on the case docket within seven days of receipt.

- (7) The certificate authority provided in this case shall not exempt the facility from any other applicable and lawful local, state, or federal rules or regulations nor be used to affect the exercise of discretion of any other local, state, or federal permitting or licensing authority with regard to areas subject to their supervision or control.
- (8) Separate preconstruction conferences may be held for the different phases of civil construction and equipment installation. At least 30 days prior to each preconstruction conference, the Applicant shall submit to Staff, for review and acceptance, one set of detailed engineering drawings of the final project design for that phase of construction and mapping in the form of PDF, which the Applicant shall also file on the docket of this case, and geographically referenced data (such as shapefiles or KMZ files) based on final engineering drawings to confirm that the final design is in conformance with the certificate. Mapping shall include the limits of disturbance, permanent and temporary infrastructure locations, areas of vegetation removal and vegetative restoration as applicable, and specifically denote any adjustments made from the siting detailed in the application. The detailed engineering drawings of the final project design for each phase of construction shall account for geological features and include the identity of the registered professional engineer(s), structural engineer(s), or engineering firm(s), licensed to practice engineering in the state of Ohio who reviewed and approved the designs. All applicable geotechnical study results shall be included in the submission of the final project design to Staff.
- (9) In the event that the Alternate Route is chosen as the final route, prior to construction, the Applicant shall conclude its Phase I cultural resources survey program (which may include archaeological and architectural components) for the Alternate Route, including any laydown area(s) and access roads. The survey design shall be acceptable to Staff and the Ohio Historic Preservation Office (OHPO). If the resulting survey work discloses a find of cultural significance, or a site that could be eligible for inclusion on the National Register of Historic Places, then the Applicant shall prepare a mitigation or avoidance plan. Any such mitigation or avoidance effort, if needed, shall be developed in coordination with the OHPO and submitted to Staff for review to ensure compliance with this condition.
- (10) General construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m., or until dusk when sunset occurs after 7:00 p.m. Impact pile driving, if required, shall be limited to the hours between 10:00 a.m. to 5:00 p.m., Monday through Friday. Construction activities that do not involve noise increases above ambient levels at sensitive receptors are permitted outside of daylight hours when necessary. The Applicant shall notify Staff and affected property owners or tenants of upcoming construction activities including potential for nighttime construction activities.
- (11) The Applicant shall remove all construction staging area and access road materials after completion of construction activities, as weather permits, unless otherwise directed by the landowner. Impacted areas shall be restored to preconstruction conditions in compliance with the Ohio Environmental Protection Agency (Ohio EPA) General

National Pollutant Discharge Elimination System permit(s) obtained for the project and the approved Stormwater Pollution Prevention Plan created for this project. All construction debris and all contaminated soil shall promptly be removed and properly disposed of in accordance with Ohio EPA regulations.

- (12) The Applicant shall obtain transportation plans prior to the commencement of construction activities that require them. The Applicant shall coordinate with the appropriate authority regarding any temporary road closures, road use agreements, driveway permits, lane closures, road access restrictions, roadway modifications, and traffic control necessary for construction and operation of the proposed facility. Applicant shall detail this coordination as part of a final transportation management plan submitted to Staff prior to the preconstruction conference for review and confirmation by Staff that it complies with this condition.
- (13) The Applicant shall adhere to seasonal cutting dates of October 1 through March 31 for the removal of trees three inches or greater in diameter to avoid impacts to listed bat species, unless coordination with the Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service (USFWS) allows a different course of action. If coordination with these agencies allows clearing between April 1 and September 30, the Applicant shall docket proof of completed coordination on the case docket prior to clearing trees.
- (14) The Applicant shall contact Staff, the ODNR, and the USFWS within 24 hours if state or federal listed species are encountered during construction activities. Construction activities that could adversely impact the identified plants or animals shall be immediately halted until an appropriate course of action has been agreed upon by the Applicant, Staff and the appropriate agencies.
- (15) If the Applicant encounters any new listed plant or animal species or suitable habitat of these species prior to construction, the Applicant shall include the location in the final engineering drawings and associated mapping, as required in Condition 8. The Applicant shall avoid impacts to these species and explain how impacts would be avoided during construction.
- (16) The Applicant shall not conduct mechanized clearing in wetlands or within 25 feet of any stream channel. Pole placement shall also not occur within 25 feet of any perennial stream channel.
- (17) The Applicant shall have a Staff-approved environmental specialist on site during construction activities that may affect sensitive areas. Sensitive areas may include, but are not limited to, wetlands and streams, and locations of threatened or endangered species. The environmental specialist shall be familiar with water quality protection issues and potential threatened or endangered species of plants and animals that may be encountered during project construction. The environmental specialist shall have authority to stop construction to assure that unforeseen environmental impacts do not progress and recommend procedures to resolve the impact. A map shall be provided to Staff showing sensitive areas which would be impacted during construction with information on when the environmental specialist would be present.

- (18) Prior to commencement of construction within floodplain areas, the Applicant shall obtain any floodplain permits required for construction of this project. The Applicant shall provide a copy of such permits and supporting documentation, or a copy of correspondence with the floodplain administrator showing that no permit is required, on the case docket prior to commencement of construction within floodplain areas.
- (19) The Applicant shall conduct geotechnical borings and analyses at all angle structure locations to further define the geologic and soil suitability, and when deemed necessary, at steel pole locations. These findings would be given consideration when developing the final engineering design.
- (20) The Applicant shall incorporate hydrogeologic considerations into the final engineering design at all concrete foundation locations to ensure minimal impact to local ground water resources.
- (21) At least 30 days prior to the preconstruction conference, the Applicant shall provide Staff, for review and acceptance, the final geotechnical engineering report. This shall include a summary statement addressing the geologic and soil suitability.
- (22) At least seven days prior to the start of construction and at least seven days prior to the start of facility operations, the Applicant shall notify by mail, affected property owners and tenants including those individuals who were provided notice of the public informational meeting, parties to this case, county commissioners, township trustees, emergency responders, as well as anyone who has requested updates regarding the project. These notices shall provide information about the project, including contact information and a copy of the complaint resolution plan. The start of construction notice shall include written confirmation that the Applicant has complied with all preconstruction-related conditions of the certificate, as well as a timeline for construction and restoration activities. The start of facility operations notice shall include a timeline for the start of operations. The Applicant shall file a copy of these notices on the public docket. During the construction of the facility, the Applicant shall submit to Staff a complaint summary report by the fifteenth day of April, July, October, and January of each year of construction. The report shall include a list of all complaints received regarding the project, a description of the actions taken toward the resolution of each complaint, and a status update if the complaint has yet to be resolved.



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Summary: Staff Report of Investigation electronically filed by Mr. Matt Butler on  
behalf of Staff of OPSB