

Staff Report of Investigation

AEP Ohio Transmission Company
Ross-Ginger Switch 138 kV Transmission Line Project

Case No. 17-0637-EL-BTX

May 18, 2018



John R. Kasich, Governor | Asim Z. Haque, Chairman

In the Matter of the Application of AEP Ohio)
Transmission Company, Inc. for a Certificate of)
Environmental Compatibility and Public Need to) Case No. 17-0637-EL-BTX
Rebuild the Ross-Ginger Switch 138 kV Transmission)
Line in Ross County, Ohio.)

Staff Report of Investigation

Submitted to the
OHIO POWER SITING BOARD

BEFORE THE POWER SITING BOARD OF THE STATE OF OHIO

In the Matter of the Application of AEP Ohio)
Transmission Company, Inc. for a Certificate of)
Environmental Compatibility and Public Need to) **Case No. 17-0637-EL-BTX**
Rebuild the Ross-Ginger Switch 138 kV Transmission)
Line in Ross County, Ohio.)

Chairman, Public Utilities Commission	Director, Department of Natural Resources
Director, Department of Agriculture	Public Member
Director, Development Services Agency	Ohio House of Representatives
Director, Environmental Protection Agency	Ohio Senate
Director, Department of Health	

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 Development Services Agency, 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, the U.S. Army Corps of Engineers, and the Federal Aviation Administration.

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 and 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,



Tamara S. Turkenton
Director, Rates and Analysis
Public Utilities Commission of Ohio

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I. POWERS AND DUTIES

OHIO POWER SITING BOARD

The authority of the Ohio Power Siting Board (Board) is prescribed by Ohio Revised Code (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 5 MW or greater but less than 50 MW.

Membership of the Board is specified in R.C. 4906.02(A). The voting members include: the Chairman of the Public Utilities Commission of Ohio (PUCO or Commission) who serves as Chairman of the Board; the directors of the Ohio Environmental Protection Agency (Ohio EPA), the Ohio Department of Health, the Ohio Development Services Agency (ODSA), the Ohio Department of Agriculture, 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. Ex-officio Board members include two members (with alternates) from each house of the Ohio General Assembly.

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.¹ 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.²

Within 60 days of receiving an application, the Chairman must determine whether the application is sufficiently complete to begin an investigation.³ 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

1. R.C. 4906.04 and 4906.20.

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

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

official filing date of the completed application.⁴ At the public hearing, any person may provide written or oral testimony and may be examined by the parties.⁵

Staff Investigation and Report

The Chairman 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.⁶ The report sets forth the nature of the investigation and contains the findings and conditions recommended by Staff.⁷ 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 History Connection, 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.⁸ A record of the public hearings and all evidence, including the Staff Report, may be examined by the public at anytime.⁹

Board Decision

The Board may approve, modify and approve, or deny an application for a certificate of environmental compatibility and public need.¹⁰ 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.¹¹

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.¹² 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.¹³ Any party to the proceeding that believes its issues were not adequately addressed by the Board may submit within 30 days an application for rehearing.¹⁴ An entry on rehearing will be issued by the Board within 30 days and may be appealed within 60 days to the Supreme Court of Ohio.¹⁵

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).

14. R.C. 4903.10 and 4906.12.

15. R.C. 4903.11, 4903.12, and 4906.12.

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 sections 1501.33, 1501.34, and 4561.32 of the Revised Code. In determining whether the facility will comply with all rules and standards adopted under section 4561.32 of the Revised Code, the board shall consult with the office of aviation of the division of multi-modal planning and programs of the department of transportation under section 4561.341 of the Revised Code;
- (6) That the facility will serve the public interest, convenience, and necessity;
- (7) In addition to the provisions contained in divisions (A)(1) to (6) of this section and rules adopted under those divisions, what its impact will be on the viability as agricultural land of any land in an existing agricultural district established under Chapter 929 of the Revised Code that is located within the site and alternative site of the proposed major utility facility. Rules adopted to evaluate impact under division (A)(7) of this section shall not require the compilation, creation, submission, or production of any information, document, or other data pertaining to land not located within the site and alternative site; 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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II. APPLICATION

APPLICANT

The Applicant, AEP Ohio Transmission Company, Inc. (AEP Ohio Transco or Applicant) is a transmission-only company approved as a public utility in Ohio in 2010 (Case No. 10-245-EL-UNC). AEP Ohio Transco is an affiliate of AEP Ohio/Ohio Power Company, based in Gahanna, Ohio, and is a unit of AEP.

HISTORY OF THE APPLICATION

Prior to formally submitting its application, the Applicant consulted with the Staff and representatives of the Board regarding application procedures.

On September 18, 2017, the Applicant held a public informational meeting regarding the proposed electric transmission line rebuild project in Chillicothe, Ohio.

On December 13, 2017, the Applicant filed the Ross-Ginger Switch 138 kV Transmission Line Rebuild application.

On January 3, 2018, the Applicant filed supplemental information to the application.

On February 12, 2018, the Director of Rates and Analysis, Public Utilities Commission of Ohio (PUCO), issued a letter of compliance regarding the application to the Applicant.

A local public hearing has been scheduled for June 4, 2018 at 6:00 p.m., at the Chillicothe and Ross County Public Library, Main Library Annex, Room B-1, 140 S. Paint St., Chillicothe, OH 45601. The evidentiary hearing will commence on June 19, 2018, at 10:00 a.m., in Hearing Room 11-D, at the offices of the PUCO, 180 E. Broad St., Columbus, OH, 43215.

This summary of the history of the application does not include every filing in Case No. 17-0637-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 the Ross-Ginger Switch 138 kV Transmission Line Rebuild Project in Ross County, Ohio.¹⁶ The Applicant would own, operate, and maintain the transmission line.

The proposed project involves the installation of a new 138 kV overhead electric transmission line between the Ginger Switch Station and the existing Poston-Ross Transmission Line (at structure number 235) north of County Road 222 (Narrows Road). To meet 138 kV standards, a 100-foot right-of-way is proposed by the Applicant for the new transmission line, which would incorporate steel poles for support. AEP Ohio Transco utilized public input and field survey data to identify route alternatives and, further, to identify a Preferred and an Alternate route.

¹⁶ *In the Matter of the Application of AEP Ohio Transmission Company, Inc. for a Certificate of Environmental Compatibility and Public Need to Rebuild the Rebuild the Ross-Ginger Switch 138 kV Transmission Line in Ross County, Ohio*, Case No. 17-1907-EL-BTX, (Application)(December 13, 2017).

Once completed, the new transmission line would replace the existing Berlin-Ross 69 kV Transmission Line, which has been in service since 1926 and serves areas within Ross and Jackson counties. The 69 kV transmission line, consisting of wood H-frame structures, would be taken out of service. The new 138 kV transmission line would operate at 69 kV until 138 kV standards would be needed to serve customer load.

Preferred Transmission Line Route

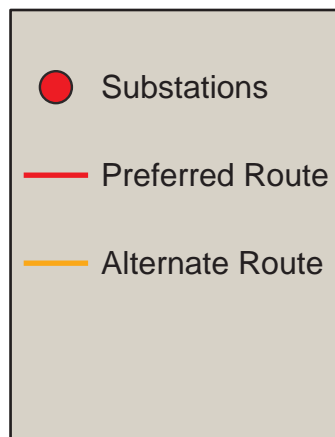
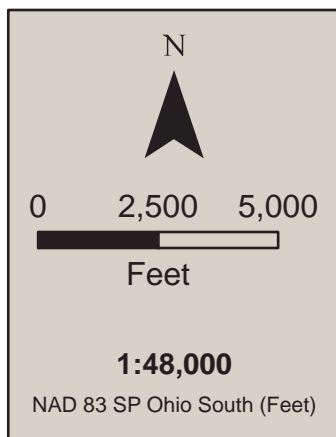
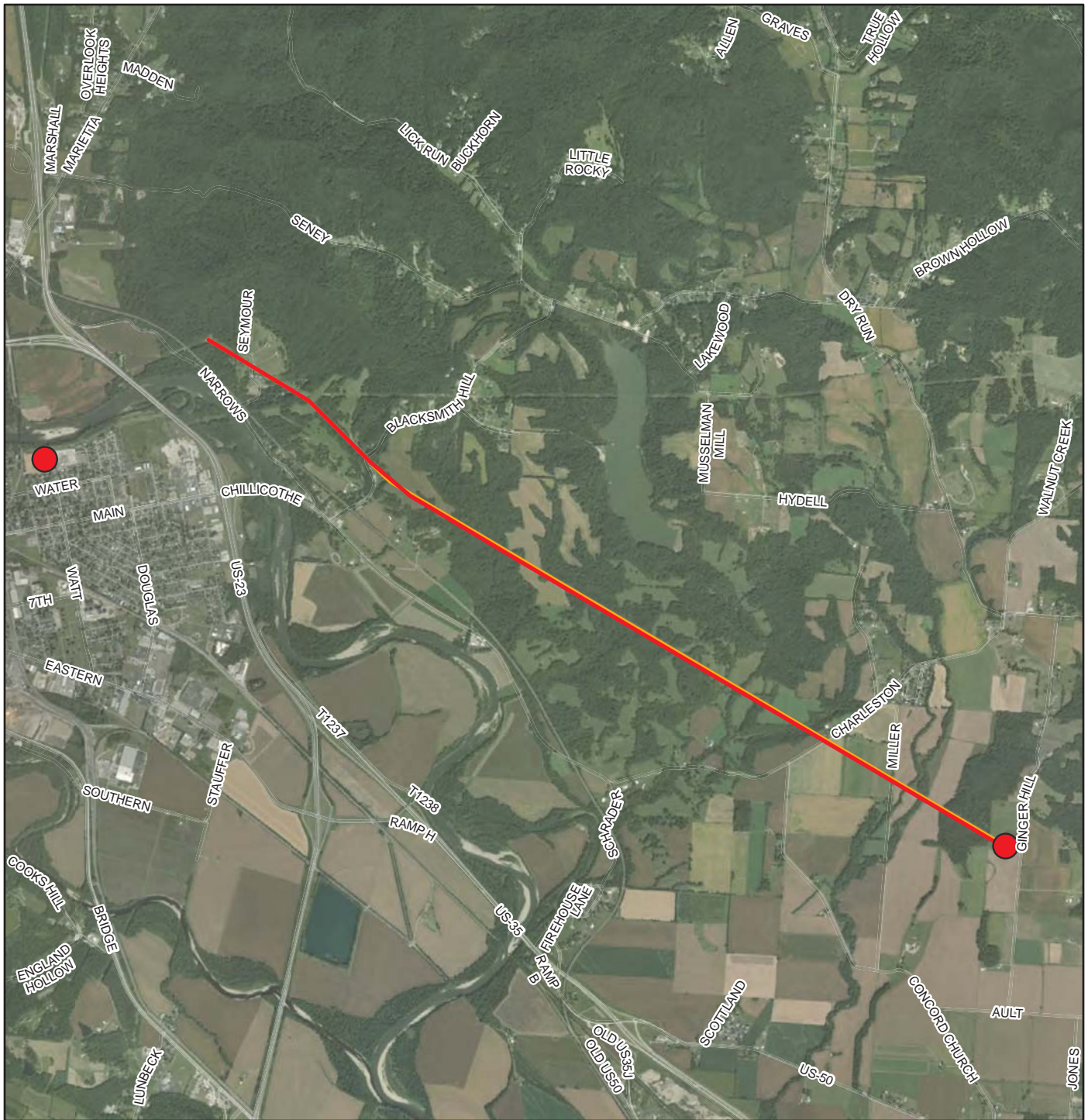
The Applicant's Preferred Route is approximately 4.8 miles long, and predominately parallels the southern edge of the existing Berlin-Ross 69 kV Transmission Line. This new line would be offset by approximately 25-50 feet from the centerline of the existing 69 kV line in order to ensure safer construction while allowing the existing line to remain in service during construction.

The Preferred Route exits the Ginger Switch Station and follows the existing 69 kV line to the northwest for approximately 3.8 miles. The Preferred Route continues to the north in order to avoid crossing a different transmission line, and then reconnects with the alignment of the Berlin-Ross 69 kV Transmission Line for one mile, utilizing the existing centerline to the existing Poston-Ross 138 kV Transmission Line structure number 235.

Alternate Transmission Line Route

The Applicant's Alternate Route is approximately 4.8 miles long, and exclusively follows along the centerline of the existing Berlin-Ross 69 kV Transmission Line. The Alternate Route exits the Ginger Switch Station to the northwest and follows the existing 69 kV line to the Poston-Ross 138 kV Transmission Line structure 235, exclusively following the centerline with no offset. Construction of the Alternate Route would require that the existing 69 kV line be taken out of service during construction of the new transmission line.

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



Overview Map

17-0637-EL-BTX

Ross - Ginger Switch
138kV Transmission Line

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 present by the Applicant in its certified application and supplemental materials.









1 inch = 1,000 feet

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III. CONSIDERATIONS AND RECOMMENDED FINDINGS

In the matter of the application of AEP Ohio Transco, 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

Purpose of Proposed Facility

The proposed facility is part of the Applicant's broader Ross-Jackson Area Improvements Project (Ross-Jackson Project). The goal of the Ross-Jackson Project is to modernize and improve the reliability of the Applicant's transmission system in Ross and Jackson Counties.

The existing 69 kV transmission line was constructed in 1926. The 92-year-old line has a very poor performance history and extended outage recovery times. The proposed project would be constructed at 138 kV and would improve reliability with less service interruptions, improved service to customers, and faster recovery time during outages.

Long Term Forecast

AEP Ohio Transco identified the need for the proposed transmission line project in the *2017 AEP Ohio Transmission Company Long-Term Forecast Report to the Public Utilities Commission of Ohio* (LTFR). The project was not listed in the Applicant's 2018 LTFR. Staff contacted the Applicant and they plan to supplement their 2018 LTFR filing to include this project.^{17, 18, 19}

System Economy and Reliability

The proposed project is not expected to adversely impact the existing transmission grid. The Applicant identified reliability problems associated with the existing 69 kV transmission line. These problems are discussed in more detail in the Electric Grid section of this report. Replacing the existing 69 kV line with the proposed facility should address these problems and thus improve system reliability.

Conclusion

Staff concludes that the Applicant has demonstrated the basis of need due to the reliability issues caused by the age of the 1926 transmission line. The proposed facility would allow the transmission system to provide safe, reliable electric service.

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.

17. "AEP Ohio Transmission Company LTFR," Public Utilities Commission of Ohio Case No. 17-1501-EL-FOR, <http://dis.puc.state.oh.us>.

18. "AEP Ohio Transmission Company LTFR," Public Utilities Commission of Ohio Case No. 18-1501-EL-FOR, <http://dis.puc.state.oh.us>.

19. R.C. 4935.04(C) and Ohio Adm.Code. 4901:5-5.

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.

Socioeconomic Impacts

Demographics

The proposed routes would traverse land in Ross County. The population of Ross County increased approximately 6 percent between 2000 and 2010. The population of Ross County is projected to continue to rise slightly over the next 20 years.²⁰

The Applicant states that there are no formally adopted development or land use plans identified for the area of this project in Ross County. As the proposed project would include existing right-of-way for a large portion of the project, the project should not limit future development or population growth in the region.

Land Use

The proposed right-of-way width for this project is 100 feet. Both proposed routes predominantly utilize the existing 69 kV right-of-way, thus reducing the additional right-of-way needed for the proposed transmission line. The existing 69 kV line has a right-of-way ranging from 50 feet wide to blanket easement. Adding 50 feet of right-of-way, for a total 100-foot right-of-way for the proposed 138 kV transmission line, would place existing utility as the predominant existing land use crossed (33 percent of the Preferred Route and 53 percent of the Alternate Route). The Alternate Route almost exclusively follows the existing 69 kV transmission centerline, while the Preferred Route follows the existing 69 kV transmission line, offset by 25-50 feet, and then diverts from the existing right-of-way in one location in order to avoid existing electric utility structures.

There are 29 residences within 1,000 feet of the Preferred Route centerline, none of which are located within the potential disturbance area. Only four structures are located within 200 feet of the Preferred Route centerline. There are 28 residences within 1,000 feet of the Alternate Route centerline, none of which are located within the potential disturbance area, with the same four structures located within 200 feet. Residents would experience temporary ambient noise increases during facility construction.

Both routes would cross 25 properties, and include 58 acres of proposed right-of-way area. Approximately 41 percent of the Preferred Route and 40 percent of the Alternate Route cross agricultural land and open land/pasture. As the purpose of this project is to rebuild an existing transmission line, permanent additional impacts to agricultural fields would be minimal.

There are no commercial facilities or industrial buildings within 1,000 feet of either the Preferred or Alternate routes. No negative impacts to commercial or industrial land uses are anticipated as a result of the project.

20. "Ohio County Profiles: Ross County," Ohio Development Services Agency: Office of Research, accessed April 16, 2018, <https://development.ohio.gov/files/research/C1072.pdf>.

The Preferred and Alternate routes both cross a portion of the Ross Lake Wildlife Area, with 18 linear feet of the Preferred Route and 145 linear feet of the Alternate Route crossing this wildlife area. The Preferred Route is located on less acreage of the Ross Lake Wildlife Area due to the southerly shift of the Preferred Route from the existing centerline. No schools, hospitals, churches nor civic buildings were identified as being within 1,000 feet of the Preferred or Alternate routes. No negative impacts to institutional and recreational land uses are expected from the construction, operation, or maintenance of either the Preferred or the Alternate routes for the project.

Cultural, Archaeological, and Architectural Resources

The Applicant conducted a cultural resources literature review, Phase I fieldwork, and a history/architectural study of the project. The Applicant's cultural resources consultant states that the western portion of the project extends through the Great Seal Archaeological District and through a National Register of Historic Places (NRHP) site (Site 33RO0025 – Hill Works), based on feature boundaries provided by the National Park Service.

The Phase I fieldwork for the project resulted in identifying eight archaeological sites dated from the prehistoric period. These sites were determined to be isolated finds and not considered eligible for NRHP listing. No further archaeological work was recommended by the Applicant's cultural resources consultant for these sites. The project is located over three miles east of the Adena National Historic Landmark. The project would not be visible from this resource.

Nine individual properties 50 years of age or older were identified within the project Area of Potential Effect, defined as being 1,000 feet of the project. None of these properties were determined eligible for listing in the NRHP.

The Applicant has been coordinating these findings with the Ohio Historic Preservation Office (OHPO) and Staff is aware that the Applicant conducted geophysical remote sensing surveys in the area of the NRHP Site 33RO0025 and potential mound locations to determine if the project is located on or within these sites. The geophysical surveys produced no evidence of mounds or earthen enclosures at the project. The Applicant's cultural resources consultant recommended to the OHPO that the project would have no adverse effects on historic properties. In a letter dated May 9, 2018, the OHPO concurred with these findings and stated that no further coordination with OHPO was necessary unless the project changes or additional historic properties are discovered during implementation of the project. Having undergone extensive testing, and being located south of the existing line, the OHPO expressed a preference for the Preferred Route. The OHPO also stated that care should be taken to avoid historic sites when developing access roads and laydown areas.

Aesthetics

Permanent visual impacts would result from the introduction of a new manmade element to the landscape. Aesthetic impacts would vary with the viewer and setting, depending on the degree of contrast between the proposed transmission line and the existing landscape. Because the new transmission line would be constructed where existing aboveground utilities are located, the aesthetic impact would be lessened.

Economics

The Applicant estimates the applicable intangible and capital costs for the Preferred Route at \$10,105,861 and the Alternate Route at \$10,313,827. The following table summarizes the Applicant's cost estimates.

INTANGIBLE AND CAPITAL COSTS		
Category	Preferred Route	Alternate Route
Land and Land Rights	\$2,396,180	\$1,597,453
Poles and Fixtures	\$3,873,286	\$4,802,875
Overhead Conductors and Devices	\$1,025,893	\$1,272,107
Right-of-way clearing, Roads, Trails, or other Access	\$2,810,502	\$2,641,391

Both routes are located within Springfield Township, Ross County. The projected tax revenue generated from the project would benefit the local school district, park, and fire department. Based on 2016 tax rates, the Applicant estimates the Preferred Route would generate approximate annual property taxes of \$365,890 over the first year of operation, while the Alternate Route would generate \$413,650.

By upgrading service reliability and providing greater capacity in the region, the proposed transmission line would facilitate future economic growth.

All Staff recommendations for the requirements discussed in this section of the *Staff Report of Investigation* are included under the **Socioeconomic Conditions** heading of the Recommended Conditions of Certificate section.

Ecological Impacts

Geology and Seismology

Ross County is underlain by sedimentary rocks of Devonian, Mississippian, and Pennsylvanian age. Bedrock consists primarily of shales and sandstones, with a lesser amount of limestone. The county lies within two distinct physiographic regions, the Central Lowland (or Mississippian Plain) and the Allegheny Plateau. The two regions are separated by the Allegheny escarpment, a northeast to southwest trending irregular line, that crosses central Ross County. The escarpment rises several hundred feet from the Central Lowlands to the Allegheny Plateau.

Both the Preferred and Alternate routes are located within the Allegheny Plateau region. Construction work will likely follow along the existing utility corridor. The Allegheny Plateau occupies the southern two-thirds of Ross County and rises 200 to 300 feet above the lowlands. Much of this area is considered unglaciated. The plateau was once continuous but now is dissected by streams that have eroded the unglaciated sandstone bedrock into steep hillsides.

The project area lies just east of the city of Chillicothe. The ODNR Division of Geological Survey reported one seismic event that occurred in the county in 1899. The seismic event took place just southwest of the city limits of Chillicothe in central Ross County. The magnitude of the seismic

event is listed at 3.1 on the Richter scale. No other seismic events have been recorded in Ross County.

The construction of the transmission line along either route should not be restricted or limited due to the geology in the area.

Soils and Foundation Soil Suitability

The 138 kV transmission line would span the central part of Ross County east of the city of Chillicothe. The soils in this part of the county consist of loams, silt loams or silty clay loams originating from parent material of glacial till, glacial outwash, glacial drift, and loess or combinations of these materials. Erosion and severe slopes are noted along both routes.

The Applicant stated it will perform a geotechnical investigation and test borings along portions of either route as needed to design and construct foundations for the poles where soil conditions warrant such testing. Soil borings would provide information describing rock quality description, subsurface soil properties, static water level, percent recovery, and depth and description of bedrock contact. The Applicant anticipates that foundations would be determined based on the results of test drilling and laboratory testing to ensure they are sited in locations suitable for construction. Although land use limitation relate to slope and sever erosion exist, these limitations should not adversely affect or restrict the construction of either route.

Surface Waters

The Preferred Route right-of-way contains 21 streams, including four perennial streams, 12 intermittent streams, and five ephemeral streams, totaling 3,225 linear feet of streams. The Alternate Route right-of-way contains 25 streams, including four perennial streams, 13 intermittent streams and eight ephemeral streams, totaling 3,422 linear feet of streams.

The proposed transmission line would aerially span all streams, and no in-water work is expected. The Applicant has committed not to conduct mechanized clearing within 25 feet of any stream, and would only clear trees in this area, which are tall enough to have the potential to interfere with safe construction and operation of the line. Construction vehicles may cross some streams. The Applicant has proposed temporary culvert stream crossings, and temporary access bridge crossing methods to minimize impacts.

The Preferred Route right-of-way contains eight wetlands with 0.42 acre of the wetland within the right-of-way. The Alternate Route right-of-way contains seven wetlands, with 0.53 acre of wetland within the right-of-way. All delineated wetlands are category 1 and category 2 wetlands. Fill within wetlands is not anticipated.

The Applicant stated that it would use timber matting at any areas where construction access through wetlands is necessary and that selective non-mechanized clearing be required to remove woody vegetation in wetlands that would otherwise interfere with the operation of the transmission line. In the event that fill within any of the other wetlands becomes necessary, impacts would be covered under the Army Corps of Engineers Nationwide 12 Permit.

No lakes, reservoirs, or ponds were observed along the construction corridor of the routes.

The Applicant 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 best management practices (BMP), such as silt fences. BMP would be outlined in the Applicant's Stormwater Pollution Prevention Plan (SWPPP) required as part of the NPDES Permit. According to FEMA's National Flood Hazard online mapping system neither the Preferred Route nor Alternate Route would cross within 100-year floodplain areas.

Threatened and Endangered Species

The Applicant requested information from the ODNr and the USFWS regarding state and federal listed threatened and endangered plant and animal species. Staff gathered additional information through field assessments and review of published ecological information. The following table reflects the results of the information requests, field assessments, and document review.

REPTILES AND AMPHIBIANS				
Common Name	Scientific Name	Federal Status	State Status	Presence in Project Area
timber rattlesnake	<i>Crotalus horridus horridus</i>	Species of concern	Threatened	Due to the location, this project is not likely to impact this species.
eastern massasauga	<i>Sistrurus catenatus</i>	Threatened	Endangered	Due to the location, this project is not likely to impact this species.
FISH				
Ohio lamprey	<i>Ichthyomyzon bdellium</i>	N/A	Endangered	Due to no in-water work in a perennial stream, no impacts to this species are anticipated.
shovelnose sturgeon	<i>Scaphirhynchus platyrhynchus</i>	N/A	Endangered	Due to no in-water work in a perennial stream, no impacts to this species are anticipated.
blue sucker	<i>Cycleptus elongatus</i>	Species of Concern	Endangered	Due to no in-water work in a perennial stream, no impacts to this species are anticipated.
spotted darter	<i>Etheostoma maculatum</i>	Species of Concern	Endangered	Due to no in-water work in a perennial stream, no impacts to this species are anticipated.
shortnose gar	<i>Lepisosteus platostomus</i>	N/A	Endangered	Due to no in-water work in a perennial stream, no impacts to this species are anticipated.
FISH				
northern madtom	<i>Noturus stigmosus</i>	N/A	Endangered	Due to no in-water work in a perennial stream, no impacts to this species are anticipated.
Tippecanoe darter	<i>Etheostoma Tippecanoe</i>	N/A	Threatened	Due to no in-water work in a perennial stream, no impacts to this species are anticipated.
channel darter	<i>Percina copelandi</i>	N/A	Threatened	Due to no in-water work in a perennial stream, no impacts to this species are anticipated.

FISH				
American eel	<i>Anguilla rostrata</i>	N/A	Threatened	Due to no in-water work in a perennial stream, no impacts to this species are anticipated.
river darter	<i>Percina shumardi</i>	N/A	Threatened	Due to no in-water work in a perennial stream, no impacts to this species are anticipated.
lake chubsucker	<i>Erimyzon sucetta</i>	N/A	Threatened	Due to no in-water work in a perennial stream, no impacts to this species are anticipated.
MUSSELS				
snuffbox	<i>Epioblasma triquetra</i>	Endangered	Endangered	Due to no in-water work, no impacts to this species are anticipated.
sheepnose	<i>Plethobasus cyphus</i>	Endangered	Endangered	Due to no in-water work, no impacts to this species are anticipated.
clubshell	<i>Pleurobema clava</i>)	Endangered	Endangered	Due to no in-water work, no impacts to this species are anticipated.
fanshell	<i>Cyprogenia stegaria</i>	Endangered	Endangered	Due to no in-water work, no impacts to this species are anticipated.
northern riffleshell	<i>Epioblasma torulosa rangiana</i>	Endangered	Endangered	Due to no in-water work, no impacts to this species are anticipated.
rayed bean (<i>Villosa fabalis</i>)	<i>Villosa fabalis</i>	Endangered	Endangered	Due to no in-water work, no impacts to this species are anticipated.
rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	Candidate Species	Endangered	Due to no in-water work, no impacts to this species are anticipated.
long-solid	<i>Fusconaia maculata maculata</i>)	N/A	Endangered	Due to no in-water work, no impacts to this species are anticipated.
sharp-ridged pocketbook	<i>Lampsilis ovata</i>	N/A	Endangered	Due to no in-water work, no impacts to this species are anticipated.
little spectaclecase	<i>Villosa lienosa</i>	N/A	Endangered	Due to no in-water work, no impacts to this species are anticipated.
black sandshell	<i>Ligumia recta</i>	N/A	Threatened	Due to no in-water work, no impacts to this species are anticipated.
fawnsfoot	<i>Truncilla donaciformis</i>	N/A	Threatened	Due to no in-water work, no impacts to this species are anticipated.
threehorn wartyback	<i>Obliquaria reflexa</i>	N/A	Threatened	Due to no in-water work, no impacts to this species are anticipated.

MAMMALS				
Indiana bat	<i>Myotis sodalis</i>	Endangered	Endangered	Historical range includes the project area.
northern long-eared bat	<i>Myotis septentrionalis</i>	Threatened	N/A	Historical range includes the project area.
black bear	<i>Ursus americanus</i>	N/A	Endangered	Historical range includes the project area. Due to the mobility of this species, this project is not likely to impact this species.
BIRDS				
upland sandpiper	<i>Bartramia longicauda</i>	N/A	Endangered	Potential habitat within project area. The ODNR recommends that construction in suitable habitat be avoided between April 15 and July 31.
least bittern	<i>Ixobrychus exilis</i>	N/A	Threatened	Potential habitat within project area. The ODNR recommends that construction in suitable habitat be avoided between May 1 and July 31.

The project area is within the range of state and federal endangered Indiana bat (*Myotis sodalis*) and the federal threatened northern long-eared bat (*Myotis septentrionalis*). 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 the Indiana bat and northern long-eared bat, Staff recommends the Applicant adhere to seasonal tree cutting dates of October 1 through March 31 for all trees over 3 inches in diameter. The project would not disturb any hibernacula, including caves or abandoned mines.

Due to a lack of suitable habitat and no proposed in-water work, impacts to other federal and state listed species are not anticipated.

Vegetation

The Preferred and Alternate routes cross through several vegetative communities. The following table reflects the major vegetative communities present in the construction corridor and associated acres of impact for each route.

VEGETATION		
Community Type	Preferred Route Impacts (Including Common Route) (Acres)	Alternate Route Impacts (Including Common Route) (Acres)
Open Land / Agricultural	23.6	23.8
Forest	14.5	3.0
Utility right-of-way	19.6	30.8

Impacts to vegetation along both the routes would be limited to the initial clearing for the proposed 100-foot right-of-way and along access roads, and operational maintenance. Tree clearing would be limited for either route as the Alternate Route is proposed on the centerline of an existing 50-foot right-of-way, while the Preferred Route is proposed near the edge of the same existing

right-of-way. The Alternate Route would require less clearing as it would utilize more of the existing right-of-way. Trees adjacent to the proposed transmission line 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 windrowed or chipped and disposed of appropriately depending on landowner requests. The Applicant does not anticipate the use of herbicides during construction or operation.

All Staff recommendations for the requirements discussed in this section of the *Staff Report of Investigation* are included under the **Ecological Conditions** heading of the Recommended Conditions of Certificate section.

Public Services, Facilities, and Safety

Public Services and Traffic

The principal impact on public services would be an increase in truck traffic during the construction phase of the project for equipment access and delivery. Workers arriving and departing during construction would also increase traffic. Some traffic management during the construction phase may be necessary in the immediate vicinity of the project area to ensure safe and efficient maintenance of existing traffic patterns and usages. The Applicant has committed to coordinating with local officials to ensure that shift times and travel routes are optimized to the extent possible.

Roads and Bridges

Equipment deliveries to the site would be by truck and would be planned as to minimize impact to local traffic patterns. Road access to the project would be by U.S. Route 23, State Route 35, and State Route 50. Access roads during construction would require landowner's input and approval. No upgrades to local roads and bridges are anticipated. Staff recommends a requirement for the Applicant to develop a final Transportation Management Plan that would include a Road Use Agreement. The Applicant, under the guidance of the appropriate regulatory agency, would repair any damaged public roads and bridges promptly to their previous condition. Any temporary improvements would be removed unless the appropriate regulatory agency request that they remain in place.

Noise

The Applicant would confine most noise impacts associated with this project to the proposed construction period. The Applicant would mitigate noise impacts by using standard construction techniques and limiting construction activities to daylight hours, to the extent feasible.

Safety

The Applicant stated that it will comply with all applicable safety standards set by the Occupational Safety and Health Administration, safety standards of the PUCO, and the North American Electric Reliability Corporation (NERC) Reliability Standards. Additionally, the Applicant stated it will administer a contractor safety program where contractors are required to maintain internal safety programs and to provide safety training. The Applicant also stated it will design the facility to meet the requirements of the National Electric Safety Code (NESC).

Communications

The Applicant does not expect radio or television interference to occur from the operation of the proposed transmission line along the Preferred or Alternate route. Any likely source of radio or television interference would be a localized effect primarily from defective hardware that could be easily detected and replaced.

All Staff recommendations for the requirements discussed in this section of the *Staff Report of Investigation* are included under the **Public Services, Facilities, and Safety Conditions** heading of the Recommended Conditions of Certificate section.

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 conducted a route selection study to identify potential electric transmission line routes that avoid or limit impacts to sensitive land uses, ecological resources, and cultural features, while taking into consideration the engineering and construction needs of the project. The route study primarily focused on the existing right-of-way for the 69 kV transmission line, as this project is intended as a rebuild of the transmission line from the Ginger Switch Station to the Poston-Ross Transmission Line.

At the public informational meeting held September 18, 2017, the Applicant presented a Preferred Route that was offset from the existing centerline of the 69 kV transmission line, and offset as necessary to avoid ecological and sociological features such as wetland and encroaching structures. An Alternate Route was also presented that mirrored the centerline of the existing 69 kV transmission line, regardless of encroachments or other features within the existing right-of-way. Traditionally, the Applicant has been filing rebuild cases in other parts of the state as expedited filings known as Letters of Notification, but since this project required some new right-of-way, the Applicant proceeded to file the case as an Application. However, the rebuild nature of the project and utilization of a large percentage of existing right-of-way reduced the need for traditional evaluation of multi-disciplinary siting criteria.

The Applicant chose the Preferred Route as such, because it could be offset 25 to 50 feet from the existing centerline, allowing the existing transmission line to remain in service during construction, for safety and reliability factors.

Minimizing Impacts

Because this project is proposed as a rebuild of an existing 69 kV line, potential impacts are generally limited to those associated with an existing and expanded utility right-of-way. While both routes are viable, they each have issues unique to one another, and no route is without impact. Staff has analyzed each route independently of one another and concluded that potential impacts are expected to be similar for both routes; including the number of residences within 1,000 feet, agricultural land crossed, total number of parcels crossed, cost, tree clearing and potential wetland and stream impacts.

While impacts to both routes are similar, the primary factor when considering the routes is that the Preferred Route would allow the Applicant to construct the project while keeping the existing 69 kV transmission line in service, relieving safety and reliability concerns. The Alternate Route, though buildable, would require a much longer timeframe to construct. Due to outage constraints that would be required to take the existing line out of service, only smaller segments of the route would be able to be constructed during shorter windows of time. This would more than double the project timeline, potentially increasing the cost and taking longer to alleviate issues of need for the rebuild transmission project.

Therefore, Staff concludes that the Preferred Route represents the minimum adverse environmental impact when compared to the Alternate Route.

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.

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. The purpose of this section is to evaluate the impact of integrating the proposed facility into the existing regional transmission grid.

The Applicant proposes that the existing 69 kV transmission line, which was constructed in 1926, will be replaced by a 138 kV transmission line. The project would be approximately 4.8 miles in length and would begin at the existing Ginger Switch Station and continue to the interconnection with the Poston-Ross 138 kV transmission line.

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 bulk power system. As an owner, operator, and/or user of the bulk power system, the Applicant is subject to compliance with various NERC Reliability Standards, including but not limited to those related to transmission planning for contingency events.

AEP Planning Criteria

AEP Ohio Transco follows internal transmission planning criteria to plan their system. These criteria are required by law and comply with NERC Reliability Standards and PJM planning and operating manuals for the bulk electric system. This figure highlights a portion of AEP Ohio Transco's planning criteria:²¹

AEP Planning Criteria		
System Condition	Voltage Performance	Thermal Performance
Normal	• 0.95 - 1.05 per unit	100 kV - 765 kV: No facility may exceed its normal rating
Contingency	• 0.92 - 1.05 per unit.	N-1, < 344 kV: Not to exceed emergency rating
	• Voltage change from system normal of 8% or greater is not acceptable	N-1, > 345 kV: Not to exceed its normal rating

PJM Interconnection

The Applicant submitted the proposed project to PJM Interconnection, LLC (PJM) as a supplemental project. At the time of this Staff Report, PJM had not yet assigned the project an upgrade ID number. Once the upgrade ID number is issued, the construction status of transmission project could then be tracked on PJM's website.²²

21. "Transmission Planning Reliability Criteria - AEP PJM," American Electric Power, accessed March 19, 2018, <https://www.aep.com/about/codeofconduct/OASIS/TransmissionStudies>.

22. PJM Interconnection, "Transmission Construction Status," accessed March 19, 2018, <http://pjm.com/planning/rtep-upgrades-status/construct-status.aspx>.

Load Flow Study

The existing 69 kV transmission line is not required to have load flow or contingency analysis conducted. The proposed 138 kV transmission line would be required to meet all PJM planning standards. Without the proposed project an N-1-1 contingency event would load a 138 kV transmission line to 90 percent of its emergency rating at the Waverly Substation. The proposed project would alleviate this loading by providing a second 138 kV source to southern Ohio. Without the proposed facility the Applicant would be unable to maintain system reliability and violate internal system planning criteria.

Customer Outages

AEP Ohio Transco reported that during the years 2013 through 2017 the existing line was responsible for 478,000 customer minutes of interruption. Many of the outage causes, including rotten cross arms and cracked insulators are attributable to the age of the equipment.

Conclusion

The Applicant provided details demonstrating the proposed project would improve reliability by decreasing customer interruptions and speed recovery time during outages. In addition, planning for the project demonstrated that adding a second source to the Ross Substation, would alleviate contingency concerns. The proposed facility is consistent with plans for expansion of the regional power system, and serves the interests of electric system economy and reliability. The completed project would improve quality and reliability of the transmission grid in Ross and Jackson counties.

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

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

Neither construction nor operation of the proposed facility would require the use of significant amounts of water. Therefore, the requirements under R.C. 1501.33 and 1501.34 are not applicable to this project.

The Applicant would seek coverage, if needed, under the U.S. Army Corps of Engineers Nationwide Permit 12 for Utility Line Activities for surface water impacts associated with the proposed transmission line. The Applicant also 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 a detailed construction access plan and indicate BMP 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 construction plans and specifications, thus minimizing any clearing-related disturbance to surface water bodies. With these provisions, construction of this facility would comply with the requirements set forth under R.C. Chapter 6111.

Solid Waste

Debris generated during construction would consist of items such as conductor scrap; construction material packaging, including cartons, boxes, insulator crates, conductor reels, wrapping; and, used stormwater erosion control materials. Materials with reuse or salvage value would include clearance poles and conductor reels. All construction-related debris would be disposed of in accordance with state and federal requirements.

Any contaminated soils discovered or generated during construction would be handled in accordance with applicable regulations. 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 height of the tallest above ground structure of the transmission line and construction equipment would be approximately 100 feet. According to the Federal Aviation Administration

(FAA), the closest public-use airports are Ross County (RZT, Pike County (EOP), Pickaway County Memorial (CYO), and Vinton County (221) which are all between 6 and 20 miles from the proposed transmission line. The closest heliports are the VA Hospital and ODOT-District 9, which are located between 1.6 and 4.5 miles away. Upon completion of the final design, the Applicant stated that it will consult with the FAA and the ODOT Office of Aviation to determine if a Notice of Construction or Alteration or other permitting is required.

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.

All Staff recommendations for the requirements discussed in this section of the *Staff Report of Investigation* are included under the **Air, Water, Solid Waste, and Aviation Conditions** heading of the Recommended Conditions of Certificate section.

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.

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.

Public Interaction

The Applicant hosted a public informational open house for this project on September 18, 2017. Attendees were provided the opportunity to speak with representatives of the Applicant about the proposed project, view proposed route maps, and to provide feedback regarding potential routes.

The Applicant served copies of the complete application on officials representing Ross County, Scioto and Springfield townships, the City of Chillicothe, and the Ross County Soil and Water Conservation District. The Applicant also sent hard copies to the Chillicothe and Ross County Public Library's Main Library and Richmond Dale Branch. Copies of the complete application are available for public inspection at the offices of the PUCO and online at <http://opsb.ohio.gov>, and are available upon request from the Applicant.

The Applicant maintains a website at <http://aepttransmission.com/ohio/Springfield/index.php> that provides details about the project. Members of the public may contact the Applicant's project outreach specialist with questions or concerns during any phase of the project. The Applicant stated that it will log all contacts and share them with Staff. The Applicant has committed to notify affected landowners or tenants by mail or telephone, or in person, at least seven days prior to the start of any construction activities.

The Board will conduct a local public hearing and an adjudicatory hearing for this proceeding. The local public hearing, at which the Board will accept written or oral testimony from any person, is scheduled for June 4, 2018, at 6:00 p.m., at the Chillicothe and Ross County Public Library, Main Library Annex, Room B-1, located at 140 S. Paint St., Chillicothe, OH 45601. The adjudicatory hearing is scheduled for June 19, 2018, at 10:00 a.m., in Hearing Room 11-D at the offices of the Public Utilities Commission of Ohio, 180 E. Broad St., Columbus, OH 43215-3793.

As of the filing of this Staff Report, the Board has not received any public comments or motions to intervene in this case.

Electromagnetic Fields

Electric transmission lines, when energized, generate electromagnetic fields (EMF). Laboratory studies have failed to establish a strong correlation between exposure to EMF and effects on human health. However, there have been concerns that EMF may have impacts on human health.

Because these concerns exist, the Applicant has computed the EMF associated with the new circuits.²³ The fields were computed based on the maximum loadings of the lines, which would lead to the highest EMF values that might exist along the proposed transmission line. Daily current load levels normally operate below the maximum load conditions, thereby further reducing nominal EMF values.

²³ *Application* at Table 7-2.

The electric field is a function of the voltage, the line configuration, and the distance from the transmission lines. Electric fields are produced by voltage or electric charge. For example, a plugged in lamp cord produces an electric field, even if the lamp is turned off. The electric field for this transmission line would be 0.72 kV/meter or less. Electric fields are easily shielded by physical structures such as the walls of a house or foliage.

Magnetic fields are a function of the electric current, the configuration of the conductors, and the distance from the transmission lines. The magnetic fields for this project are estimated at the right-of-way edge to be less than 99.76 milligauss. The magnetic field output is comparable to that of common household appliances. A list of typical magnetic fields from household items, as well as the maximum magnetic field scenarios for this facility, is in the application.²⁴ The Applicant states that the transmission facilities will be designed according to the requirements of the NESC.

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.

24. Ibid., Table 7-3.

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

AGRICULTURAL DISTRICTS

Pursuant to R.C. 4906.10(A)(7), the Board must determine the facility's impact on the agricultural viability of any land in an existing agricultural district within the Preferred and Alternate routes of the proposed 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 auditors' 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.

The Preferred and Alternate routes would include 23.6 acres and 23.8 acres, respectively, of agricultural land. Both routes would cross the same 10 parcels with the agricultural district designation.

The Applicant would take measures to minimize impacts to field operations, irrigation, and field drainage systems associated with agricultural district lands that would occur as a result of construction, operation, and maintenance of the proposed project. Construction would only interrupt field operations for a portion of the growing season or dormant season. The Applicant stated that it would coordinate with the landowners to mitigate any impact to irrigation systems. Damage to field drainage systems is not anticipated by the Applicant, but the Applicant stated that it will resolve any disturbances. Due to existing infrastructure in the vicinity of the proposed project, the viability of agricultural district land is not expected to be impacted. The Applicant has stated that mitigation procedures and compensation for damage to crops and the compaction of soils are outlined in the individual easement agreements. Structures would be located, where feasible, at or beyond the edge of fields, and excavated top soil would be segregated and stockpiled. Top soil would also be restored to original conditions unless otherwise specified by the affected landowners.

One barn is located in the existing right-of-way. The Applicant plans to negotiate the barn's removal with the landowner. Landowner negotiations are planned to occur after the Staff Report has been issued.

Recommended Findings

Staff recommends that the Board find that the impact of the proposed facility on the viability of existing agricultural land in an agricultural district has been determined, and therefore complies with the requirements specified in R.C. 4906.10(A)(7), 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)(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.

The facility may require the use of minimal amounts of water for dust control and for concrete foundations during construction. However, the transmission line would not require the use of any water during operation. Therefore, the facility would comply with water conservation practice as specified under R.C. 4906.10(A)(8).

Recommended Findings

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).

IV. RECOMMENDED CONDITIONS OF CERTIFICATE

Following a review of the application filed by AEP Ohio Transco 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:

GENERAL CONDITIONS

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 facility shall be installed on the Applicant's Preferred Route, utilizing the equipment, construction practices, and mitigation measures as presented in the application filed on December 13, 2017, and further clarified by recommendations in this *Staff Report of Investigation*.
- (2) The Applicant shall conduct a preconstruction conference prior to the start of any construction activities. Staff, the Applicant, and representatives of the prime contractor and/or 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 to ensure compliance with this condition. The Applicant may conduct separate preconstruction conferences for each stage of construction.
- (3) At least 30 days before the preconstruction conference, the Applicant shall submit to Staff one set of detailed engineering drawings of the final project design, including the facility, temporary and permanent access roads, construction staging areas, and any other associated facilities and access points, so that Staff can determine that the final project design is in compliance with the terms of the Certificate. The final project design shall be provided in hard copy and as geographically referenced electronic data. The final design shall include all conditions of the Certificate and references at the locations where the Applicant and/or its contractors must adhere to a specific condition in order to comply with the Certificate.
- (4) 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. The Applicant shall provide as-built drawings in both hard copy and as geographically referenced electronic data.
- (5) 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.
- (6) As the information becomes known, the Applicant shall provide to Staff the date on which construction will begin, the date on which construction was completed, and the date on which the facility begins commercial operation.

- (7) Prior to the commencement of construction activities, the Applicant shall docket in the case file the PJM Interconnection supplemental upgrade ID number when it is assigned.
- (8) Prior to the commencement of construction activities, the Applicant shall docket their supplemental filing in their Long-Term Forecast Report to add this project.
- (9) At least 30 days prior to the preconstruction conference, the Applicant shall provide to Staff a complaint resolution procedure to address potential public grievances resulting from project construction and operation. The resolution procedure must provide that the Applicant will work to mitigate or resolve any issues with those who submit either a formal or informal complaint and that the Applicant will immediately forward all complaints to Staff.
- (10) At least 30 days prior to the preconstruction conference, the Applicant shall provide to Staff a copy of its public information program that informs affected property owners and tenants of the nature of the project, specific contact information of Applicant personnel who are familiar with the project, the proposed timeframe for project construction, and a schedule for restoration activities. The Applicant shall give notification to property owners and tenants at least 7 days prior to work on the affected property.
- (11) 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.

SOCIOECONOMIC CONDITIONS

Staff recommends the following conditions to address the impacts discussed in the **Socioeconomic Impacts** section of the Nature of Probable Environmental Impact:

- (12) The Applicant shall repair or replace agricultural field tiles damaged from this project, and the Applicant shall segregate excavated topsoil in agricultural fields and restore in its proper position upon backfilling.

ECOLOGICAL CONDITIONS

Staff recommends the following conditions to address the impacts discussed in the **Ecological Impacts** section of the Nature of Probable Environmental Impact:

- (13) The Applicant shall adhere to seasonal cutting dates of October 1 through March 31 for removal of any trees greater than or equal to three inches in diameter, unless coordination efforts with the Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service (USFWS) allows a different course of action.
- (14) The Applicant shall contact Staff, the ODNR, and the USFWS within 24 hours if state or federal threatened or endangered species are encountered during construction activities. Construction activities that could adversely impact such plants or animals shall be halted until an appropriate course of action has been agreed upon by the Applicant, Staff, and the ODNR

in coordination with the USFWS. Nothing in this condition shall preclude agencies having jurisdiction over the facility with respect to threatened or endangered species from exercising their legal authority over the facility consistent with law.

- (15) The Applicant shall not conduct mechanized clearing and shall not remove any stumps within 25 feet of any stream channel.
- (16) The Applicant shall provide a construction access plan for review prior to the preconstruction conference. The plan shall consider the location of streams, wetlands, wooded areas, and sensitive plant species, as identified by the ODNR Division of Wildlife, and explain how impacts to all sensitive resources will be avoided or minimized during construction, operation, and maintenance. The plan shall include the measures to be used for restoring the area around all temporary access points, and a description of any long-term stabilization required along permanent access routes.

PUBLIC SERVICES, FACILITIES, AND SAFETY CONDITIONS

Staff recommends the following conditions to address the requirements discussed in the **Public Services, Facilities, and Safety** section of the Nature of Probable Environmental Impact:

- (17) Prior to commencement of construction activities that require transportation permits, the Applicant shall obtain all such permits. The Applicant shall coordinate with the appropriate authority regarding any temporary or permanent road closures, lane closures, road access restrictions, and traffic control necessary for construction and operation of the proposed facility.
- (18) 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, hoe ram, and blasting operations, 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 property owners or affected tenants of upcoming construction activities including potential for nighttime construction activities.

AIR, WATER, SOLID WASTE, AND AVIATION CONDITIONS

Staff recommends the following conditions to address the requirements discussed in the **Air, Water, Solid Waste, and Aviation** section of the Nature of Probable Environmental Impact:

- (19) The Applicant shall remove all temporary gravel and other 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.
- (20) The Applicant shall not dispose of gravel, or any other construction material, during or following construction of the facility by spreading such material on agricultural land. All construction debris and all contaminated soil shall be promptly removed and properly disposed of in accordance with Ohio EPA regulations.

- (21) The Applicant shall re-coordinate with the Federal Aviation Administration (FAA) and the Ohio Department of Transportation once final pole locations and heights are determined for this project. Additionally, the Applicant shall provide Staff with completed FAA 7460-1 forms. If the proposed pole locations and heights constitute a hazard to air navigation then further coordination with Staff.



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