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Staff Report of Investigation

In the Matter of an Application by American Electric Power (AEP) for a Certificate of Environmental Compatibility and Public Need For the Roberts-OSU 138 kV Transmission Line Project in Franklin County, Ohio.	)))))	Case No. 08-0170-EL-BTX

THE OHIO POWER SITING BOARD

EQUAL OPPORTUNITY EMPLOYER AND SERVICE PROVIDER

(www.OPSB.ohio.gov)

In the Matter of an Application by American Electric Power (AEP) for a Certificate of Environmental Compatibility and Public Need For the Roberts-OSU 138 kV Transmission Line Project in Franklin County, Ohio.	)))))	Case No. 08-0170-EL-BTX

Staff Report of Investigation and Recommended Findings

Submitted to the
Ohio Power Siting Board

BEFORE
THE POWER SITING BOARD
OF
THE STATE OF OHIO

In the Matter of an Application by American Electric Power (AEP) for a Certificate of Environmental Compatibility and Public Need For the Roberts-OSU 138 kV Transmission Line Project in Franklin County, Ohio.	)))))	**Case No. 08-0170-EL-BTX**

Members of the Board:

Alan R. Schriber, Chairman, PUCO
Lisa Patt-McDaniel, Interim Director, ODD
Alvin Jackson, Director, ODH
Robert Boggs, Director, ODA
Christopher Korleski, Director, OEPA
Sean Logan, Director, ODNR
Lorry Wagner, PhD., Public Member

Vacant, State Representative
Vacant, State Representative
Vacant, State Senator
Thomas Sawyer, State Senator

To The Honorable Power Siting Board:

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

The Staff Report of Investigation and Recommended Findings has been prepared by the Staff of the Public Utilities Commission of Ohio. The findings and recommendations contained in this report are the result of Staff coordination with the 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, the Staff coordinated with the Ohio Department of Transportation, the Ohio Historical Society, and the U.S. Fish and Wildlife Service.

In accordance with ORC Section 4906.07 and 4906.12, copies of this Staff Report have been filed with the Docketing Division of the Public Utilities Commission of Ohio on behalf of the Ohio Power Siting Board and served upon the Applicant or its authorized representative, the parties of record and the main public libraries of the political subdivisions in the project area.

The Staff Report presents the results of the Staff's investigation conducted in accordance with ORC 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,

Klaus Lambeck, Chief
Facilities, Siting, and Environmental Analysis Division

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ACRONYMS

AEP	American Electric Power
BMP	Best Management Practices
CSP	Columbus Southern Power Company
dBA	decibels (A-weighted)
DNAP	Division of Natural Areas and Preserves
EMF	Electromagnetic Fields
HDD	Horizontal Directional Drill
kV	Kilovolts
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
MBTA	Migratory Bird Treaty Act
OAC	Ohio Administrative Code
ODA	Ohio Department of Agriculture
ODD	Ohio Department of Development
ODH	Ohio Department of Health
ODNR	Ohio Department of Natural Resources
OEPA	Ohio Environmental Protection Agency
OHI	Ohio Historic Inventory
OHPO	Ohio Historic Preservation Office
OPSB	Ohio Power Siting Board
ORC	Ohio Revised Code
PUCO	Public Utilities Commission of Ohio
r-o-w	right-of-way
SWPPP	Storm Water Pollution Prevention Plan
USFWS	United States Fish and Wildlife Service

I. INTRODUCTION

Ohio Power Siting Board

The Ohio Power Siting Board (Board or OPSB) was created on November 15, 1981, by amended Substitute House Bill 694 as a separate entity within the Public Utilities Commission of Ohio. The authority of the Board is outlined in Ohio Revised Code (ORC) Chapter 4906.

The Board is authorized to issue certificates of environmental compatibility and public need for the construction, operation, and maintenance of major utility facilities as defined in ORC Section 4906.01. Included within this definition are electric generating plants and associated facilities designed for or capable of operation at fifty megawatts or more, electric transmission lines and associated facilities of a design capacity greater than or equal to 125 kilovolts (kV), and gas and natural gas transmission lines and associated facilities designed for, or capable of, transporting gas or natural gas at pressures in excess of 125 pounds per square inch. In addition, the Board authority applies to wind-powered electric generating facilities designed for or capable of operation at an aggregate capacity of five MW or more.

Membership of the Board is specified in ORC Section 4906.02(A). The members include: the Chairman of the Public Utilities Commission who serves as Chairman of the Board, the directors of the Environmental Protection Agency, the Department of Health, the Department of Development, the Department of Agriculture, and the Department of Natural Resources. The Governor appoints a member of the public, specified as an engineer, to the Board from a list of three nominees provided by the Ohio Consumers' Counsel. Included as ex-officio members of the Board are two members (with alternates) from each House of the Ohio Legislature.

The OPSB has promulgated rules and regulations, found in Chapter 4906 of the Ohio Administrative Code (OAC), which establish application procedures for major utility facilities. Pursuant to ORC Section 4906.07(C) and these rules, the Board's Staff (Staff) evaluates and investigates applications and reports the results of such investigations, including recommended findings and recommended conditions for certification, in the Staff Report of Investigation.

Applicant

American Electric Power

American Electric Power (AEP or Applicant) is one of the largest electric utilities in the United States, delivering electricity to more than 5 million customers in 11 states. AEP owns more than 38,000 MW of generating capacity in the U.S. and also owns the nation's largest electricity transmission system, a nearly 39,000 mile network.

AEP's utility units operate as AEP Ohio, AEP Texas, Appalachian Power (in Virginia and West Virginia), Kentucky Power, Public Service Company of Oklahoma, and Southwestern Electric Power Company (in Arkansas, Louisiana and east Texas).

As the largest of AEP's regional utility divisions, AEP Ohio is comprised of Columbus Southern Power Company, Ohio Power Company and Wheeling Power. AEP Ohio serves nearly 1.5 million customers in Ohio and the northern panhandle of West Virginia. AEP Ohio is headquartered in Columbus, Ohio with offices in Gahanna, Ohio and downtown Columbus.

Columbus Southern Power Company

Columbus Southern Power Company (CSP), founded in 1937, is now a subsidiary of American Electric Power. The Company has approximately 746,000 retail customers in Ohio which include residential, commercial, and industrial users. CSP owns 15,480 miles of electric line and has interests in coal and gas-fired power plants that provide it with 3,200 MW of generating capacity. CSP is engaging in selling bulk power to wholesale customers, as well as generating, transmitting, and distributing electric power to retail customers. This project is being proposed as an addition to the CSP operating system.

Project Description

Introduction

The Applicant is seeking approval to construct the Roberts-OSU 138 kV electric transmission line. The proposed transmission line would originate at the AEP Roberts substation near I-270 in western Franklin County, Ohio. The line would terminate at the OSU substation, also in Franklin County, located approximately six miles to the east. The Preferred and Alternate routes share approximately 1.1 miles in common. The line would be constructed using a combination of overhead steel pole structures and underground trenching and drilling technologies. Approximately 4.4 miles of the Preferred Route would be constructed underground, and approximately 4.0 miles of the Alternate Route would be constructed underground. Refer to Figures 1 through 4 for greater detail in the proposed routing. The Applicant proposes to commence construction in October of 2009, with the proposed transmission line completed and placed in service in March of 2010.

Preferred Route

The Applicant's Preferred Route is approximately 6.26 miles in length. The Preferred and Alternate routes follow the same path for the first 0.4 miles, referred to hereafter as the "in-common overhead" portion. The Preferred and Alternate routes also follow the same path for the last 0.7 miles, referred to hereafter as the "in-common underground" portion. The in-common overhead portion departs the north side of the Roberts substation, which is located 500 feet east of I-270, on the south side of Scioto Darby Creek Road.

After departing the Roberts substation, the in-common overhead portion turns to the east, along the south side of Scioto Darby Creek Road for 1,950 feet. At the intersection of Dublin Road and Scioto Darby Creek Road, the Preferred Route continues, overhead, approximately 3,700 feet to the east along the Marble Cliff Quarry property. The line then transitions via a transfer structure to the underground part of the project. For existing overhead portions of the route, new steel pole structures will be installed in the location of the existing pole structures, on a one-for-one basis. Existing lines will be transferred back onto the new pole structures along with the new proposed transmission line.

At the underground transition point, the Preferred Route travels to the southeast for 3,500 feet along the east side of the quarry property, west of the Scioto River. The Preferred Route will continue southeast via directional drill under the Scioto River to the Griggs Reservoir Park/Griggs Disc Golf Course. The Applicant estimates that this drill will be approximately 1,800 feet in length.

The Preferred Route will continue southeast from Griggs Reservoir Park to the east side of Riverside Drive, where it will be located in road r-o-w 1,400 feet to Lane Avenue. At Lane Avenue, the Preferred Route will be located underground, in the center of the road. The line will continue east following Lane Avenue for approximately two miles, and then transition to the south side of Lane Avenue, along OSU property. The total Lane Avenue segment of the project is approximately 13,300 feet, or 2.5 miles.

At the intersection of Lane Avenue and Kenny Road, the Preferred Route will turn south along the west side of Kenny Road for 2,400 feet along OSU property, and 750 feet in road r-o-w.

At the intersection of Kenny Road and Kinnear Road, the Preferred Route will turn to the east along the north side of Kinnear Road, continue under the CSX railroad tracks and then transition to the centerline of the road. This portion of the line will traverse 2,250 feet from Kenny Road to the intersection of Olentangy River Road. At Olentangy River Road, the line will continue north (underground) in the center of the road to John Herrick Drive for 425 feet.

At John Herrick Drive, the line will turn easterly between the south side of the road and SR 315. Starting at the open field area between John Herrick Drive and SR 315, west of the Olentangy River, the line will be directionally drilled under the river to the OSU substation. This section of line will be approximately 1,130 feet, 750 feet of which will be drilled under the Olentangy River. The distance from Kenny Road to the OSU substation is approximately 3,800 feet (0.7 miles) and is the in-common underground portion of the route.

Alternate Route

The Alternate Route totals approximately 5.9 miles. After departing the Roberts substation, the in-common overhead portion turns to the east, along the south side of Scioto Darby Creek Road for 1,950 feet. At the intersection of Scioto Darby Road and Dublin Road, the Alternate Route travels south overhead along the east side of Dublin Road for 4,000 feet. The line transfers underground, continuing south for 750 feet along Dublin Road via open trench construction methods.

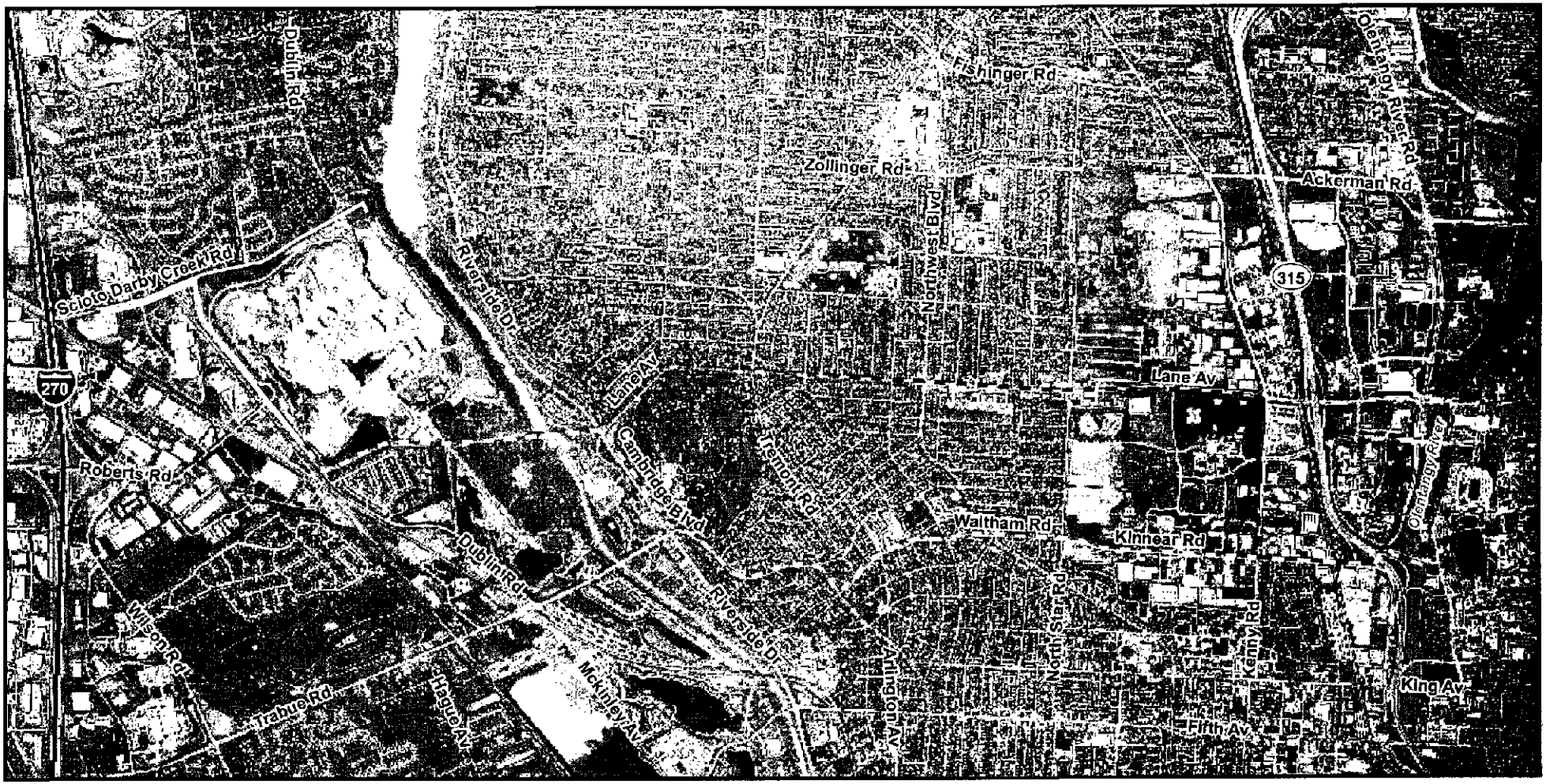
The Alternate Route then turns easterly on the quarry property utilizing open trench construction, then proceeds under the Scioto River via directional drill to the east side of the Lane Avenue and Riverside Drive intersection, 1.07 miles in total.

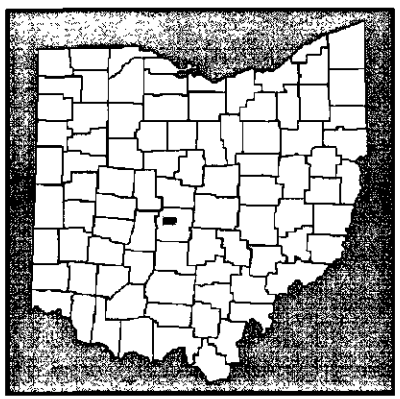
The Alternate Route then follows Riverside Drive to the southeast, on Scioto Country Club property for 2,375 feet to Cambridge Boulevard underground.

The Alternate Route follows Cambridge Boulevard for 3,850 feet, and would be located within the road r-o-w, underground.

Continuing underground, at the intersection of Cambridge Boulevard and Waltham Road, the Alternate Route heads northeast along Waltham Road for 4,750 feet, and continues beyond Northstar Road in an easterly direction for 3,850 feet along Kinnear Road to Kenny Road.

At Kenny Road, the Alternate Route follows Kinnear Road to the OSU substation as described in the Preferred Route description, following the in-common underground route.





1 inch = 3,000 feet

1:36,000

NORTH

0 1,500 3,000 6,000

Feet

NAD 83 State Plane Ohio South (Feet)

Legend

Preferred Route (Overhead)

Preferred Route (Underground)

Alternate Route (Overhead)

Alternate Route (Underground)

Combined Route (Overhead)

Combined Route (Underground)

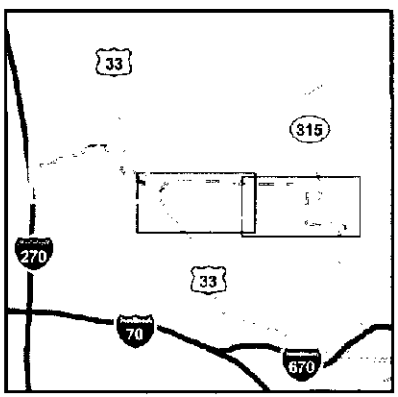
Figure 1

08-0170-EL-BTX

AEP Roberts-OSU 138 kV Transmission Line

June 29, 2009

This map is for general reference only.



1 inch = 1,250 feet

1:15,000

NORTH

0 500 1,000 2,000

Feet

NAD 83 State Plane Ohio South (Feet)

Legend

- Preferred Route (Overhead)
- Preferred Route (Underground)
- Alternate Route (Overhead)
- Alternate Route (Underground)
- Combined Route (Overhead)
- Combined Route (Underground)

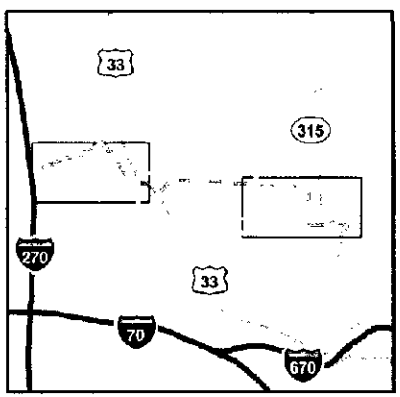
Figure 2

08-0170-EL-BT

AEP Roberts-OSU 138 kV Transmission Line

Jun 29, 2009

This map is for general reference



1 inch = 1,250 feet

1:15,000

NORTH

0 500 1,000 2,000

Feet

NAD 83 State Plane Ohio South (Feet)

Legend

- Preferred Route (Overhead)
- Preferred Route (Underground)
- Alternate Route (Overhead)
- Alternate Route (Underground)
- Combined Route (Overhead)
- Combined Route (Underground)

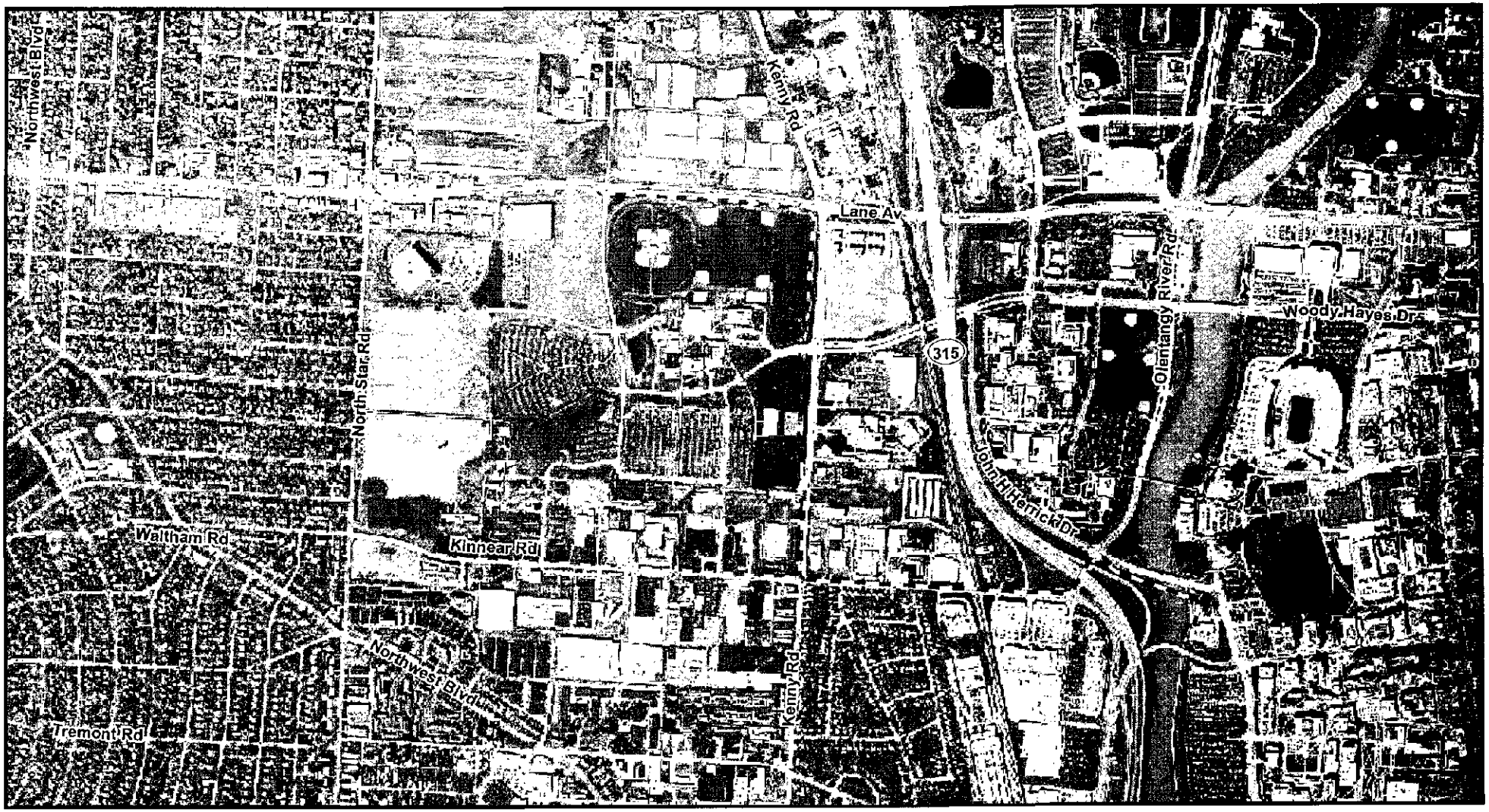
Figure 3

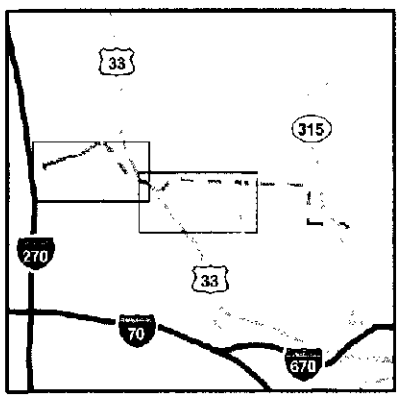
08-0170-EL-BT

AEP Roberts-OSU 138 kV Transmission Line

Jun 29, 2009

This map is for general reference o





1 inch = 1,250 feet

1:15,000

NORTH

0 500 1,000 2,000

Feet

NAD 83 State Plane Ohio South (Feet)

Legend

- Preferred Route (Overhead)
- Preferred Route (Underground)
- Alternate Route (Overhead)
- Alternate Route (Underground)
- Combined Route (Overhead)
- Combined Route (Underground)

Figure 4

08-0170-EL-BTX

AEP Roberts-OSU 138 kV Transmission Line

Jun 29, 2009

This map is for general reference

II. HISTORY OF THE APPLICATION

Application procedures and requirements for information are specified in Section 4906.06 of the Ohio Revised Code (ORC), and are detailed in the Rules and Regulations of the Board.

Prior to formally submitting its application, the Applicant consulted with the Board Staff and representatives of the Board, including the Ohio Environmental Protection Agency (OEPA), regarding application procedures. Additionally, the Applicant hosted on-site meetings with the Staff regarding the proposed project.

On February 28, 2008, the Applicant held a public informational meeting regarding the proposed transmission line project at the Upper Arlington council chambers in Upper Arlington, Ohio. The meeting was held to provide information and receive public comments regarding the Applicant's proposed 138 kV transmission line project.

On December 30, 2008, the Applicant filed a Motion for Waiver and its Application for a Certificate of Environmental Compatibility and Public Need for the Roberts-OSU 138 kV transmission line project.

On January 23, 2009, January 26, 2009, and March 20, 2009, Staff issued questions to the Applicant for clarification regarding the proposed project. The Applicant responded to Staff's interrogatories on February 6, 2009 and April 6, 2009, respectively.

On February 2, 2009, the Administrative Law Judge issued an Entry granting the Applicant's Motion for a waiver of the requirement that the application be filed at least one year prior to the planned date of commencement of construction.

On February 12, 2009, a Motion to intervene and memorandum in support of the City of Upper Arlington, Ohio was filed.

On February 27, 2009, the Board issued a letter to the Applicant stating that the application, filed December 30, 2008 was found to be in compliance with the requirements of Section 4906-01, et seq., OAC.

On May 6, 2009, the Administrative Law Judge issued an Entry scheduling a local public hearing for this case to take place on July 14, 2009, at 6:00 p.m., at the City of Upper Arlington Council Chambers, 3600 Tremont Road, Columbus, Ohio 43221. The adjudicatory hearing will commence on July 16, 2009, at 10:00 a.m., in Hearing Room 11-G, at the offices of the Public Utilities Commission of Ohio, 180 East Broad Street,

Columbus, Ohio 43215-3793. The Entry also granted the City of Upper Arlington intervention status.

On June 9, 2009, the Applicant filed proofs of publication for Upper Arlington and Franklin County.

On June 29, 2009, the Staff Report was docketed.

This summary of the history of the application does not include every filing that has been made in Case Number 08-0170-EL-BTX. The docketing record for this case, which lists all documents filed to date, can be found in the Appendix to this report and online at http://dis.puc.state.oh.us.

III. CRITERIA

The recommendations and conditions in this Staff Report of Investigation were developed pursuant to the criteria for certification set forth in Chapter 4906, ORC. Technical investigations and evaluations were conducted under guidance of the Ohio Power Siting Board Rules and Regulations.

Section 4906.10(A) of the ORC 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:

(1) The basis of the need for the facility if the facility is an electric transmission line or gas or natural gas transmission line;

(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 generation facility, that such 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) through (A)(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 alternate 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.

IV. NATURE OF INVESTIGATION

The Board's Staff has reviewed the application submitted by American Electric Power and other materials filed with the Board under Case Number 08-0170-EL-BTX. The application for certification of the proposed Roberts-OSU 138 kV Transmission Line Project was prepared and submitted pursuant to the Board Rules and Regulations in OAC Chapter 4906. The Staff supplemented its review with site visits to the project area and discussions with employees and representatives of the Applicant.

The Board's Staff, which consists of career professionals drawn from the Staff of the Public Utilities Commission of Ohio and other member agencies of the OPSB, has the responsibility to evaluate, assess, and make recommendations on applications subject to Board jurisdiction. The investigation has been coordinated among the agencies represented on the Board and with other interested agencies such as the Ohio Department of Transportation, the Ohio Historical Society, and the U.S. Fish and Wildlife Service.

The recommended findings resulting from the Staff's investigation in this Report are made pursuant to ORC Section 4906.07(C) and the Board's Rules and Regulations.

V. CONSIDERATIONS AND RECOMMENDED FINDINGS

In the matter of the application of American Electric Power (AEP), the following considerations and recommended findings are submitted pursuant to and in accordance with ORC Section 4906.07(C).

Considerations for ORC Section 4906.10(A)(1)

Basis of Need

The Applicant submitted an application for approval to the Ohio Power Siting Board for a Certificate of Environmental Compatibility and Public Need for the Roberts – OSU 138 kV Transmission Line Project. The new single circuit transmission line would extend from the Roberts substation to OSU substation. This facility will be constructed, owned, and operated by American Electric Power.

The proposed Roberts - OSU project is one of two projects that are intended to improve the reliability and quality of electric service on the Columbus area transmission system. The other project, Case No. 08-959-EL-BNR, which was completed in late April of 2009, added a second 345 kV transmission circuit between the Hayden and Roberts substations. These improvements collectively are expected to reinforce the transmission system in the Columbus area by providing additional transformer capacity, and an additional 138 kV outlet/connection. These projects are expected to improve voltage issues and alleviate equipment overloads during double contingency outage conditions (two major events or two facilities out-of-service).

Objective

The purpose of this section of the Staff Report is to evaluate the justification for integrating the proposed Roberts – OSU transmission line into AEP's existing system. The evaluation covers the review of studies conducted and submitted by AEP to justify the project.

Project Schedule

The project has been identified in the 2009 "Columbus Southern Power Company and Ohio Power Company Long-Term Forecast Report to the Public Utilities Commission of Ohio". The Long-Term Forecast Report was docketed in Case No. 09-501-EL-FOR and Case No. 09-502-EL-FOR. The project has a projected in-service date of March of 2010.

Load Forecast

The company provided information which indicated that over the past several years, electric transmission load in the Columbus area has grown at the annual rate of 4.1%. Continued transmission load growth going forward is expected to stay steady at between 1.9% and 2.5% annually. Load flow studies have shown that this load growth may be putting stress on the local transmission system resulting in the local system being unable to withstand certain double contingency outages. A double contingency outage has the potential to cause long-term widespread outages on the local grid, forced outages, and rolling blackouts.

Transmission System Analysis

Absent the proposed transmission project, load flow analysis demonstrates that several double contingencies will cause voltage levels to dip below planning criteria and certain facilities to exceed their summer emergency ratings, jeopardizing the reliability of the local system.

AEP Analysis

AEP designs various parts of the Columbus area local power grid to withstand double contingencies. The system is designed to this criteria due to the extensive 138 kV underground transmission system in the area and the duration of time it would take to restore an underground outage, which AEP estimates could take from one to twelve months, or longer.

Power flow analysis of the 2008 summer peak load case identified several double contingency outage conditions which show numerous facilities that would exceed their summer emergency ratings. In addition, the analysis showed that the Columbus area will experience low voltage levels. Planning becomes critical for emergency conditions when voltage levels drop below .92 per unit (PU). Without the proposed line, the analysis shows that voltage drops below this voltage level. Several lines and cables both above-ground and below-ground experienced reliability problems during double contingency outages. The analysis of the system with the Roberts – OSU project placed in-service shows that the low voltage levels and summer emergency ratings would improve. Double contingency outages in the summer 2008 peak load case are shown on the next page. The overloads and low voltages are shown with and without the proposed line.

Summer 2008 Equipment Loading

Voltage Levels *(Summer Emergency Planning Criteria > .92 PU)*

- Marysville 765/345 kV Transformer & all Three Conesville Units Off-line
  - *Dublin 138 kV voltage level .898 PU (voltage level with line .942 PU)*
  - *Orange Reactor in service, voltage level .870 PU (voltage level with line .926 PU)*

Summer Emergency Loading *(Percent of Summer Emergency Rating)*

- Beatty 138/345kV Transformer #3 & Hayden – Roberts 345 kV Line Out
  - *Beatty 138/345 kV Transformer #4 rating without the line 100.6% (with line 80%)*
  - *Bexley – St.Clair 138 kV Line, rating without the line 108.6% (with line 71.4%)*
  - *Buckeye – Gay 138 kV Cable, rating without the line 100.5% (with line 73.5%)*
  - *Canal – Marion 138 kV Cable, rating without the line 102% (with line 70.8%)*

- Hayden – Roberts 345 kV Line & Buckeye – Gay 138 kV Cable Out
  - *Bexley – St.Clair 138 kV Line, rating without the line 103.7% (with line 71.4%)*

Summer 2008 Equipment Loading - Underground Cable Area

Double Contingency Reliability Required

- Hayden – Roberts 345 kV Line & Vine – First Avenue 138 kV Cable Out
  - *Gay – Vine 138 kV Cable, rating without the line 103.5% (with line 60.6%)*

- Fifth – Hess 138 kV Cable & Hess – Vine 138 kV Cable Out
  - *OSU – Clinton 138 kV Cable, rating without the line 105.7% (with line 11.6%)*

- Fifth – Hess 138 kV Cable & Vine – First Avenue 138 kV Cable Out
  - *Gay – Vine 138 kV Cable, rating without the line 104% (with line 51.8%)*

- Gay – Vine 138 kV Cable & Vine – First Avenue 138 kV Cable Out
  - *Fifth – Wilson 138 kV Line, rating without the line 102.6% (with line 38.1%)*

PJM Analysis

AEP is a member of the regional bulk electric transmission system operated by PJM. PJM is charged with the operation of the regional transmission system. This project has not been included in the PJM Regional Transmission Expansion Plan.

Conclusion

Based on the review of information provided in the application and additional information provided by the Applicant, Staff concurs with the company that during certain double contingencies, the facility is justified to improve transmission reliability, alleviate overloads, and address low voltage problems in the Columbus area.

Recommended Findings

Staff recommends that the Board find that the basis of need for the project has been demonstrated. The Staff also recommends that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this report entitled Recommended Conditions of Certificate.

Considerations for ORC Section 4906.10(A)(2)

Nature of Probable Environmental Impact

The Staff has reviewed the environmental information contained in the record compiled to date in this proceeding and has supplemented its review with site visits to the project area and discussions with employees and representatives of the Applicant. As a result, the Staff has found the following with regard to the nature of the probable environmental impact:

(1) The project involves the construction of a 138 kV electric transmission line. The proposed transmission line would originate at the Roberts substation and would connect to the OSU substation, located approximately six miles to the east. The Preferred Route is approximately 6.3 miles long, and the Alternate Route is approximately 5.9 miles long. Both routes are located entirely in Franklin County.

(2) Both routes would require a 60-foot right-of-way (r-o-w), except for the segments where the routes transition from overhead to underground, which would require a r-o-w of approximately 100 feet. The Preferred Route would primarily consist of underground placement of the transmission line, in conjunction with other proposed utility systems (fiber optics). The Alternate Route, while predominately underground, is not being proposed to be bundled with other utility lines. The western-most portion of the project would be above ground on steel poles which would replace existing utility poles on a one-for-one basis, and would support the existing lines in addition to the new line.

(3) Both routes would cross two major rivers: 700 feet of the Olentangy River and 1,500 feet of Scioto River. These crossings would be part of the underground portion, so they would utilize Horizontal Directional Drilling (HDD) methods. Potential impacts associated with HDD include disturbances around the bore pits and potential frac-outs (surface eruption of drilling mud).

(4) Four streams, totaling 1,267 linear feet, are within the 200-foot study corridor of the Preferred Route. Two of the streams are located along the overhead portion. Impacts to these streams would result from tree clearing at two crossing sites and construction parallel to the stream. Environmental impacts associated with vegetation clearing include the loss of riparian habitat, erosion, and downstream sedimentation. The other two streams are located along the underground section. Neither of these two streams would be crossed by the route but they are located within the 200-foot study corridor.

(5) Two separate streams, totaling 61 linear feet are within the 200-foot study corridor of the Alternate Route. One of the streams is located along the edge of the right-of-way (r-o-w) on the west portion of the overhead build. The line would not cross this stream. Impacts to the stream would include sedimentation from construction activities. The other stream is located on the central portion of the route, in the underground section. This stream would be crossed via drilling underneath via HDD technology.

(6) The Applicant identified one wetland within the 200-foot study corridor of the Preferred Route. The route would cross approximately 161 linear feet of this wetland by drilling underneath the surface.

(7) The Applicant identified five wetlands within the 200-foot study corridor of the Alternate Route. One wetland, approximately 64 linear feet, would be crossed using drilling technology.

(8) There are no ponds, lakes or reservoirs within 100 feet of the Preferred Route. There is one pond within 100 feet of the Alternate Route.

(9) A maximum of six acres of woodlot would be cleared for the installation of either route, primarily near the quarry site west of the Scioto River. Impacts of tree clearing near streams may include an increase in water temperature and a decrease in dissolved oxygen. Other impacts may include loss of food and habitat for wildlife, increased potential for erosion and sedimentation, and aesthetic impacts.

(10) Significant portions of the proposed corridors have previously been developed, thereby limiting potential additional wildlife impacts. However, some segments of the proposed routes do contain habitat for numerous common reptile, amphibian, bird and mammal species. These species will likely be impacted, both directly and indirectly, during the construction and operation of the proposed electric transmission line. Impacts will include limited loss of habitat resulting in subsequent displacement, increased habitat fragmentation, increased disturbance, and direct mortality due to construction activities.

(11) Protected, threatened or endangered species within the project site include:

(a) Plants: No plant species of concern are recorded as being within the project corridors and none were observed during field surveys.

(b) Birds: Records indicate three bird species of concern whose historical range includes the project area: the bald eagle (*Haliaeetus leucocephalus),* golden winged warbler (*Vermivora chrysoptera*), and the yellow-crowned night heron *(Nyctanassa violacea).* The bald eagle, protected under both the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Act, is not expected to be impacted by this project due to the lack of suitable habitat in the proposed corridors. The golden winged warbler is a state-endangered species that utilizes early successional habitats and woodland edges. Its nesting period is typically between May 15 and July 15. Construction activities which occur in areas involving nest habitat during this period have the potential for both direct and indirect impacts to the species, if present on-site. The yellow-crowned night heron, a state-threatened species, is not expected to be impacted by the proposed project due to its likely absence from the area. Although historical records do indicate an observation of this species within a mile of the project area, there have been no such observations in the past 25 years according to records maintained by ODNR-DNAP.

(c) Reptiles and amphibians: No reptile or amphibian species of concern are recorded as being within the project corridors and none were observed during field surveys.

(d) Mammals: The range of the Indiana bat (*Myotis sodalis*), a state and federally-endangered species, includes the proposed project area. The summer roosting habitat of the Indiana bat generally includes areas near water (i.e., streams, wetlands, ponds, etc.) that have snags (i.e., dead trees), trees with exfoliating bark, or trees with cavities. To the extent such habitat is removed from the project area, it could directly and/or indirectly impact Indiana bats if present within the project corridors. The Applicant's assessment of both proposed corridors showed scattered patches of potentially suitable habitat.

(e) Aquatic species: The proposed project lies within the range of several mussel species of concern, including the state-threatened pondhorn (*Uniomerus tetralamus*), the state-endangered elephant-ear (*Elliptio crassidens crassidens),* and the state and federally-endangered northern rifflesheil (*Epioblasma torulosa rangiana*), rayed bean (*Villosa fabalis*), clubshell (*Pleurobema clava*), and snuffbox (*Epioblasma triquetra*). Construction and maintenance activities that include in-stream work could have potential adverse impacts on these mussel species.

Additionally, the following fish species of concern have historical ranges that include the project area: the state endangered blacknose shiner (*Notrophis heterolepis*) and northern brook lamprey (*Ichthyomyzon fossor*), and the federal and state-endangered Scioto madtom (*Noturus trautmani*). These species and their habitat could potentially be impacted by any in-water work associated with the project, particularly if it occurs during the spawning period of April 15 to June 30.

(12) Thirty-one residences are located within 100 feet of the Preferred Route and 124 residences are located within 100 feet of the Alternate Route. Along the Preferred Route, 1,407 residences are located within 1,000 feet, while 1,286 residences are located within 1,000 feet of the Alternate Route.

(13) Sixty-eight commercial uses are located within 100 feet of the Preferred Route and 133 within 1,000 feet. Most of the commercial use near the Preferred Route is concentrated along Lane Avenue. The Alternate Route has 47 commercial uses within 100 feet and 158 within 1,000 feet. Commercial uses near the Alternate Route are prevalent along Riverside Drive and Arlington Avenue at Waltham Road.

(14) The Preferred and Alternate routes both cross the Marble Cliff limestone quarry. This is the only impact to an industrial use. The Preferred Route crosses the Marble Cliff limestone quarry on the north and east side of the property and follows an existing distribution line through a portion of the property. The Alternate Route crosses the quarry on the west and south perimeter of the property. A portion of the southern crossing on the Alternate Route could conflict with potential expansion of quarry operations.

(15) The Alternate Route would have a direct impact on the Scioto Country Club by following along the west edge of its property line. While Indian Village Day Camp and Cardiff Woods are within 1,000 feet of both routes, neither of these recreational sites would be impacted by the Preferred or Alternate routes.

(16) While the Preferred Route parallels the southern property line of The Ohio State University's Waterman Agricultural and Natural Resource Lab, there would be no impacts to agricultural lands. The transmission line is south of Lane Avenue on the edge of Beekman Park for this section of the route; therefore, construction activity would not affect the Waterman Lab.

(17) Neither the Preferred nor the Alternate routes traverse Agricultural District land. No Agricultural District property is located within 1,000 feet of either proposed line.

(18) Three institutional land uses were identified within 1,000 feet of the Preferred Route: The Ohio State University, Lane Avenue Baptist Church, and OSU Medical Center. The Preferred Route directly impacts Ohio State University's outdoor recreation facility, Fred Beekman Park, by crossing the park on the north and east edges for approximately one mile. Five institutional land uses are located within 1,000 feet of the Alternate Route: Barrington Road Elementary School, Jones Middle School, The Ohio State University, Holy Trinity Evangelical Lutheran Church, and OSU Medical Center. There would be no direct impact on institutional uses on the Alternate Route.

(19) Transportation corridors directly impacted by the construction of the Preferred Route include Dublin Road, Riverside Drive, Lane Avenue, and Kenny Road. Transportation corridors directly impacted by the construction of the Alternate Route include Dublin Road, Riverside Drive, Cambridge Boulevard, Waltham Road, and Kinear Road. Transportation corridors directly impacted by the construction of the in-common Route include Scioto Darby Creek Road, Kinear Road, Olentangy River Road, John Herrick Drive, and one CSX rail line. Manholes will be placed 2,400 feet apart when the route runs along transportation corridors. Once operational, the project would have no impacts on transportation corridors aside from occasional maintenance.

(20) There are potential temporary adverse traffic impacts associated with construction of the proposed facility along either route, particularly with increases in traffic on routes leading to the site, due to the number of construction workers and the delivery of equipment and materials. Lane closures are anticipated during construction of the facility along the transportation corridors previously mentioned. Traffic coordination and management would be required to minimize impacts associated with access points, road or lane closures, slow moving truck traffic, air emissions, dirt and dust, and intersection crossing. The Applicant will submit a traffic plan that addresses construction vehicle access, material and equipment staging, temporary parking for workers, and lane closures. There are no long-term traffic impacts created by the proposed facility aside from occasional disruption for transmission line repair and maintenance.

(21) The existing OSU substation abuts the Olentangy River Greenway. Traffic on the Greenway's multi-use trail may be temporarily rerouted to avoid construction activities associated with tying this line into the OSU substation.

(22) Both the Preferred and Alternate routes have one structure each that is listed on the National Register of Historic Places and within 1,000 feet of the proposed centerlines. However, these properties are separated by sufficient distance from the proposed facility to ensure that significant impacts are unlikely.

(23) There are 13 Ohio Historic Inventory (OHI) structures located to the south of the Preferred Route. Most of these buildings are located within the Upper Arlington Historic District. Along the Alternate Route there are 20 OHI structures, also generally within the Upper Arlington Historic District. While the construction and operation of the facility is not expected to significantly impact OHI structures, OHI structures are clustered more closely along the Alternate Route.

(24) No new permanent access roads will be required for the construction or operation of either route. Both routes are predominately located in road r-o-w. The portion of the Preferred Route on or near the limestone quarry property was planned to follow an existing distribution line and access road for a communications tower. Access to the underground conduit will be via manholes placed over the conduit.

(25) Noise impacts from the project would be most intense during the HDD process. Some drilling activity would continue around the clock, therefore occasional noise impacts in the evening and through the night may occur. The noise created from the HDD process is expected to be equal to or less than the noise from existing traffic. The Applicant indicates that at a distance of 400 ft., peak construction noise levels typically range from 52 to 77 dBA.

(26) Aesthetic impacts for the project would be minimal since the Preferred and Alternate routes are predominately underground. There is a subdivision to the north of the above-ground portion of the Preferred Route. This portion of the route follows an existing transmission and distribution line; therefore the only aesthetic impact would be new, taller structures (by approximately 15 feet) in place of the existing structures.

(27) The nearest air facility is a heliport located on top of the Ohio State University Medical Center building just east of the project location. The nearest identified commercial airport is the Ohio State University Airport, approximately 4.5 miles to the north. Because this project is predominately underground, the construction

and operation of the proposed facility is not expected to have a significant impact on airport facilities.

(28) Construction of the proposed project would result in air emissions primarily due to construction vehicles, but these are not considered significant due to their relatively low levels and the temporary nature of the construction activities. Fugitive dust resulting from construction activities would be controlled through water sprays, if necessary, and reseeding of disturbed areas of soil. There will be no air emissions associated with the operation of the facility.

(29) The Applicant plans to initiate construction in the fall of 2009, with the facility placed in-service in the spring of 2010. The Applicant is coordinating the construction schedule in certain areas of the project so as to minimize disruption around the OSU campus area.

(30) The project is expected to have a positive economic impact in the region. The Applicant estimates that either the Preferred or Alternate routes would generate approximately $3.8 million annually in local property taxes. In addition, the project will increase the reliability and availability of electricity throughout the area, which will support economic development in the region.

(31) The Applicant estimates the cost of construction for the Preferred Route to be approximately $30 million. The Alternate Route is expected to cost about $28 million.

Recommended Findings

The Staff recommends that the Board find that the nature of the probable environmental impact has been determined for the proposed facility, and therefore complies with the requirements specified in ORC Section 4906.10(A)(2). Further, the Staff recommends that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this report entitled Recommended Conditions of Certificate.

Considerations for ORC Section 4906.10(A)(3)

Minimum Adverse Environmental Impact

The Staff has studied the Applicant's description and analysis of ecological, social, and economic impacts which would result from the construction and operation of the proposed 138 kV electric transmission line. The Staff requested and received additional information from the Applicant necessary to complete its review of the proposed project. Additionally, Staff conducted field visits to supplement the information contained in the Applicant's filings.

Route Selection Study

The study area for this transmission line project was constrained by several factors, including defined end points at each substation, limited options for crossing the Scioto and Olentangy rivers, and the urban land use throughout the project area. The number of potential routes within the study area was further constrained by utility congestion, potential traffic disruption, and impacts to current and planned land uses in the area. The Applicant evaluated several route segments within these constraining factors to select preferred and alternate routes that would minimize potential impacts. The Applicant also consulted with local and regional authorities in order to select routes that could be constructed in conjunction with other infrastructure projects to further reduce the impacts of the project.

Conflicting information presented in the route selection section of the application was resolved in the Applicant's response to a Staff inquiry, docketed on February 6, 2009. With this clarification, Staff concluded that the route selection process has led to the selection of appropriate preferred and alternate routes.

Ecological Impacts

Streams

Environmental impacts to water courses associated with vegetation clearing include the loss of riparian habitat, erosion, and downstream sedimentation. Best management practices (BMPs), such as installing silt fencing and/or straw bales around the work site would be utilized to minimize erosion and downstream sedimentation near streams. Within any cleared riparian areas, tree stumps will be left in place to help maintain soil stability.

Potential stream impacts associated with HDD include disturbances around the bore pits and frac-outs (surface eruption of drilling mud). To minimize impacts during HDD, the drilling equipment would be set up outside of stream riparian areas, and the

drilling activity would be closely monitored for signs of material escaping by means of a frac-out. Additionally, the Applicant would submit a detailed frac-out contingency plan for review and approval prior to initiating construction.

Wetlands

To minimize impacts during HDD, the drilling equipment would be set up outside of the wetland boundaries, and appropriate storm water controls would be installed around the drill sites to prevent sediment run-off into wetlands. The Applicant has also stated that wetlands would be clearly marked and identified to prevent construction vehicles from crossing them.

Tree Clearing

A maximum of six acres of woodlot would be cleared for the installation of either route. There are some large, mature trees that would be cleared. However, much of the woodlots are comprised of younger, smaller trees. The largest section of tree clearing would take place in and around the limestone quarry area. This area has previously been impacted from the quarry activities, so much of what remains is smaller, second-growth woodlands. Some clearing of trees in the vicinity of the stream paralleling Dublin Road would also be necessary for installation of the overhead portion of the line.

Impacts of tree clearing near streams may include an increase in water temperature and a decrease in dissolved oxygen. Other impacts may include loss of food and habitat for wildlife, increased potential for erosion and sedimentation, and aesthetic impacts. Some of these impacts along the Dublin Road section would be minimized by selective removal of only those trees that pose a danger to the overhead line, combined with placement of the line on the northern (shaded) side of the stream that parallels the road in this location. Access along Dublin Road would be limited to road and road shoulder placement of vehicles, and the existing structures would be replaced on a one-for-one basis.

Wildlife

Portions of the proposed corridors are believed to host numerous common wildlife species, including mammal, reptile, amphibian, and bird species. These species would likely be impacted, both directly and indirectly, during the construction and operation of the proposed facility. Impacts would include the loss of habitat, increased habitat fragmentation, increased disturbance (i.e., noise, lighting, human activity), and potential direct mortality due to construction activities.

Potential impacts to aquatic species of concern, including mussel and fish species, would be limited through the avoidance of in-water construction and maintenance

activities particularly during sensitive spawning periods. The Applicant has proposed to mark streams and wetland areas with instructions that vehicles are prohibited in these areas. The Applicant has further indicated that no streams will be impacted directly by the proposed transmission line and that pole locations will avoid streams and riparian corridors. This approach would significantly reduce potential impacts to aquatic species.

The proposed corridors contain limited potential habitat for Indiana bats. Limiting tree removal to the extent possible would retain potential habitat for the Indiana bat, as well as other wildlife species. The Applicant has proposed to restrict tree removal to outside the period of April 15 to September 15 to limit any potential direct impacts to Indiana bats. Staff notes that the USFWS modified its seasonal clearing guidelines in 2008 such that they now comprise the period of April 1 to September 30. Given the limited suitable habitat within the proposed corridors and the proposed utilization of the current USFWS seasonal clearing restrictions, the potential impacts to Indiana bats are expected to be minimal.

Potential impacts to the golden winged warbler can be reduced by minimizing disturbance to early successional habitats and forest edges. To the extent such disturbances cannot be avoided entirely, construction activities in these habitats should occur outside the nesting period of May 15 to July 15.

Socioeconomic Impacts

Traffic

The Applicant consulted with several agencies, municipalities, and commercial entities regarding traffic planning, including: the Ohio Department of Transportation; the City of Columbus; the City of Upper Arlington; Columbus Parks and Recreation; Franklin County; The Ohio State University; and, CSX railroad. The Applicant would use this input to develop a comprehensive traffic plan to be submitted to Staff prior to construction.

Access impacts to residential and commercial uses on the Preferred Route would be minimized by limiting traffic disturbances to center lane closures on four-lane roads, leaving one lane open each way (total of two lanes) for traffic to flow in both directions. Construction activity will be in sections of less than 200 feet with construction for each section lasting around two days. The Alternate Route would have greater impact on access, as it follows two-lane roads in a residential area for the majority of the route. Construction of this route would require a lane closure and temporary one-way traffic resulting in access issues for many residents.

HDD would be used to cross the railroad on Kinnear Road east of Kenny Road. The Applicant would coordinate with CSX railroad to ensure that the 300-foot drill will not conflict with rail traffic.

The Applicant consulted with the cities of Columbus and Upper Arlington to coordinate construction schedules with other upcoming projects. The Preferred Route allows Upper Arlington to co-locate a fiber-optic line with the transmission line for a large portion of the route. The Alternate Route takes advantage of scheduled road work through a portion of Upper Arlington. The construction of the in-common underground section of the route would occur in conjunction with scheduled road work along State Route 315 so as to minimize the impacts of closing a portion of Olentangy River Road.

The City of Upper Arlington has indicated a preference for the Preferred Route as it provides an opportunity to co-locate the fiber-optic line. While a future road project is planned on sections of the Alternate Route, the City of Upper Arlington has placed a higher priority on the fiber optic installation because it would enhance communications and enhance the potential for economic development in the area.

Cultural Resources

The Applicant has conducted a thorough literature review of known cultural, historical and archaeological resources in the project area. However, small specific sections remain that require further study to adequately determine the project's impacts on these resources. The Applicant has consulted with the State Historic Preservation Office (SHPO) to design a comprehensive study area of outstanding areas of potential concern. This revised study is currently ongoing and it will be provided to SHPO personnel and Staff upon conclusion. Based upon an existing inventory of known cultural resources, Staff concludes that the Alternate Route holds a higher potential to impact historical structures.

Noise

The project would not have any long-term noise or aesthetic impacts. Any noise impacts would be confined to the construction period. With the exception of the three HDD segments, construction activity in residential areas will be limited to daylight hours. Noise impacts from HDD will be comparable to existing traffic noise.

Conclusion

The Preferred Route would have fewer conflicts with property access because the route primarily follows the centerline of four lane roads, creating an opportunity to keep two lanes open and traffic flowing in both directions. The Alternate Route would likely result in significantly more temporary impacts to private residences during construction

and restoration. The higher utilization of two lane road r-o-w by the Alternate Route would present increased temporary traffic flow disruptions. Agricultural and industrial impacts will be minimal. Commercial impacts should be related to temporary traffic disruptions, and the Preferred Route ensures that one lane in both directions would be open for continued ingress and egress to adjacent properties. The aesthetic impact of either route will be minimal, as they are both predominately located underground. The overhead portion of the line replaces an existing overhead section.

Ecological and cultural impacts occasioned by either route will be lessened by the employment of HDD methods at river, river riparian, wetland and historical locations. In Staff's experience, the use of HDD technology helps to minimize impacts to sensitive resources by effectively avoiding those resources. The strict adherence to best management practices is expected to further minimize impact to ecological resources.

As such, Staff concludes that while both routes are viable, based on the factors discussed above, the Preferred Route is superior.

Recommended Findings

The Staff recommends that the Board find that the proposed facility represents the minimum adverse environmental impact, and therefore complies with the requirements specified in ORC Section 4906.10(A)(3). Further, the Staff recommends that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this report entitled Recommended Conditions of Certificate.

Considerations for ORC Section 4906.10(A)(4)

Electric Grid

The purpose of this section is to determine the impact of integrating the proposed single circuit 138 kV Roberts - OSU transmission line into the regional transmission grid. The planned line will provide a new source to the local 138 kV transmission system. This new power source will improve transmission reliability and alleviate thermal overloads and low voltage problems in the Columbus area during double contingency outage conditions. The proposed facility is intended to improve local transmission capability and reliability. It appears that the line will have no significant regional impact as its purpose will be to prevent overloads and provide capacity for future growth in Columbus and the Ohio State University campus area. The proposed project is consistent with regional plans for expansion of the electric power grid serving this state and the interconnected utility systems.

Recommended Findings

The Staff recommends that the Board find that the proposed Roberts-OSU 138 kV transmission line project is consistent with regional plans for expansion of the regional power grid and will serve the interests of electric system economy and reliability. The Staff also recommends that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this report entitled Recommended Conditions of Certificate.

Considerations for ORC Section 4906.10(A)(5)

Air, Water, Solid Waste, and Aviation

Air quality permits are not required for construction and operation of the proposed facility. However, fugitive dust rules adopted pursuant to the requirements of ORC Chapter 3704 may be applicable to construction of the proposed facility. In response to Staff interrogatories, the Applicant indicated that generation of fugitive dust would be controlled by water or chemical spray suppression, prompt restoration of disturbed areas with seed and mulch or asphalt, prompt removal of excess spoils and the use of fans or hoods on construction equipment. Staff believes that these methods of control should be sufficient to assure compliance with fugitive dust rules.

Neither construction nor operation of the proposed facility will require the use of significant amounts of water, so requirements under ORC §1501.33 and §1501.34 are not applicable to this project.

The application indicates that the Preferred Route would involve spanning four streams and 0.23 acres of wetland areas. The Alternate Route would involve spanning two streams and 0.08 acres of wetland areas. Many of the streams and wetland areas, in addition to the Olentangy and Scioto rivers, will be crossed by the underground portion of both routes using horizontal directional drilling methods (HDD). No structures will be placed in streams or wetland areas along either the Preferred or Alternate routes. The Applicant indicated that no streams will be impacted directly by the transmission line, access to pole locations, or trenching. Although the Applicant foresees no direct impacts, streams and wetlands may still indirectly be impacted through erosion from nearby construction activities and access roads as well as through tree clearing activities within the project area. To address these indirect impacts, the Applicant has indicated that a Storm Water Pollution Prevention Plan (SWPPP) will be developed for the project, pursuant to Ohio EPA regulations, as well as a NPDES permit for construction stormwater. Following the SWPPP, as well as using Best Management Practices in construction activities, will help minimize any erosion-related impacts to streams and wetlands. Staff believes that construction of this facility will comply with requirements of ORC Chapter 6111, and the rules and laws adopted under this chapter as the Applicant will secure applicable permits as necessary prior to construction.

The Applicant indicated that solid waste generated from construction activities would include items such as pallets, crates and boxes, wire reels and wrapping, and wire scraps. The Applicant intends to remove construction debris as construction activities move along the r-o-w. All construction-related debris will be disposed of in Ohio EPA

approved landfills, or other appropriately licensed and operated facilities. Any excess soils from trenching or drilling will be hauled off-site as necessary. Staff believes that the Applicant's solid waste disposal plans will comply with solid waste disposal requirements in ORC Chapter 3734, and the rules and laws adopted under this chapter.

The Applicant notes that there was one air transportation facility within 1,000 feet of both the Preferred and Alternate routes, a heliport located on top of an Ohio State University Medical Center building. The nearest identified commercial airports include the Ohio State University Airport, approximately 4.5 miles to the north, the Port Columbus International Airport, approximately seven miles to the east, Bolton Field Airport, approximately seven miles to the southwest, and the Rickenbacker International Airport, approximately 13.5 miles to the southeast.

In accordance with ORC §4561.32, Staff contacted the Ohio Office of Aviation during review of this application in order to coordinate review of potential impacts the facility might have on local airports. As of the date of preparation of this report, no such concerns have been identified.

Recommended Findings

The Staff finds that the proposed electric transmission line facility will comply with the requirements specified in ORC Section 4906.10(A)(5). Further, the Staff recommends that any certificate issued by the Board for the certification of the proposed facility include the conditions specified in the section of this report entitled Recommended Conditions of Certificate.

Considerations for ORC Section 4906.10(A)(6)

Public Interest, Convenience, and Necessity

Transmission lines, when energized, generate electromagnetic fields (EMF). While laboratory studies have failed to establish a relationship between exposure to EMF and leukemia, there have been concerns that EMF may be detrimental to human health. Because these concerns exist, the Applicant is required to compute the EMF associated with the new transmission line. The fields were computed based on the maximum loadings of the lines, resulting in the highest values that might exist. The magnetic fields are a function of the electric current, the configuration of the conductors, and the distance from the transmission line. The electric field is a function of the voltage, the line configuration, and the distance from the transmission line.

The maximum magnetic field scenarios are listed in the application (Table 06-02). The majority of this project is underground, where the electric fields are shielded by the conduits, the ground, and other physical structures. Consequently, the electric fields would be negligible at the ground level. The nearest residence is approximately 40 feet away from the center of the r-o-w. This residence is along the in-common underground portion. The nearest residence along the overhead portion is over 100 feet away. Under normal maximum loading conditions, the magnetic field levels from the proposed project at these homes should not exceed existing levels normally found in residential houses.

The principal purpose of this project is to provide reliability. At the present time, the normal maximum load conditions would rarely occur. However, Staff is aware that load rerouting can occur, and hence it was prudent to calculate the fields based on the maximum load capabilities.

Recommended Findings

Staff recommends that the Board find that the proposed facility will serve the public interest, convenience, and necessity, and therefore complies with the requirements specified in ORC Section 4906.10(A)(6). Further, the Staff recommends that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this report entitled Recommended Conditions of Certificate.

Considerations for ORC Section 4906.10(A)(7)

Agricultural Districts

Classification as Agricultural District land is achieved through an application and approval process that is administered through local county auditor offices. Based upon Franklin County auditor records, no Agricultural District parcels are crossed by either the Preferred Route or Alternate Route. Further, no Agricultural District parcels are located within 1,000 feet of either route.

The Staff has also evaluated potential impacts on agricultural production. The Ohio State University operates an agricultural research farm adjacent to approximately 4,200 feet of the Preferred Route. Impacts to this facility would be limited to construction related traffic delays. The property is designated as institutional use by the Franklin County auditor. Because both the Preferred Route and Alternate Route are located in an urban area, no significant impacts to agricultural production are to be expected.

It is Staff's conclusion that there would be no significant permanent impacts from the construction or maintenance of this proposed electric transmission line on Agricultural Districts or agricultural land. Further, construction and maintenance of the proposed electric transmission line would not impact the viability as agricultural land of any Agricultural District land.

Recommended Findings

The 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 ORC Section 4906.10(A)(7). Further, the Staff recommends that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this report entitled Recommended Conditions of Certificate.

Considerations of ORC Section 4906.10(A)(8)

Water Conservation Practice

Water conservation practice as specified under ORC 4906.10(A)(8) is not applicable to the project.

Recommended Findings

The Staff recommends that the Board find that ORC Section 4906.10(A)(8) is not applicable to the project. Further, the Staff recommends that any certificate issued by the Board for the certification of the proposed facility include the conditions specified in the section of this report entitled Recommended Conditions of Certificate.

VI. RECOMMENDED CONDITIONS OF CERTIFICATE

Following a review of the application filed by American Electric Power (AEP) and the record compiled to date in this proceeding, the 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 provided subsequent to issuance of this report. At this time the Staff recommends the following conditions:

(1) That the facility be installed following the Applicant's Preferred Route as presented in the application filed on December 30, 2008, and as further clarified by the Applicant's supplemental filings.

(2) That the Applicant shall implement the mitigative measures described in the application, any supplemental filings, and recommendations Staff has included in this Staff Report of Investigation.

(3) That the Applicant shall properly install and maintain erosion and sedimentation control measures at the project site in accordance with the following requirements:

   (a) During construction of the facility, seed all disturbed soil within seven days of final grading with a seed mixture acceptable to the appropriate County Cooperative Extension Service. Denuded areas, including spoils piles, shall be seeded and stabilized within seven days, if they will be undisturbed for more than twenty-one days. Reseeding shall be done within seven days of emergence of seedlings as necessary until sufficient vegetation in all areas has been established.

   (b) Inspect and repair all erosion control measures after each rainfall event of one-half of an inch or greater over a twenty-four hour period, and maintain controls until permanent vegetative cover has been established on disturbed areas.

   (c) Obtain NPDES permits for storm water discharges during construction of the facility. A copy of each permit or authorization, including terms and conditions, shall be provided to the Staff within seven days of receipt, prior to the commencement of construction.

(4) That Staff, ODNR, and USFWS shall be immediately contacted if threatened or endangered species are encountered during construction activities. Activities that could adversely impact the identified plants or animals will be halted until an appropriate course of action has been agreed upon by the Applicant and Staff.

(5) That, prior to construction, the Applicant shall identify any potential golden winged warbler habitat within the project corridor. If identified, the Applicant shall endeavor to limit impacts to this habitat particularly during the typical nesting season of May 15 to July 15. If the Applicant must impact potential golden winged warbler habitat during the nesting period, a survey shall be performed prior to proceeding to determine if this species is present. The survey results shall be reviewed and accepted by Staff prior to construction.

(6) That the Applicant shall restrict tree clearing to the months of October through March. If tree clearing must be conducted outside of this period, the Applicant shall, prior to tree clearing, conduct Indiana bat surveys in areas identified as suitable habitat in coordination with Staff. Any survey should be designed and conducted in coordination with the Endangered Species Coordinator with USFWS and Staff, and should be conducted in June or July.

(7) That the Applicant shall avoid any in-water construction activities to help protect fish species, especially during the spawning period of April 15 to June 30, and to protect shellfish, including any threatened/endangered mussel species that might be present.

(8) That the Applicant shall limit clearing of trees, shrubs, and other vegetation within riparian corridors to the minimum needed for operational and safety considerations, during both construction and future r-o-w maintenance work. To help achieve this, prior to construction, the Applicant shall develop and submit to Staff for review and approval a long-term plan to be implemented for use by the Applicant for delineating all wetlands and riparian areas within the project r-o-w, so that they can be readily identified and protected from clearing during all future r-o-w maintenance. This plan as approved by Staff shall be integrated into the Applicant's long-term maintenance practices.

(9) That the Applicant shall provide a final frac-out contingency plan which shall include discussion of potential impacts on aquatic species (i.e. special consideration for mussel species), along with specific monitoring, containment, and restoration measures, as well as contact information and contractor protocol if a frac-out event occurs while drilling. The final frac-out plan shall be submitted to Staff for review and approval at least thirty days prior to the commencement of construction.

(10) That the Applicant shall obtain all necessary state and federal permits for air, water and solid waste pollution control requirements prior to the commencement of construction and/or operation of the facility. A copy of each permit or authorization, including a copy of the original application and any associated

terms and conditions, shall be provided to the Board Staff within seven days of issuance or receipt by the Applicant.

(11) That the Applicant shall have a qualified environmental specialist on site at all times that construction (including vegetation clearing) is being performed in or near a sensitive area such as a wetland, stream, river, or in the vicinity of identified threatened/endangered species or in their habitat. This environmental specialist shall be capable, independently or in cooperation with others, of field identifying those threatened/endangered species that may be present in the project area, along with their habitat.

(12) That the Applicant shall assure compliance with fugitive dust rules by the use of water spray, or other appropriate dust suppressant, prompt restoration of disturbed areas and removal of excess spoil, and use of hoods or fans on construction equipment whenever necessary.

(13) That the Applicant shall remove all temporary gravel and other construction laydown area and access road materials within ten days of completing construction activities.

(14) That prior to the commencement of construction, the Applicant shall obtain and comply with all applicable permits and authorizations as required by federal and state laws and regulations for any activities where such permit or authorization is required. Copies of permits and authorizations, including all supporting documentation, shall be provided to Staff within seven days of issuance or receipt by the Applicant.

(15) That the Applicant shall conduct a pre-construction conference prior to the start of any project work, which the Staff shall attend, to discuss how environmental concerns will be satisfactorily addressed.

(16) That the Applicant shall coordinate all traffic issues with the appropriate entities prior to construction and provide a final traffic plan prior to the pre-construction meeting for Staff to review and accept.

(17) That the Applicant shall provide a noise study prior to the preconstruction meeting that confirms that noise from HDD activity would be no greater than that of local traffic noise. The noise study shall provide mitigation details (including but not limited to: mufflers, shielding and/or enclosing drilling equipment, etc.) for the HDD equipment.

(18) That prior to construction, the Applicant shall prepare a Phase I Cultural Resources Survey of any route selected by the Board. This survey shall be coordinated with

the State Historic Preservation Office and submitted to Staff for review and acceptance. If the survey discloses a find of cultural or archaeological significance, or a site that could be eligible for inclusion on the National Register of Historic Places, then the Applicant shall submit a route amendment, route modification, or mitigation plan for Staff's acceptance. The Applicant shall consult with Staff to determine the appropriate course of action.

(19) That at least seven days before the pre-construction meeting, the Applicant shall submit to the Staff a copy of its Storm Water Pollution Prevention Plan (SWPPP) and its erosion and sediment control plan for review and approval.

(20) That at least thirty days before the pre-construction conference, the Applicant shall submit to the Staff, for review and approval, one set of detailed drawings for the certificated facility, including all laydown areas and access points, so that the Staff can determine that the final project design is in compliance with the terms of the certificate.

(21) That 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.

(22) That the Applicant shall provide to the Staff the following information as it becomes known:

(a) The date on which construction will begin;

(b) The date on which construction was completed;

(c) The date on which the facility began commercial operation.

APPENDIX

Docketing Record

Case Number: 08-0170-EL-BTX
Case Description: American Electric Power
Date Opened: February 22, 2008
Attorney Examiner: Jeffrey Jones
Attorney General: Anne Hammerstein, Sarah Parrot

Date Filed	Summary
2/22/2008	In the matter of the application of Columbus Southern Power Company for a certificate of environmental compatibility and public need for the Roberts-OSU 138kV transmission line project.
12/30/2008	Application for a certificate of environmental compatibility and public need for the Roberts-OSU 138 kV Transmission Line Project filed by A. Smith on behalf of Columbus Southern Power Company. (Part 1 of 2)
12/30/2008	Application continued. (Part 2 of 2)
12/30/2008	Motion for waiver and memorandum in support filed by M. Satterwhite on behalf of Columbus Southern Power Company.
1/23/2009	Correspondence sent to; Ms. Ellen Regennitter with Staff questions and clarifications for the proposed AEP Roberts-OSU transmission line application as submitted December 30, 2008, requesting responses by February 6, 2009 filed by OPSB Staff, K. Lambeck.
1/26/2009	Response letter to: Ellen Regennitter, on behalf of the Ohio Power Siting Board filed by K. Lambeck.
1/29/2009	Letter stating Staff does not object to the applicant's request for waiver but reserves the right to investigate and contest any other issue presented in the application filed by A. Hammerstein.
2/2/2009	Entry granting CSP's motion for a waiver of the requirement; that an application be filed at least one year prior to the planned date of commencement of construction.
2/6/2009	Response to the Staff's questions and clarification docketed on January 23, 2009, filed by S. Nourse on behalf of Columbus Southern Power Company.
2/6/2009	Response to the Staff's questions and clarifications docketed on January 26, 2009, filed by S. Nourse on behalf of Columbus Southern Power Company.
2/12/2009	Motion to intervene and memorandum in support of the City of Upper Arlington, Ohio filed by W. Adams.

2/27/2009	Letter to P. Elwell, AEP, regarding the OSU 138 kV Transmission Line Project from A. Schriber, OPSB.
3/20/2009	Response letter to: Pete Elwell on behalf of the Ohio Power Siting Board filed by K. Lambeck.
4/6/2009	Response to the staff's questions/clarifications (Set #3) docketed on March 20, 2009, filed by M. Satterwhite on behalf of American Electric Power Service Corporation.
4/9/2009	Letter asking the Commission to accept certification of compliance with the service requirements filed by M. Satterwhite on behalf of Columbus Southern Power Company.
5/6/2009	Entry ordering that hearings be scheduled and held on July 14, 2009, at 6:00 p.m., at the City of Upper Arlington Council Chambers, 3600 Tremont Road, Columbus, Ohio 43221. The adjudicatory hearing will commence on July 16, 2009, at 10:00 a.m., in Hearing Room 11-G, at the offices of the Public Utilities Commission of Ohio, 180 East Broad Street, Columbus, Ohio 43215-3793; that notices of the application and hearings be published by CSPC; and that the City of Upper Arlington be granted intervention.
6/9/2009	Proofs of publication for Upper Arlington and Franklin County submitted on behalf of American Electric Power by S. Nourse.

The Ohio Power Siting Board
Ted Strickland, Governor • Alan R. Schriber, Chairman

180 E. Broad Street, Columbus, Ohio 43215-3793
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