BEFORE

THE OHIO POWER SITING BOARD

In the Matter of the Application of AEP Ohio Transmission Company, Inc. for a Certificate of Environmental Compatibility and Public Need for the 765/345/138 kV Vassell Substation Project.	)))))	Case No. 11-1313-EL-BSB

OPINION, ORDER, AND CERTIFICATE

The Ohio Power Siting Board (Board), coming now to consider the above-entitled matter, having appointed administrative law judges (ALJs) to conduct the hearings, having reviewed the testimony and exhibits introduced into evidence in this matter, and being otherwise fully advised, hereby issues its opinion, order, and certificate in this case, as required by Section 4906.10, Revised Code.

APPEARANCES:

Matthew J. Satterwhite and Erin C. Miller, American Electric Power Service Corporation, 1 Riverside Plaza, 29th Floor, Columbus, Ohio 43215, on behalf of AEP Ohio Transmission Company.

Mike DeWine, Ohio Attorney General, by Werner L. Margard and Devin D. Parram, Assistant Attorneys General, Public Utilities Section, 180 East Broad Street, Columbus, Ohio 43215, on behalf of the Board's Staff.

Van Kley & Walker, LLC, by Jack A. Van Kley, 132 Northwoods Boulevard, Suite C-1, Columbus, Ohio 43235, on behalf of Alvin and Susan Barkeloo.

OPINION:

I. Summary of the Proceedings:

All proceedings before the Board are conducted according to the provisions of Chapter 4906, Revised Code, and Chapters 4906-1, et seq., Ohio Administrative Code (O.A.C.).

On April 27, 2011, AEP Ohio Transmission Company (AEP Transco or Applicant) filed a notice that it proposed to construct a new 765/345/138 kilovolt (kV) transmission substation, to be known as the Vassell substation, in the area of Sunbury, Ohio, in order to enhance service reliability and provide capacity for economic growth in central Ohio. On

June 10, 2011, AEP Transco filed proof of publication of notice of a public informational meeting, which was held on May 12, 2011, regarding the proposed substation.

On July 26, 2011, AEP Transco filed a motion for waiver of the one-year notice requirement found in Section 4906.06(A)(6), Revised Code, as well as the requirement of Rule 4906-5-04(A), O.A.C., that not more than 20 percent of the proposed preferred and alternate transmission line routes are in common. To the extent necessary, AEP Transco also requested a waiver of any rule that would impair the Board's consideration of the proposed substation and associated facilities as a joint application.

On July 29, 2011, AEP Transco filed an application for a certificate of environmental compatibility and public need (certificate) for the construction of the Vassell substation and associated facilities in Berkshire and Trenton Townships in Delaware County, Ohio, to improve reliability and reinforce the transmission infrastructure to withstand power transfers (hereinafter referred to as the Vassell project). On September 26, 2011, the Board notified AEP Transco that its application had been found to comply with Chapters 4906-01, et seq., O.A.C. By entry issued September 27, 2011, the ALJ granted the motion for waiver filed by AEP Transco on July 26, 2011. On October 20, 2011, AEP Transco filed proof of service of the application upon local public officials, as required under Rule 4906-5-06, O.A.C.

By entry of October 28, 2011, a local public hearing was scheduled for January 19, 2012, at the Sunbury Town Hall in Sunbury, Ohio, and an adjudicatory hearing was scheduled for January 24, 2012, at the offices of the Public Utilities Commission of Ohio (Commission) in Columbus, Ohio. The entry also directed AEP Transco to publish notices of the application and hearings, as required by Rule 4906-5-08, O.A.C., including notice that petitions to intervene in the adjudicatory hearing would be accepted by the Board up to 30 days following publication of the notice, or later if good cause was shown.

AEP Transco supplemented its application with additional information on December 1, 2011, and December 30, 2011. Proof of publication of notice of the public hearings was filed by AEP Transco on December 8, 2011, and January 19, 2012. A petition to intervene was filed by Alvin and Susan Barkeloo (intervenors) on December 19, 2011, which was granted by entry dated January 12, 2012. On January 4, 2012, the Board's Staff filed a report of its investigation regarding the Vassell project (staff report).

At the local public hearing on January 19, 2012, six people testified in opposition to the Vassell project. The adjudicatory hearing occurred on January 24 and 25, 2012. During the course of the adjudicatory hearing, nine witnesses testified on behalf of AEP Transco, two witnesses testified on behalf of Staff, and one witness testified on behalf of Alvin and Susan Barkeloo. Initial and reply briefs were filed by the parties on February 22, 2012, and March 5, 2012, respectively.

II. Proposed Facility and Siting:

AEP Transco proposes to construct the 765/345/138 kV Vassell substation and associated facilities in Berkshire and Trenton Townships in Delaware County, Ohio. The preferred and alternate sites of the Vassell project are located on approximately 265 acres, consisting of predominantly agricultural property owned by AEP Transco. The property is situated on the south side of State Route 37 and to the east of Big Walnut Creek. The Vassell project, as proposed, includes a permanent access drive to the substation from State Route 37. (AEP Ex. 1 at 01-1; Staff Ex. 1 at 5.) AEP Transco proposes to commence construction of the Vassell project in the second quarter of 2012 and expects that the project will be operational by the second quarter of 2014 (AEP Ex. 1 at 01-5).

The total fenced portions of the preferred and alternate sites are 36.8 acres and 35.3 acres, respectively. Both sites include two separate substation yards with different voltage configurations. For the preferred site, a 765 kV substation yard would be located on the northeast portion of the site with a 345/138 kV substation yard to the southwest. With respect to the alternate site, a 765/345 kV substation yard would be located on the western portion of the site with a 138 kV substation yard to the southeast. The proposed associated facilities consist of two 765 kV extensions, two 345 kV loops, and a 345 kV or 138 kV bus tie, depending on which site is used. (AEP Ex. 1 at 01-1 to 01-2; Staff Ex. 1 at 5.)

AEP Transco plans to own and operate the substation facility, structures, and equipment, as well as the associated interconnection lines. The interconnection lines would tie-in to existing 765 kV and 345 kV transmission lines to the south of the Vassell project area. (Staff Ex. 1 at 5.) Additionally, AEP Transco proposes, in a separate application, to build a new 138 kV transmission line, which would be constructed from the proposed Vassell substation to the Trent substation located approximately two to three miles to the north (AEP Ex. 1 at 03-1; Staff Ex. 1 at 5).[1]

According to the application, AEP Transco conducted a site selection study to identify and evaluate potential sites for the Vassell project. The objective of the site selection study was to identify viable sites based on the applicable siting criteria, while avoiding or minimizing impacts on ecology, sensitive land uses, and cultural features in the vicinity of the project. AEP Transco identified three prerequisites for the Vassell project site: adequate undeveloped acreage for a minimum substation footprint of approximately 30 to 40 acres; proximity within one half mile of the existing Kammer-Dumont 765 kV and Hyatt-Corridor 345 kV transmission lines; and viable corridors for 765 kV and 345 kV interconnections and the proposed 138 kV transmission line. Five sites

---

1 *In the Matter of the Application of AEP Ohio Transmission Company, Inc. for a Certificate of Environmental Compatibility and Public Need for the Trent-Vassell 138 kV Transmission Line Project,* Case No. 11-1314-EL-BTX.

generally meeting these criteria were considered. The results of the site selection study indicated that sites 2 and 3, which are located on the property owned by AEP Transco, are the most suitable locations. Based on the results of the site selection study, as well as comments offered by the public at the informational meeting on May 12, 2011, AEP Transco selected site 2 as the preferred site and site 3 as the alternate site. Additionally, in response to the comments received at the meeting, AEP Transco adjusted the proposed fence lines and corresponding interconnections to move them farther from homes in the area and to accommodate a potential road right-of-way across the overall property. (AEP Ex. 1 at 01-2 to 01-3.)

III. Certificate Criteria:

Pursuant to Section 4906.10(A), Revised Code, 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 or natural gas transmission line;

(2) The nature of the probable environmental impact;

(3) 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, 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 such facility will serve the interests of electric system economy and reliability;

(5) The facility will comply with Chapters 3704, 3734, and 6111, Revised Code, and all rules and standards adopted under those chapters and under Sections 1501.33, 1501.34, and 4561.32, Revised Code;

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

(7) The impact of the facility on the viability as agricultural land of any land in an existing agricultural district established under Chapter 929, Revised Code, that is located within the site and alternate site of the proposed major utility facility; and

(8) 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. Local Public Hearing:

As stated previously, at the local public hearing on January 19, 2012, six people testified in opposition to the Vassell project. The witnesses described numerous concerns, including the detrimental effect of the Vassell project on property values, the environmental impact caused by water runoff from excavation work, the nuisance of noise and lights emitted by the Vassell project, and possible health problems related to electromagnetic fields (EMF) and corona discharge. The witnesses also testified that the preferred and alternate sites for the Vassell project are too similar, given that both sites are located on the same property. The witnesses testified that AEP Transco should have considered other locations that would not impact homes, schools, and the nearby village of Sunbury. In addition, written public comments raising similar issues were filed in the docket by concerned residents, many of whom also provided testimony at either the local public hearing or the adjudicatory hearing. (January 19, 2012, Local Hearing Transcript.)

V. Summary of the Evidence:

The Board will review the evidence presented with regard to each of the eight criteria by which we are required to evaluate this application. Any evidence not specifically addressed herein has nevertheless been considered and weighed by the Board in reaching its final determination.

A. Basis of Need (Section 4906.10(A)(1), Revised Code)

1. Applicant

In the application, AEP Transco states that the purpose of the Vassell project is to improve and maintain the quality of electric service and reliability in central Ohio, including, but not limited to, the communities of Columbus, Dublin, Upper Arlington, Delaware, Sunbury, Grandview Heights, Hilliard, Grove City, Gahanna, Westerville, New Albany, and Pickerington. AEP Transco points out that transmission load in central Ohio has grown in the past few years at an annual rate of 2.5 percent, although, for purposes of this application, AEP Transco used 1.1 percent, which is the forecasted growth projection of PJM Interconnection, LLC (PJM), the applicable regional transmission organization. AEP Transco notes that, by the summer of 2014, the transmission system in central Ohio is no longer projected to be able to withstand credible double contingency outages with expected transmission transfers (*i.e.*, power flowing through the system that is not consumed by local users). AEP Transco further notes that the planned retirement of

generating units at the Conesville and Muskingum River power plants, which are the primary dynamic voltage support to central Ohio, will impact the system. According to AEP Transco, with the projected load growth associated with development in central Ohio, low voltage and thermal overloads, as a result of credible double contingencies, could cause widespread cascading transmission outages in central Ohio and other portions of the state. AEP Transco's load flow analysis revealed several double contingency conditions that would result in low voltage and thermal loading criteria violations. AEP Transco notes that PJM has approved the Vassell project as a supplemental project and has identified no issues for neighboring electric utilities. Finally, AEP Transco states that, although it considered an alternative to the Vassell project, it concluded that the alternative would offer only a partial solution, whereas the Vassell project will effectively address the reliability, voltage, and thermal issues for central Ohio. (AEP Ex. 1 at 02-1 to 02-6.)

2. Staff

Staff agrees with AEP Transco that the purpose of the Vassell project is to improve and maintain the quality of electric service and reliability in central Ohio and the surrounding area. Regarding the regional effects of the Vassell project, Staff states that the project was identified as a supplemental project in the PJM 2010 Regional Transmission Expansion Plan (RTEP). Staff notes that, although supplemental projects are not approved by PJM's board and are ineligible for cost recovery through PJM mechanisms, such projects are reviewed by PJM's staff and presented to stakeholders. Staff agrees that the Conesville and Muskingum River power plants are the main source of voltage support for central Ohio. Staff concludes that the basis of need for the Vassell project has been demonstrated in light of the expected retirements of the generating units at the Conesville and Muskingum River power plants, projected load growth, and low voltage and thermal problems with certain double contingencies. Staff agrees that these double contingencies could cause cascading transmission outages in central Ohio and possibly beyond. Accordingly, Staff recommends that the Board find that the basis of need for the Vassell project has been demonstrated. (Staff Ex. 1 at 9-10.)

3. Intervenors

Although the Barkeloos dispute that the proposed substation must be located at either the preferred or alternate location proposed in AEP Transco's application, they do not directly dispute the necessity of a substation in central Ohio to improve and maintain the quality of electric service and reliability in central Ohio.

4. Board Analysis and Determination

The Board finds that the basis of need for the Vassell project has been demonstrated, in accordance with Section 4906.10(A)(1), Revised Code. The evidence indicates that the Vassell project is needed to remedy reliability, thermal overloading, and voltage stability problems, which, in the absence of the project, could cause widespread cascading transmission outages in central Ohio and perhaps beyond. The projected load growth in central Ohio and the planned retirement of the generating units at the Conesville and Muskingum River power plants exacerbate the situation. We find that the Vassell project is designed to address the issues identified in AEP Transco's load flow analysis.

B. Nature of Probable Environmental Impact and Minimum Adverse Environmental Impact (Sections 4906.10(A)(2) and (3), Revised Code)

1. Applicant

The application includes a review of AEP Transco's position regarding the probable environmental impact of the Vassell project. With regard to land use impacts, AEP Transco states that the preferred and alternate sites, as well as the proposed interconnections, are located within agricultural portions of the property owned by AEP Transco, with the exception that the western 345 kV and 765 kV interconnections would cross through a portion of a woodlot on the western side of the property. AEP Transco notes that eight residences are located within 1,000 feet of the preferred site, four residences are located within 1,000 feet of the alternate site, and no residence is located within 100 feet of either site. AEP Transco further notes that no commercial, industrial, cultural, recreational, or institutional land uses were identified within 1,000 feet of either site. Other than conversion of the agricultural land for the substation on AEP Transco's property, and conversion of the woodlot for the interconnection crossings, AEP Transco avers that no existing land use will be altered by the Vassell project. (AEP Ex. 1 at 01-3 to 01-4.)

Regarding economic impacts, AEP Transco states that the Vassell project will assist in meeting the power requirements necessary to ensure continued business development and growth in the area. According to AEP Transco, approximately 165 construction jobs are anticipated at peak construction. Additionally, AEP Transco notes that the Vassell project will produce between $7.5 and $7.6 million in property taxes for the local community. As the proposed facilities are more equitably divided between Berkshire and Trenton Townships at the preferred site, AEP Transco points out that the distribution of tax revenues to the two townships would be more equitable if the preferred site is approved. (AEP Ex. 1 at 01-4.)

From an ecological standpoint, AEP Transco states that no streams, wetlands, ponds, or habitat areas for threatened or endangered species were identified within 100 feet of the fenced portion of the preferred site. AEP Transco notes that the western and eastern 765 kV extensions and the western and eastern 345 kV loops cross one stream; the 345 kV loops cross a man-made pond; and the interconnections on the western portion of the property cross a portion of a woodlot with limited, low quality Indiana bat habitat, which would not be cleared. Additionally, AEP Transco indicates that the eastern-most 345 kV interconnection is approximately 60 feet northeast of an unnamed stream and a wetland, but does not cross either, and that the eastern 765 kV extension is approximately 30 feet northwest of the stream. (AEP Ex. 1 at 01-4.)

AEP Transco states that three streams, one wetland, and one pond were delineated within 100 feet of the fenced portion and access road of the alternate site, including one stream that would be crossed by the permanent access road. AEP Transco notes that the remaining stream, wetland, and pond are located outside of the footprint proposed to be graded and developed for the alternate site. AEP Transco further notes that the wetlands, streams, ponds, and limited Indiana bat habitat crossed and within 100 feet of the interconnections for the alternate site are similar to those for the preferred site, except that one of the 345 kV loops would avoid the man-made pond and the 138 kV bus tie between the 765/345 kV yard and the 138 kV yard would cross a stream. (AEP Ex. 1 at 01-4 to 01-5.)

AEP Transco anticipates that no filling or work in streams, ponds, wetlands, or other water bodies is anticipated during construction at the preferred site. As the alternate site would entail a permanent access road across one of the streams, AEP Transco expects that a culvert would be required but that it could be designed such that minimal in-stream work is necessary. AEP Transco states that no heavy equipment will be operated within surface water at either site and that storm water best management practices will be utilized as necessary to mitigate potential erosion and degradation during construction. Regarding tree clearing, AEP Transco notes that approximately three to five acres of the woodlot will be cleared for the interconnections and that seasonal clearing restrictions will be adhered to for potential Indiana bat habitat during construction of the interconnections. (AEP Ex. 1 at 01-5.)

2. Staff

Staff reports that AEP Transco's principal objective in siting the Vassell project was to identify sufficient open space for a large substation near the intersection of the Kammer-Dumont 765 kV line and the Hyatt-Corridor 345 kV line. Staff notes that AEP Transco further limited its siting options to locations with viable corridors for the 765 kV and 345 kV interconnections, as well as the proposed new 138 kV line. Staff indicates that AEP Transco retained a consultant to perform a systematic site selection study intended to

identify sites that would satisfy the engineering requirements for the Vassell project, while minimizing ecological, cultural, and land use impacts. According to Staff, possible constraints to project construction, including woodlots, wetlands, habitat of endangered or threatened species, sensitive land uses, and sites of historic or archeological significance, were identified and mapped. Staff notes that the consultant identified five potential sites that contain desirable attributes and avoid constraints to the maximum extent practicable. Staff states that the five potential sites were then ranked based on their quantitative and qualitative characteristics and that AEP Transco selected the two highest-ranking locations as the preferred and alternate sites. Staff adds that AEP Transco later adjusted the proposed fence lines and interconnections for the preferred site, increasing their distance from homes in the area, which was done in response to input received at the public informational meeting. (Staff Ex. 1 at 17.)

Staff asserts that the Vassell project has been sited and designed in such a way that the need for the project will be met and the potential impacts will be minimized. Staff notes that the Vassell project would be located in a predominantly agricultural area; would support economic development by improving the supply and reliability of the regional electric system; and would not affect future growth in the region. Additionally, Staff reports that AEP Transco plans to take all practicable measures to mitigate the aesthetic impact to nearby residences and that no other sensitive uses are located within 1,000 feet. (Staff Ex. 1 at 17.)

Regarding socioeconomic impacts, Staff reports that the Vassell project is located within a predominantly rural area, approximately half a mile from the village of Sunbury, which consists of large agricultural tracts, small wooded areas, and scattered residences. Noting that the project area is experiencing significant growth, Staff reports that the Vassell project would facilitate regional economic development by strengthening electrical supply in central Ohio, but is not expected to impact the demographics of the region as a whole or prevent future development or population growth. Staff notes that no residences would be removed during construction at either site. According to Staff, the minimum residential distances from the preferred and alternate sites are approximately 735 feet and 780 feet, respectively, and the majority of impacts on residents would be temporary and associated with construction. (Staff Ex. 1 at 11.)

Staff agrees that there are no recreational or institutional land uses within 1,000 feet of the Vassell project area. Although Big Walnut High School and Big Walnut Community Trail are located approximately 2,000 feet and 0.7 miles, respectively, to the northwest of the project area, Staff reports that no impacts to recreational or institutional land uses are expected. Staff states that there are 133 archeological resources scattered throughout the property, three of which are recommended as potentially eligible for the National Register of Historic Places (NRHP). (Staff Ex. 1 at 12.) Staff indicates that the preferred site would minimize impacts by avoiding two of the three resources that may be eligible for the

NRHP. Addressing the alternate site, Staff notes that one significant archeological resource would be completely covered and another would possibly be disturbed during construction. Accordingly, Staff recommends that AEP Transco be required to develop strategies to mitigate impacts to these resources in coordination with the Ohio Historic Preservation Office (OHPO). (Staff Ex. 1 at 17.)

In terms of the aesthetics of the Vassell project, Staff reports that the project would permanently alter the appearance of the area and be visible from several vantage points, given that the substation would be large, located on relatively flat terrain, and illuminated continually with security lighting. Staff notes that AEP Transco plans to mitigate the aesthetic impact through various measures, including using tubular steel components that are considered less visually intrusive than traditional lattice steel structures; directing security lighting downward, away from nearby residences, and not installing lighting on tall structures; and constructing six earthen berms, ranging in height from 10 to 20 feet, with rows of evergreen trees on top, along portions of the property boundary to shield residential views of the project. Staff further notes that the preferred and alternate sites have been located so as to maximize setbacks from neighboring residences and roads, as well as to capitalize on existing vegetative screening. (Staff Ex. 1 at 12.)

Addressing the economics of the Vassell project, Staff indicates that the estimated intangible and capital costs for the preferred and alternate sites are $158.12 million and $156.12 million, respectively. Staff adds that the local school district, park district, and fire department will benefit from annual property taxes associated with the preferred and alternate sites of approximately $7.62 and $7.49 million, respectively, over the first year of the completed project. (Staff Ex. 1 at 12-13.)

Staff also considered the ecological impact of the Vassell project. Staff notes that no impact on wetlands, lakes, or reservoirs is expected; however, the interconnections for both the preferred and alternate sites would cross two streams and a pond. Staff reports that the alternate site would also impact a stream due to the installation of a permanent culvert used to access the 138 kV yard. (Staff Ex. 1 at 13, 17-18.)

In terms of the threatened and endangered plant and animal species that may have a presence in the project area, Staff notes that information was gathered from the Ohio Department of Natural Resources (ODNR) and the United States (U.S.) Fish and Wildlife Service (USFWS), field assessments, and review of published ecological sources. Specifically, information was compiled regarding two plant species (timid sedge and Gattinger's foxglove), three bird species (bald eagle, golden-winged warbler, and yellow-crowned night-heron), one reptile and amphibian species (eastern massasauga), three mammal species (Indiana bat, black bear, and bobcat), two fish species (blacknose shiner and bluebreast darter), five fresh water mussel species (clubshell, rayed bean, snuffbox, rabbitsfoot, and pondhorn), and one insect species (marsh bluet damselfly). Staff reports

that these species, if present, are not expected to be negatively impacted by the Vassell project. Staff notes that the project would require the removal of approximately seven acres of riparian corridors and woodlot where scattered, low-quality potential Indiana bat habitat was observed. Staff adds that AEP Transco has agreed to limit tree removal, particularly in the areas identified as possible Indiana bat habitat, which would help to reduce the potential impact. Additionally, Staff argues that AEP Transco should be required to adhere to the seasonal cutting dates of September 30 to April 1 for the clearing of trees that may be suitable Indiana bat summer habitat so as to avoid any direct impact to individual bats that may be present. Similarly, Staff asserts that construction activities in the preferred habitat of the golden-winged warbler should be limited during its nesting period of May 15 to July 15, as a means to minimize any negative impact to this species, if present in the project area. (Staff Ex. 1 at 13-15, 18.)

Regarding the tree clearing along the two streams that would be necessary for the interconnections, Staff notes that the tree clearing would increase the direct sunlight to the streams, increase the water temperature, and reduce the food sources for bird, mammal, and aquatic species. Staff adds that riparian vegetation removal also results in downstream sedimentation due to soil exposure and stream bank erosion, which can reduce water quality through turbidity and increased substrate embeddedness. Staff proposes a number of mitigation measures, which would require that no equipment ford through any stream; all stumps be left in place to help maintain bank stability; appropriate vegetation be replanted along all stream banks where the natural seed bank does not reestablish satisfactorily; and trees be cleared by hand and only where the trees may pose an imminent risk to the construction and operation of the project. Staff would also require that AEP Transco develop a streamside vegetation restoration plan to reduce impacts and conserve, in perpetuity, some of the high-quality surface water resources located on adjacent parcels owned by AEP Transco. (Staff Ex. 1 at 15, 18.)

With respect to access to the Vassell project, Staff states that a permanent access road from State Route 37 to the fence line would be required to allow construction and maintenance vehicles into the project area. Staff recommends that AEP Transco coordinate all traffic issues with the appropriate entities prior to construction. (Staff Ex. 1 at 15.)

Staff reports that most noise impacts associated with the Vassell project would be associated with the construction period, particularly during hoe ram operations, and post-construction maintenance. During maximum operation, Staff notes that AEP Transco's ambient sound study projects that noise from the substation would not exceed 40 A-weighted decibels (dBA) at any residence, which is comparable or less than the provided ambient levels for the project area. According to Staff, noise impacts could be mitigated by limiting hoe ram operations to daytime hours during the work week. Additionally, Staff notes that AEP Transco will ensure that all construction equipment mufflers have been properly installed and that the equipment has been properly maintained. Staff reports

that operation of the substation could result in long-term, low-frequency noise and that a low-frequency sound study has been requested, but not received, from AEP Transco. (Staff Ex. 1 at 16.)

Regarding communication impacts, Staff notes that defective substation hardware can cause corona discharges, which could cause localized television and radio signal degradation, although AEP Transco indicates that no radio or television interference is anticipated. Staff proposes various communication-related conditions that AEP Transco should meet, including completion of a baseline television reception and signal strength study, completion of a microwave path survey, and consultation with local telephone service providers to ensure that no degradation to wired telephone service occurs or is reasonably mitigated. (Staff Ex. 1 at 16.)

Accordingly, Staff concludes that the Board should find that the nature of the probable environmental impact has been determined for the Vassell project, in accordance with Section 4906.10(A)(2), Revised Code (Staff Ex. 1 at 16). Staff also concludes that the preferred site has less potential to impact cultural resources, streams, and high-quality riparian corridors and woodlots and that, with Staff's recommended conditions, the minimum adverse environmental impact would be realized. Staff, therefore, recommends that the Board find that the preferred site poses the minimum adverse environmental impact, in accordance with Section 4906.10(A)(3), Revised Code, provided that any certificate issued by the Board includes Staff's recommended conditions. (Staff Ex. 1 at 18.)

3. Intervenors

The Barkeloos assert that AEP Transco has failed to satisfy its burden of demonstrating that the proposed substation represents the minimum adverse environmental impact. Specifically, the Barkeloos argue that AEP Transco failed to perform a comprehensive analysis of all potential alternative sites for the proposed facility to assure the Board that the preferred and alternate sites proposed represent the least environmental impact and public harm. (Barkeloo Br. at 4-7.)

In making their argument, intervenors assert that the Board's rules require an applicant to perform a meaningful search for, and analysis of, alternative sites. Instead, the Barkeloos argue that AEP Transco failed to preform a meaningful search for alternative sites because it limited its search to a half-mile radius around the intersection of the Kammer-Dumont 765 kV transmission line and the Hyatt-Corridor 345 kV transmission line. In support of their argument, the Barkeloos contend that, despite the fact that the Board granted AEP Transco a waiver of Rule 4906-5-04(A), O.A.C., AEP Transco did not obtain a waiver of the requirement that it develop an actual and viable alternative for the substation site. According to the intervenors, AEP Transco failed to demonstrate to the Board that it evaluated all practicable sites because it did not look beyond the half-mile

radius and did not explain why it chose to limit its search to such a small area to the exclusion of other potential intersections of 765 kV and 345 kV lines in central Ohio. (Barkeloo Br. at 7-9.)

In considering the site selection study, the Barkeloos urge the Board to reject AEP Transco's explanation for limiting the site selection study to such a small area. The limitation of the study area to a half-mile radius of the intersection, to avoid the "associated potential impacts" of extending the transmission lines, is specifically questioned by the Barkeloos. While AEP Transco expressed a desire to be near the transmission line intersection, it did not explain why the substation must be located there, instead of in another location in central Ohio. The Barkeloos question the testimony of AEP Transco witness Zambory who testified that he knew of two other points in central Ohio with similarly intersecting transmission lines, but was unsure as to their exact location or why they would not be suitable potential locations for a substation to reinforce the grid in central Ohio. Moreover, the Barkeloos question Staff's inability to explain why the proposed facility had to be located in the Sunbury area. (Barkeloo Br. at 9-11; Tr. at 63, 288, 306-307.)

Instead of the proposed five locations considered within the half-mile radius of the intersecting transmission lines, the Barkeloos argue that there are more suitable sites for the proposed substation, including unpopulated land to the north that was not studied. The Barkeloos also assert that site 4 from the site selection study, which was not proposed as the alternate or preferred site, would have less impact on adjacent residents. These sites, according to intervenors, would have less impact and greater potential for visual screening than the proposed sites. With respect to AEP Transco's preferred site, there are eight homes within 1,000 feet of the proposed facility. If AEP Transco utilized site 4, there would be only three homes within 1,000 feet of the facility. Intervenors argue that this demonstrates that site 4 should potentially be given greater consideration. In addition to the failure to consider other potential sites, the Barkeloos explain that AEP Transco failed to comply with Rule 4906-5-03(D), O.A.C., because it did not submit a site selection study that expressed the costs and benefits of certain sites in quantitative or monetary terms. (Barkeloo Br. at 12-13.)

In sum, the Barkeloos submit that AEP Transco did not provide a meaningful site selection study of alternative sites as required by Section 4906.10(A)(3), Revised Code, to demonstrate that the facility represents the minimum adverse environmental impact among all potential sites for the proposed facility. Moreover, the Barkeloos contend that AEP Transco failed to evaluate all practicable sites for the proposed facility and the application fails to provide the Board with adequate information to determine whether the facility represents the minimum adverse environmental impact. (Barkeloo Br. at 18.)

4. AEP Transco Response

In response, AEP Transco asserts that the Barkeloos are incorrect when they state that AEP Transco did not conduct a meaningful site selection study. Specifically, AEP Transco explains that it hired URS Corporation (URS), an outside consulting firm, and URS conducted a thorough site selection study that identifies major siting criteria and uses an evaluation process to compare alternatives that avoid or minimize adverse effects to the extent practicable. Quantitative, qualitative, environmental, socioeconomic, cultural, and engineering/construction factors were taken into account when analyzing the potential sites for the proposed facility to ensure that the preferred and alternate sites represent the minimum adverse impact. Instead, AEP Transco argues that the intervenors fail to offer any evidence to prove that AEP Transco failed to conduct a meaningful site selection study. (AEP Reply Br. at 5.)

AEP Transco explains that, pursuant to Rule 4906-15-03(A), O.A.C., it conducted a site and route selection study prior to submitting its application. In generally evaluating where to locate the proposed facility, AEP Transco discovered that no location performed as well as the Vassell site option to mitigate all deficiencies in the power grid. Accordingly, AEP Transco asserts that it did evaluate all potential sites and, upon testing the electric needs of the power grid, determined that the Vassell location performed best and limited the search to the half-mile area around the transmission line intersection to minimize the impacts from the associated transmission lines. To move the substation further from the intersection of the 765 kV and 345 kV lines, 200 foot right-of-ways would have to be cleared for the 765 kV line and 150 foot right-of-ways would be cleared for the 345 kV line. These additional right-of-ways would have greatly increased the footprint of the proposed facility. After concluding that the Vassell location was most appropriate, AEP Transco explains that it then identified five different potential locations for the proposed facility and performed an in-depth analysis of each site based on quantitative and qualitative criteria, evaluating all practicable sites, routes, and route segments for the proposed facility. Upon evaluating all sites, AEP Transco concluded which sites best met the needs of the project. Accordingly, AEP Transco contends that it completed a meaningful site selection study. (AEP Reply Br. at 7-10; Tr. at 72.)

After evaluating the five potential sites for the facility, AEP Transco opines that it validly concluded sites 2 and 3 should be the preferred and alternate sites. AEP Transco asserts that utilizing site 1 would require engineering compromises to deal with the marathon pipeline located on the parcel. Additional stream, wetland, and floodplain issues would also have to be addressed, and the project would then involve a significant amount of tree removal. Accordingly, AEP Transco concluded that utilizing site 1 was impractical. Site 4 was found to have greater aesthetic impacts to surrounding areas than other potential sites. Additionally, site 4 was not owned by AEP Transco and discussions to purchase the site were not positive. AEP Transco explains that it does not generally

appropriate land for projects when company-owned property is available and thus concluded not to use site 4. Site 5 proved to be the only site in the study with identified cultural resources and was also not owned by AEP Transco. Accordingly, AEP Transco opines that it appropriately concluded that sites 2 and 3 presented the best alternatives for the location of the proposed substation. (AEP Reply Br. at 10-12; Tr. at 220.)

5. Staff Response

In response to the Barkeloos, Staff replies that the requirement that the Board evaluate whether a site poses the minimum adverse environmental impact does not mean that the Board must determine that the project will have no impact, or even that the project will have less impact than any other possible site. Instead, the project must have a minimal adverse impact on the environment. (Staff Reply Br. at 4.)

With respect to the Barkeloos' claims as to site selection, Staff asserts that AEP Transco properly proposed both an alternate and preferred site. Moreover, Staff points out that nothing contained in Rule 4906-5-04, O.A.C., required AEP Transco to propose two completely different sites as part of its application. Accordingly, Staff argues that what the intervenors propose is that AEP Transco study every potential alternative site to determine what site poses the least impact. Staff asserts that this would be an absurd requirement and concludes that the proposed preferred site represents the minimum adverse environmental impact. (Staff Reply Br. at 4-7.)

6. Board Analysis and Determination

Upon review of the record and consideration of the arguments made by the parties, the Board concludes that sufficient information exists on the record for the Board to determine the nature of the probable environmental impact for the Vassell project, in accordance with Section 4906.10(A)(2), Revised Code, and we find that the proposed preferred site provides the minimum adverse environmental impact, in accordance with Section 4906.10(A)(3), Revised Code. Contrary to the arguments raised by the intervenors, neither the statute nor the Board's rules require that an applicant provide and discount every potential location for the facility in its application. Rather, in accordance with Section 4906.06(A)(4), Revised Code, the applicant is to explain why the proposed location is best suited for the facility, and Rule 4906-5-04, O.A.C., requires that the application propose both a preferred and alternative route for consideration. Despite intervenors' attempt to discredit AEP Transco's site selection study, the Board believes that the record supports AEP Transco's assertion that the preferred site is best suited for this facility. For example, AEP Transco witness Zambory's testimony supports the determination to locate the proposed facility in the Sunbury area in the half-mile radius of the intersection of the 765 kV and 345 kV lines because the location best solves potential problems regarding grid instability and voltage collapse (Tr. at 64). Although the Barkeloos questioned this

assertion, they provided no evidence to the contrary. Moreover, the Board notes that the fact that there could have been other potential sites for the facility that may have had different environmental impacts does not necessarily mean that the impacts from those sites would have been less. For example, while the Barkeloos focused heavily on the potential of site 4, as a potential location for the proposed facility, they declined to acknowledge the fact that AEP Transco did not own that location and there was the potential for one nearby resident to be displaced if that parcel of land was purchased and used for the facility (Tr. at 43). Accordingly, we find that, with the Certificate Conditions set forth below in Section VI of this order, the Vassell project is designed to have the minimum adverse environmental impact, while providing the desired benefits of reinforcing the power grid of central Ohio.

C. Electric Grid (Section 4906.10(A)(4), Revised Code)

1. Applicant

Addressing the Vassell project's effect on regional expansion plans, AEP Transco states that PJM has studied the impact of the project on the regional transmission system and approved the project as a supplemental project. According to AEP Transco, PJM identified no issues for neighboring electric utilities as a result of the Vassell project. AEP Transco notes that the project may prove to be beneficial for such utilities in the event of severe contingencies outside of central Ohio. (AEP Ex. 1 at 02-4 to 02-5.) With respect to system economy and reliability, AEP Transco asserts that the Vassell project will result in improved grid reliability by rectifying potential voltage collapse situations as evidenced by AEP Transco's power voltage curves; will improve the central Ohio transmission system voltage profile such that voltages are maintained within AEP Transco's planning criteria; and will rectify forecasted thermal overloads on area transmission lines by maintaining equipment loading levels within AEP Transco's planning criteria. AEP Transco notes that system voltages will improve and equipment loadings will decrease significantly if the Vassell project is implemented. (AEP Ex. 1 at 02-5.)

2. Staff

Staff reports that the Vassell project would be located within the regional transmission grid controlled by PJM and that the project was identified as a supplemental project in the PJM 2010 RTEP. Staff notes that, although supplemental projects are not approved by PJM's board, such projects are reviewed by PJM's staff and presented to stakeholders. According to Staff, AEP Transco presented the Vassell project to stakeholders at the September 8, 2011, and October 27, 2011, load flow analysis PJM committee meetings. Staff indicates that it attended those meetings via conference call, in addition to reviewing the PJM 2010 RTEP. (Staff Ex. 1 at 19.)

With respect to load flow analysis, Staff reports that AEP Transco used a summer 2014 peak load flow case to analyze system load flows, which took into account generation retirements, system load growth, and certain double contingencies during power transfers. Staff notes that this analysis shows that, without the Vassell project, the central Ohio transmission system would experience voltage support problems and possible cascading transmission outages. Staff adds that AEP Transco designs its system so that system voltage must be maintained at or above 92 percent during a contingency and equipment thermal loading may not exceed 100 percent of the equipment's emergency rating. Staff further notes that normal system voltages should not go below 95 percent during steady state conditions and that, if system voltages decline below 92 percent, the grid may become unstable and voltage collapse could occur. Upon review of AEP Transco's load flow transcription diagrams, Staff verified that the double contingency outages would result in voltage and thermal problems on the central Ohio transmission system. Staff reports that the diagrams further indicate that the addition of the Vassell project would improve the voltage and thermal issues to AEP Transco's recommended planning criteria levels. Additionally, Staff notes that AEP Transco provided power voltage curves demonstrating that, in the absence of the Vassell project, voltage levels would drop below minimum levels, but would be restored above the minimum levels with the addition of the project. (Staff Ex. 1 at 19-21.)

Staff concludes that, without the Vassell project, during certain double contingencies or upon retirement of local generation, the system may become unstable. Staff adds that the project would cause no new reliability or stability problems based on the results of the load flow analysis; is consistent with plans for expansion of the regional power system; and serves the interests of electric system economy and reliability. Therefore, Staff recommends that the Board find that the Vassell project 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 project would serve the interests of electric system economy and reliability. (Staff Ex. 1 at 21.)

3. Board Analysis and Determination

Initially, the Board notes that the intervenors raised no issues with respect to this criterion. Based on the record in this proceeding, the Board finds that the Vassell project is consistent with regional plans for expansion of the regional power grid and that it will serve the interests of electric system economy and reliability. Therefore, the Board concludes that the project complies with the requirements specified in Section 4906.10(A)(4), Revised Code, provided that the certificate issued includes the Certificate Conditions set forth below in Section VI of this order.

D. Air, Water, Solid Waste, and Aviation (Section 4906.10(A)(5), Revised Code)

1. Applicant

In its application, AEP Transco provides various environmental and aviation compliance information intended to address this criterion (AEP Ex. 1 at 04-11 to 04-14). Among other information, AEP Transco notes that the Vassell project site and surrounding areas will be kept free from dust nuisance and that dust suppression will be implemented, where necessary, during excessively dry periods of active construction (AEP Ex. 1 at 04-14). AEP Transco further notes that it plans to prepare a storm water pollution prevention plan (SWPPP) to address storm water and erosion controls (AEP Ex. 1 at 04-11 to 04-13). Additionally, the application includes AEP Transco's plans for the removal and disposal of approximately 500 cubic yards of construction debris and, in accordance with the SWPPP, the disposition of contaminated soil and hazardous materials generated or encountered during construction (AEP Ex. 1 at 04-11, 04-13).

AEP Transco indicates that there are 17 airports, landing strips, and heliports in Delaware County, the nearest of which are two private airports located approximately 4.5 miles to the west and northwest of the preferred and alternate sites. AEP Transco notes that the height of the tallest above ground structure for the Vassell project will be approximately 175 feet. AEP Transco concludes that construction is not expected to impact any airport, landing strip, or heliport. (AEP Ex. 1 at 04-14.)

2. Staff

In terms of air quality issues, Staff reports that air quality permits are not required for construction of the Vassell project, although the fugitive dust rules adopted pursuant to Chapter 3704, Revised Code, may be applicable. Staff indicates that AEP Transco's proposed methods of dust control, which would include, as necessary, irrigation, mulching, or application of tackifier resins, should be sufficient to comply with fugitive dust rules. (Staff Ex. 1 at 22.)

With respect to water, Staff reports that construction and operation would not require the use of significant amounts of water and, therefore, the requirements of Sections 1501.34 and 1503.33, Revised Code, are not applicable to the Vassell project. Staff notes that no wetlands or streams would be directly impacted by construction if the preferred site is used. Regarding the alternate site, Staff notes that AEP Transco intends to seek coverage under the U.S. Army Corps of Engineers nationwide permit no. 12 for impacts to the stream affected by placement of the permanent culvert necessary to access the 138 kV yard. Staff adds that construction of the Vassell project will comply with the requirements of Chapter 6111, Revised Code, and the rules adopted pursuant to that chapter. Staff notes that AEP Transco intends to submit a notice of intent for coverage under the Ohio

Environmental Protection Agency's (EPA) national pollutant discharge elimination system (NPDES) general permit for storm water discharges associated with construction activity, as well as the related SWPPP that will include a detailed construction access plan. Staff indicates that, following the SWPPP, as well as using best management practices for construction activities, will help to minimize erosion-related impacts to streams and wetlands. Staff states that no construction or other access will be permitted at wetlands, streams, or other environmentally sensitive areas, unless clearly specified in the construction plan, thereby minimizing any clearing-related disturbance to surface water bodies. (Staff Ex. 1 at 22.)

Regarding solid waste, Staff reports that AEP Transco's solid waste disposal plans comply with Chapter 3734, Revised Code, and the rules adopted under that chapter. According to Staff, the Vassell project is estimated to generate approximately 500 cubic yards of construction debris, consisting of items such as conductor scrap, construction material packaging, and used storm water erosion control materials. Staff notes that all construction-related debris would be disposed of in Ohio EPA approved landfills or other appropriately licensed and operated facilities; vegetation waste from clearing activities would be removed; and any contaminated soils discovered or generated during construction would be handled in accordance with applicable regulations. Additionally, Staff notes that AEP Transco intends to have a spill prevention, containment, and countermeasure (SPCC) plan in place. (Staff Ex. 1 at 22-23.)

Addressing aviation matters, Staff reports that there are seven public-use air transportation facilities within an approximate range of 7.5 to 20 miles of the Vassell project. However, because of this distance, as well as the fact that no project structure would be greater than 200 feet above ground level, Staff states that the project is not expected to have an impact on airport facilities. Staff further states that, in accordance with Section 4561.32, Revised Code, it contacted the Ohio Office of Aviation to coordinate the review of potential impacts of the facility on local airports and that no such concerns were identified. (Staff Ex. 1 at 23.)

Accordingly, Staff recommends that the Board find that the Vassell project complies with the requirements specified in Section 4906.10(A)(5), Revised Code (Staff Ex. 1 at 23).

3. Board Analysis and Determination

The Board notes that the intervenors raised no concerns regarding this criterion. Upon review of the record, we find that the Vassell project will comply with the requirements specified in Section 4906.10(A)(5), Revised Code, provided that the certificate issued includes the Certificate Conditions set forth below in Section VI of this order.

E. Public Interest, Convenience, and Necessity (Section 4906.10(A)(6), Revised Code)

1. Applicant

AEP Transco asserts that the Vassell project will serve the public interest by helping to ensure that increased demands for electricity are met in the future and that existing and future electrical service reliability is enhanced throughout the project area and expanded region (AEP Ex. 1 at 06-9).

AEP Transco explains that its witness, Matthew Hales, testified that the lighting to be associated with the substation is predicated on assuring safety and is consistent with industry standards (Tr. at 130-133).

With respect to the potential noise of the facility, AEP Transco asserts that its witness, James Cowan, discusses the effects of low-frequency noise as well as any potential health concerns related to exposure to low-frequency noise and concluded that a low frequency of noise, below 250 hertz, does not imply that the noise will be problematic. Specifically, Mr. Cowan explains that, to assess the impact of noise, one must take into account how loud the noise is and the noise level. Mr. Cowan states that, when he assessed the potential noise impacts of the facility, he utilized the worst-case scenario of operation of the substation at full capacity for 24-hours per day. In completing his study, Mr. Cowan measured the minimum background levels at two homes in the area over two 24-hour periods and found that the background noise was roughly 40 dBa, which is 10 dBa higher than the maximum predicted noise level of the substation. Accordingly, Mr. Cowan concludes that mitigation, beyond the earthen berms that he factored into his assessment, is not necessary. (Tr. at 97-105.)

AEP Transco witness Hosek testified that neighboring properties' exposure to EMF would be very low, given the location of the properties in proximity to the proposed facility. Mr. Hosek also testified that everyone is exposed to electric and magnetic fields from everyday items. (Tr. at 195-196.)

AEP Transco also asserts that it does not believe that the proposed substation or associated transmission lines will interfere with television or radio reception (Tr. at 147-150).

2. Staff

Staff recommends that the Board find that the Vassell project will serve the public interest, convenience, and necessity in compliance with the requirements specified in Section 4906.10(A)(6), Revised Code. In support of its position, Staff states that the project

would serve the public interest because it would ensure that central Ohio's increased demands for reliable electricity continue to be met. Staff adds that AEP Transco will comply with safety standards set by the Commission and the Occupational Safety and Health Administration, as well as equipment specifications, and that the project has been designed to meet or exceed the requirements of the National Electric Safety Code (NESC). Staff reports no concerns related to EMF associated with the project, given that there will be screening, such as foliage and earthen berms, to shield electric fields, and the magnetic field output, which will be comparable to that of common household appliances, will not be measurable at any residence located near the project. (Staff Ex. 1 at 24-25.)

3. Intervenors

The Barkeloos assert that AEP Transco's application should not be approved because its noise study is incomplete. Instead, intervenors argue that the Board should require AEP Transco to perform the low-frequency noise assessment that was requested by Staff prior to the hearing, before the Board considers approving the instant application. The noise study submitted by AEP Transco on December 27, 2011, does not contain any data on C-weighted noise, commonly known as low-frequency noise. The Barkeloos point out that, because AEP Transco did not submit a low-frequency noise study, Staff issued the staff report without the benefit of such a study and instead recommended that AEP Transco perform a noise study after the issuance of the certificate. The Barkeloos further assert that low-frequency noise, even at low levels, can disturb rest and sleep, and, therefore, it is important to understand how much noise the facility will emit prior to construction. (Barkeloo Br. at 21-22; Tr. at 87; Int. Ex. 1 at 4.)

In support of their concern regarding low-frequency noise, the Barkeloos assert that C-weighted noise must be measured independently of A-weighted noise. The Barkeloos point out that AEP Transco witness Cowan testified that C-weighted noise is the dominant sound emanating from a substation's transformers and transmission lines. The Barkeloos urge the Board to adopt the condition recommended by Staff, requiring AEP Transco to conduct a low-frequency noise study prior to the preconstruction conference that conforms to the parameters outlined in Staff's data requests, and wherein any concerns arising out of the noise study will be mitigated to Staff's satisfaction in conjunction with affected residents prior to the commencement of construction. (Barkeloo Br. at 23; Tr. at 91-92, 98; Staff Ex. 1 at 16.)

In addition to their concerns regarding low-frequency noise, the Barkeloos also express concern with the A-weighted noise that is expected to emanate from the proposed facility. Specifically, the Barkeloos express concern with the crackling and humming of transmission lines expected to be audible at homes during damp conditions, when A-weighted noise may be up to 10 dBA higher. (Barkeloo Br. at 24; Tr. at 100-101.) At the hearing, AEP Transco witness Cowan testified that AEP Transco will use dirt mounds to

block some of the substation's noise, and those noise barriers were incorporated into the URS model that estimated future noise levels. Therefore, the Barkeloos conclude that, during damp conditions, the substation's noise will be audible despite the mounding that AEP Transco is considering constructing. Instead, the Barkeloos request that the Board require AEP Transco to install more effective noise controls that are commonly used at substations, including walls. Accordingly, the Barkeloos request that the Board direct AEP Transco to implement additional measures to reduce noise from its substation, including the installation of walls around its noise-generating equipment to prevent adjacent landowners from being disturbed during damp conditions. (Barkeloo Br. at 25; AEP Ex. 1, Noise Study at 8.)

The Barkeloos also raise concerns with the light pollution and visual impairment that they believe will be caused by the proposed facility. At the hearing, AEP Transco witness Hales acknowledged that AEP Transco can install measures to reduce the glare of the substation's lights on adjoining properties, such as reducing the illumination level when workers are not present, directing lights downward rather than outward, and incorporating trees and vegetation into the facility design to screen out some of the facility light (Tr. at 131-133). However, as filed, the Barkeloos opine that AEP Transco's lighting and landscaping plan contains only scarce details regarding AEP Transco's plans to address the aesthetic and lighting impacts of the facility (Barkeloo Br. at 25-26).

Proposed Staff Condition 8 would require AEP Transco to prepare a landscape and lighting plan for Staff review and approval prior to the commencement of construction (Staff Ex. 1 at 28-29). At the hearing, AEP Transco expresses concern regarding this condition because it might allow neighbors to govern how the substation is illuminated. Instead, AEP Transco explains that coordinating with neighboring property owners on lighting issues will compromise safety and security because there is an industry standard regarding how a substation should be lit to best address security and safety concerns. (Tr. at 135.) The Barkeloos argue that this evidences AEP Transco's unwillingness to coordinate with the neighbors of the substation (Barkeloo Br. at 27).

The Barkeloos also argue that AEP Transco failed to fully estimate potential EMF coming from the project. Specifically, the Barkeloos assert that, although AEP Transco estimated the EMF coming from the substation's transmission lines, AEP Transco witness Hosek did not know whether AEP Transco estimated the EMF from the substation's transformers and switches, and the application does not provide estimates for these sources. Accordingly, the Barkeloos assert that AEP Transco did not estimate the cumulative EMF exposure that nearby neighbors would receive from the substation and EMF sources outside the substation. (Barkeloo Br. at 29; Tr. at 190-193.)

Based on AEP Transco's submission of literature that shows that EMF do not cause adverse health effects, the Barkeloos argue that AEP Transco minimizes the potential

effects of EMF, and they point to studies showing an increased risk of childhood leukemia from consistent low-level EMF exposure (AEP Ex. 1 at 06-14 to 06-18). Moreover, the Barkeloos assert that AEP Transco compares the EMF levels for its transmission lines to guidelines recommended by the Institute of Electric and Electronic Engineers (IEEE). However, when questioned, the witness sponsoring that portion of AEP Transco's application was not familiar with the IEEE guidelines. In sum, the Barkeloos conclude that AEP Transco's discussion of EMF fails to demonstrate that the proposed facility will not negatively impact surrounding residents. (Barkeloo Br. at 29-31.)

4. AEP Transco Response

AEP Transco asserts that none of the equipment associated with this project generates any measurable tones below 60 hertz and that low-frequency noise is not typical for an electric substation. Accordingly, AEP Transco requests that proposed Staff Condition 30, which would require AEP Transco to conduct a low-frequency noise study, not be included in the certificate (Staff Ex. 1 at 33). AEP Transco also requests exclusion of proposed Staff Condition 31 requiring mitigation of noise complaints if the project contribution at any residence within 1,500 feet of the project boundary exceeds the forecasted maximum noise levels generated by the facility as provided in AEP Transco's noise study. AEP Transco argues that this condition is overly broad and unrealistic and, if left as proposed by Staff, could cripple the project. If a resident complained, AEP Transco asserts that it could find itself measuring the noise level at a residence and at the plant at all times. According to AEP Transco, such a condition empowers a person opposed to the construction of the facility to burden the construction and operation of the facility with repeated sampling and testing of the noise levels. AEP Transco asserts that a condition that simply requires it to operate in conformance with the noise study provided is a more appropriate condition. (AEP Br. at 32-33; AEP Reply Br. at 17-19; AEP Ex. 6 at 2.)

With respect to the installation of additional noise mitigation, AEP Transco explains that its witness, Mr. Cowan, testified that, even during very damp conditions, the noise generated from the proposed facility would only be raised to a comparable level to background noise at the closest residences. Based on this conclusion, AEP Transco does not believe that additional noise mitigation is necessary. (AEP Reply Br. at 20; Tr. at 104-106.)

With respect to EMF emissions, AEP Transco asserts that the intervenors provided no evidence that there would be any measurable magnetic fields at any residences near the proposed facility. However, AEP Transco points to the testimony of its witness, Mr. Hosek, who explains that EMF levels drop off drastically past certain distances and, from about the distance of a football field away, there is almost no EMF exposure. According to AEP Transco, intervenors' residence is a sufficient distance from the proposed facility that

EMF levels would be almost zero, regardless of how much equipment is contained in the substation. (AEP Reply Br. at 21-23; Tr. at 194-195.)

5. Staff Response

Staff continues to support the testing for low-frequency noise. Staff states that AEP Transco committed to testing for low-frequency noise, but instead opted not to do so and offered no explanation for its failure to conduct low-frequency noise testing. Staff maintains that the Board should continue to require AEP Transco to conduct low-frequency noise testing. (Staff Reply Br. at 15.)

6. Board Analysis and Determination

The Board finds that the Vassell project will serve the public interest, convenience, and necessity, in accordance with Section 4906.10(A)(6), Revised Code, provided the Certificate Conditions set forth below in Section VI of this order are adhered to. The need for the project was established under the first criterion discussed above, and we agree with AEP Transco and Staff that the project will serve the public interest by helping to meet the increasing demand for electricity and improving the reliability of the electric system in the region. The Board does not believe that the potential associated impact, taking into account the conditions on the certificate, is sufficient to outweigh the benefit of grid stability that will result from construction of the project. Moreover, we believe that AEP Transco, as required by the Certificate Conditions, will work with adjacent landowners and other affected property owners appropriately to mitigate any negative effects of the proposed project.

With respect to the parties' arguments on the subject of noise, we find that the evidence indicates that, even during damp conditions, the noise generated from the Vassell project will be comparable to the level of background noise at the closest residences. Although we do not believe that any low-frequency noise generated by the project will have an adverse impact on the surrounding area, we direct AEP Transco to submit a low-frequency noise study as a precautionary measure. Such study should be submitted prior to the preconstruction conference and, if necessary, AEP Transco should mitigate any concerns raised by Staff regarding low-frequency noise, in coordination with any affected residents, prior to the commencement of construction, as required by Certificate Condition 27 set forth below in Section VI. Regarding the issue of lighting, the Board finds that Certificate Condition 8 set forth below will require AEP Transco to prepare a landscape and lighting plan to address the aesthetic and lighting impacts of the facility, and to coordinate with affected property owners in the development of the plan, which will provide the intervenors with an opportunity to offer their input. With respect to the intervenors' concerns regarding EMF, we find that AEP Transco has provided sufficient information regarding the project's EMF-related impact. Additionally, the

record reveals that neighboring residences are sufficiently distant from the project such that EMF levels will be minimal. As Staff notes, AEP Transco plans to screen the project with items such as foliage and earthen berms, which will shield electric fields, and the magnetic field output will be comparable to that of common household appliances. The intervenors offered no evidence to the contrary.

F. Agricultural Districts (Section 4906.10(A)(7), Revised Code)

1. Applicant

AEP Transco states that its consultant contacted the Delaware County auditor to obtain information on agricultural district land. AEP Transco further states that the auditor identified one agricultural district land parcel within 1,000 feet of the preferred and alternate sites. (AEP Ex. 1 at 06-5.)

2. Staff

Staff reports that one agricultural district land parcel was identified within 1,000 feet of the preferred and alternate sites, consisting of 27 acres adjacent to the western portion of the Vassell project area, approximately 300 feet to the north of the 345/138 kV yard of the preferred site and 50 feet to the north of the 765/345 kV yard of the alternate site. As no construction activity would occur on this parcel, Staff indicates that the project would have no impact on existing agricultural districts. Staff notes that the preferred and alternate sites are located on a 265-acre property that is predominantly agricultural and has been recently cultivated with row crops such as soybeans. Staff further notes that AEP Transco estimates that approximately 200 acres of the property would be affected by construction of the project, although approximately 140 acres would be restored to agricultural production upon completion of the project. Consequently, Staff recommends that the Board find that the impact of the Vassell project on the viability as agricultural land of any land in an existing agricultural district has been determined. (Staff Ex. 1 at 26.)

3. Board Analysis and Determination

The Board notes that the intervenors identified no concerns regarding this criterion. We find that, in accordance with Section 4906.10(A)(7), Revised Code, the impact of the Vassell project on the viability of existing farmland and agricultural districts has been determined and will be minimal.

G. Water Conservation Practices (Section 4906.10(A)(8), Revised Code)

1. Staff

Staff reports that, because the Vassell project would not require the use of water for operation, water conservation practices as specified under Section 4906.10(A)(8), Revised Code, are not applicable to the project. Staff recommends that the Board find that the Vassell project would incorporate maximum feasible water conservation practices and, therefore, complies with the requirements specified in the statute. (Staff Ex. 1 at 27.)

2. Board Analysis and Determination

The intervenors raised no issues with respect to this criterion. The Board finds that Section 4906.10(A)(8), Revised Code, is not applicable to the Vassell project.

H. Conditions

The parties discussed modifications to several conditions recommended by Staff during the hearing and also in their briefs. Any specific modifications requested, and not discussed above, will be discussed in this section.

1. Proposed Staff Condition 4 - Preconstruction Permitting

Proposed Staff Condition 4 requires AEP Transco to obtain and comply with all applicable permits and authorizations required by federal and state laws and regulations for any activities where permits or authorizations are required prior to commencement of construction (Staff Ex. 1 at 28). AEP Transco objects to this condition as overbroad and asserts that it is not tied to the reality of the construction process. Specifically, AEP Transco asserts that the project will be designed in stages and construction will commence in stages. AEP Transco witness Hales explains that modifying this condition to apply prior to the commencement of associated construction would make it more appropriate and would better represent the construction process. (AEP Br. at 20-21; AEP Ex. 7 at 3.)

In response, Staff maintains that all permits and authorizations, to the extent practicable, should be obtained prior to the start of any construction. However, Staff clarifies its intention that projects should be completed in discrete phases and may proceed, as long as the required permits and authorizations for each phase are obtained prior to the start of construction for that phase. If permits are obtained by phase, Staff believes that AEP Transco should specifically delineate each phase prior to any construction, and participate in a preconstruction conference with Staff prior to the commencement of each phase. (Staff Br. at 17-18; Staff Reply Br. at 10.)

In review of proposed Staff Condition 4, the Board finds it appropriate to allow AEP Transco to obtain permits and authorizations prior to each discrete phase of construction, provided that AEP Transco participates in a preconstruction conference with Staff prior to the commencement of each phase. This condition is further delineated below in Section VI of this order.

2. Proposed Staff Condition 6 - Complaint Resolution

Proposed Staff Condition 6 recommends that, at least 30 days prior to the preconstruction conference, AEP Transco have a complaint resolution procedure in place to address potential public grievances resulting from project construction and operation (Staff Ex. 1 at 28). AEP Transco argues that this condition is too broad and should be amended to apply only to adjacent property owners. AEP Transco adds that complaint should be changed to concern so that there is no confusion that this condition does not refer to a legal proceeding. (AEP Br. at 21-22.)

In response, Staff agrees that this condition should not be viewed as a legal proceeding. However, Staff takes exception with the proposition that this condition should be limited to apply only to adjacent property owners. Staff asserts that other citizens may have reasonable concerns about the construction and operation of the facility and should not be precluded from having those concerns addressed. (Staff Reply Br. at 11.)

In reviewing the arguments of the parties, the Board agrees that the complaint resolution process should not be viewed as a formal legal process. However, the Board does not believe that the complaint resolution process should only be available to adjacent landowners. Definitions of adjacent landowners may differ, and it is easy to foresee a situation where someone is affected by the project but may not be directly adjacent to the project. This condition is further delineated below in Section VI of this order.

3. Proposed Staff Condition 8 - Landscape and Lighting Plan

Proposed Staff Condition 8 requires AEP Transco to prepare a landscape and lighting plan for Staff review prior to construction and to coordinate with affected property owners in the development of this plan (Staff Ex. 1 at 28-29). In response to this condition, AEP Transco argues that it is vague and appears to favor aesthetics over safety. AEP Transco witness Hale testified that lighting will be based on the security needs of the station and safety of personnel operating the station (AEP Ex. 7 at 3). Accordingly, AEP Transco objects to this condition to the extent that it may force AEP Transco to decrease safety. Again, AEP Transco suggests limiting the class of affected property owners to adjacent land owners. (AEP Br. at 22-23.)

Staff agrees that, to the extent safety dictates what lighting is required at the substation, no coordination with affected property owners is necessary. However, Staff maintains that nearby property owners, particularly adjacent homeowners who would be directly impacted by the lighting of the facility, should be consulted prior to submission of a lighting and landscaping plan by AEP Transco. (Staff Br. at 18; Staff Reply Br. at 11.)

The Board agrees with Staff that this condition should be retained to the extent that lighting is not purely governed by industry-wide safety standards. This condition is further delineated below in Section VI of this order.

4. Proposed Staff Condition 9 - Construction and Maintenance Access Plan

Proposed Staff Condition 9 requires AEP Transco to submit, prior to the commencement of construction, a construction and maintenance access plan based on final plans for the access roads, transmission line, substation facilities, and types of equipment to be used (Staff Ex. 1 at 29). AEP Transco argues that this requirement is premature. AEP Transco also argues that such a plan should be submitted in stages and any plan should be submitted prior to the construction of associated facilities. (AEP Br. at 23.)

In response, Staff maintains that all permits and authorizations, to the extent practicable, should be obtained prior to the start of any construction. However, Staff clarifies its intention that projects should be completed in discrete phases and may proceed, as long as the required permits and authorizations for each phase are obtained prior to the start of construction for that phase. If permits are obtained by phase, Staff believes that AEP Transco should specifically delineate each phase prior to any construction, and participate in a preconstruction conference with Staff prior to the commencement of each phase. (Staff Br. at 17-18; Staff Reply Br. at 10.)

In review of proposed Staff Condition 9, the Board finds it appropriate to allow AEP Transco to obtain permits and authorizations prior to each discrete phase of construction, provided that AEP Transco participates in a preconstruction conference with Staff prior to the commencement of each phase. This condition is further delineated below in Section VI of this order.

5. Proposed Staff Conditions 10-11 - Vegetation Clearing

In these conditions, Staff proposes the submission of vegetation management and restoration plans prior to the commencement of construction and prior to the commencement of clearing activities (Staff Ex. 1 at 29). AEP Transco asserts that these requirements are duplicative and unclear and should be combined into a single condition for increased clarity (AEP Br. at 26-27; AEP Ex. 5 at 3).

Staff responds that these two conditions are distinguishable. Staff points out that AEP Transco proposes to clear more than seven acres of high quality riparian corridor and woodlot adjacent to stream 1C. Proposed Staff Condition 10 requires AEP Transco to submit a vegetation management plan addressing all of the proposed vegetation clearing for the project. Staff Condition 10 deals with removal of vegetation. Alternatively, proposed Staff Condition 11 requires AEP Transco to submit a streamside vegetation restoration plan specifically limited to the clearing of riparian vegetation. This condition is intended to address restoration activities. Accordingly, Staff believes that proposed Staff Conditions 10 and 11 are separate conditions and should remain as such. (Staff Reply Br. at 11-12.)

The Board believes that these conditions are separate and distinct and rejects AEP Transco's request that they be consolidated into a single condition. These conditions are further delineated below in Section VI of this order.

6. Proposed Staff Condition 12 – Stream and Wetland Preservation

Proposed Staff Condition 12 requires that, if AEP Transco cannot avoid stream 1C in constructing the transmission lines associated with the proposed facility, AEP Transco should submit a conservation proposal to conserve, in perpetuity, wetlands and streams located on an adjacent parcel of land owned by AEP Transco (Staff Ex. 1 at 29-30). AEP Transco asserts that it has already determined that the associated transmission lines cannot be moved in its proposed layout to avoid Stream 1C. However, AEP Transco witness Svoboda testified that this condition is not appropriate because the construction of the associated transmission lines, as proposed, is already accompanied by a vegetation management plan and streamside vegetation restoration plan that will address the potential impacts to stream 1C. Accordingly, AEP Transco asserts that all in-stream and wetland impacts are avoided in this project, making the type of mitigation proposed in this condition unnecessary. (AEP Br. at 25-26; AEP Ex. 5 at 3.)

In response, Staff asserts that this condition is not a penalty provision, and is intended to remedy unavoidable direct and indirect impacts described in the staff report. Staff points out that the Board has previously adopted such conditions as part of certificates for projects involving similar resources and impacts. (Staff Reply Br. at 13.)

Upon consideration of Staff's proposed condition and AEP Transco's response, the Board is hard pressed to understand why AEP Transco is opposed to this condition. In light of the fact that Staff submits this condition not as a penalty, but in order to ensure the review and conservation of wetlands and streams, and AEP Transco's assertion that it intends to address any impacts, there is no downside to requiring the submission of a

conservation proposal as part of the Certificate Conditions. Therefore, the Board finds that proposed Staff Condition 12 should be adopted as set forth in Section VI of this order.

7. Proposed Staff Condition 13 - Right-of-Way Maintenance

In this condition, Staff proposes to require AEP Transco to minimize the use of herbicides in proximity to service waters, including wetlands, and only where no other options exist. AEP Transco asserts that this condition is overbroad as it is unclear whether this condition applies to all tree removal or just the proposed work in the wooded riparian corridor adjacent to stream 1C. AEP Transco witness Hales testified that, if this condition is limited to the riparian corridor, AEP Transco could comply with this condition and that the condition should be amended to reflect this limitation. (AEP Br. at 27-28.)

The Board finds that proposed Staff Condition 13 is reasonable and should be adopted. We find that the condition is sufficiently clear in requiring AEP Transco to limit the use of herbicides in proximity to any surface waters, and not just in the area adjacent to stream 1C. This condition is further delineated below in Section VI of this order.

8. Proposed Staff Condition 14 - Tree Removal

Proposed Staff Condition 14 requires that AEP Transco remove only the tall-growing tree species, only allow for limited equipment movement within the right-of-way, and leave all stumps in place (Staff Ex. 1 at 30). Staff recommends its proposed Staff Condition 14 be modified to account for the testimony of AEP Transco witness Svoboda that the riparian area around stream 1C would be maintained by hand cutting the area and maintaining tree stumps within the riparian area (Tr. at 79-80; Staff Br. at 19-20).

Upon consideration, the Board finds that the modifications recommended by Staff are reasonable in light of Ms. Svoboda's testimony and should be adopted. This condition is further delineated below in Section VI of this order.

9. Proposed Staff Condition 17 - Golden-Winged Warbler Habitat Preservation

As proposed, this condition limits construction in any habitat identified as preferred golden-winged warbler habitat during its nesting period. AEP Transco opposes this condition as unnecessary (Staff Ex. 1 at 31). AEP Transco witness Geckle testified that this condition is inapplicable because no habitat for the golden-winged warbler was observed on this site. Further, the staff report indicates that the presence of the golden-winged warbler was unknown and not found in the field study. Accordingly, AEP Transco concludes that this condition is unnecessary. (AEP Br. at 28; AEP Reply at 24; AEP Ex. 3 at 2.)

The Barkeloos argue that, although AEP Transco may not have any current plans to disturb golden-winged warbler habitat, this condition only serves to protect the golden-winged warbler in case construction plans change, as AEP Transco had conceded they might (Intervenor Br. at 33-34). Staff also asserts that this condition is reasonable as some, albeit limited, golden-winged warbler habitat does exist in the project area (Staff Reply Br. at 13.)

The Board believes that this condition should remain in the certificate to protect the golden-winged warbler should any golden-winged warbler habitat be found in the project area. Accordingly, as set forth in Section VI of this order, proposed Staff Condition 17 should be adopted.

10. Proposed Staff Condition 19 – Stream Work Restrictions

This condition limits work in specified streams during fish spawning restricted periods, unless a waiver is sought from ODNR and approved by Staff (Staff Ex. 1 at 31). AEP Transco argues that this condition is inapplicable, as AEP Transco witness Geckle testified that no in-water work will be part of the construction of this facility. (AEP Br. at 29; AEP Reply at 24; AEP Ex. 3 at 3.)

The Barkeloos argue that, although AEP Transco may not have any current plans to work in any streams, this condition only serves to protect the health of the stream in case construction plans change, as AEP Transco had conceded they might (Intervenor Br. at 33-34). Staff agrees that, because of the dynamic nature of construction projects, in-stream work could prove necessary. Accordingly, Staff requests that the Board include this condition in the certificate. (Staff Reply Br. at 14.)

The Board finds that proposed Staff Condition 19 should be adopted to reflect the possibility that conditions may change and AEP Transco may find in-water work necessary. This condition is further delineated below in Section VI of this order.

11. Proposed Staff Condition 24 – Restricted Access

Staff proposes this condition requiring AEP Transco to restrict public access to the site with appropriately placed warning signs or other necessary measures (Staff Ex. 1 at 32). AEP Transco objects to this proposed condition as vague and overbroad, and because station facilities will be fenced to prevent access in accordance with the NESC. (AEP Br. at 29-30.)

In response, Staff states that its proposed condition, as worded, is appropriate, but clarifies that only the equipment in the footprint is intended to be fenced, not the entire AEP Transco-owned property (Staff Br. at 20-21; Staff Reply Br. at 14).

The Board agrees that this condition should not serve to require AEP Transco to fence the entire property. Accordingly, as clarified, proposed Staff Condition 24 should be adopted, as set forth below in Section VI of this order.

12. Proposed Staff Condition 25 – Transportation Permits

In this condition, Staff proposes that AEP Transco be required to obtain all required transportation permits prior to the commencement of construction (Staff Ex. 1 at 32). AEP Transco objects to this condition as being out of line with the realities of construction and proposes amending this condition to apply to the construction of associated facilities such that AEP Transco would be able to secure the appropriate permits in stages as the various stages of construction progress. (AEP Br. at 30.)

In response, Staff maintains that all permits and authorizations, to the extent practicable, should be obtained prior to the start of any construction. However, Staff clarifies its intention that projects should be completed in discrete phases and may proceed, as long as the required permits and authorizations for each phase are obtained prior to the start of construction for that phase. If permits are obtained by phase, Staff believes that AEP Transco should specifically delineate each phase prior to any construction, and participate in a preconstruction conference with Staff prior to the commencement of each phase. (Staff Br. at 17-18; Staff Reply Br. at 10.)

In review of proposed Staff Condition 25, the Board finds it appropriate to allow AEP Transco to obtain permits and authorizations prior to each discrete phase of construction, provided that AEP Transco participates in a preconstruction conference with Staff prior to the commencement of each phase. Accordingly, this condition should be adopted, as set forth below in Section VI of this order.

13. Proposed Staff Conditions 26-29 – Blasting

These conditions apply to any blasting activity that would occur in the construction of the proposed facility (Staff Ex. 1 at 32-33). In response to the proposal of these conditions, AEP Transco explains that there will be no blasting in the construction of this project. Accordingly, AEP Transco requests that these conditions be removed and a condition be added that prohibits blasting in the construction of the proposed facility. (AEP Br. at 31-32; AEP Reply Br. at 21.)

Staff maintains that it included the blasting conditions in case it was necessary under some circumstances. However, Staff avers that it is willing to withdraw its support for these conditions should the Board direct AEP Transco that it may not use blasting under any circumstances. (Staff Br. at 22-23.) The Barkeloos and Staff agree that, if these conditions are removed from the certificate issued, a condition should be added to prohibit any blasting during the construction of the proposed facility (Intervenor Br. at 28; Staff Reply Br. at 14-15).

In reviewing proposed Staff Conditions 26-29, the Board finds that it is reasonable to require a general prohibition against blasting. This condition is further delineated below in Section VI of this order.

14. Proposed Staff Condition 33 - Airport Notification

This condition requires AEP Transco to notify any owner of an airport within 20 miles of the project boundary whose operations will be affected by the project, at least 30 days prior to the commencement of construction (Staff Ex. 1 at 33). According to AEP Transco, this condition is inappropriate because no notifications are required according to the Federal Aviation Administration. AEP Transco asserts that this condition should not be included in the certificate. (AEP Br. at 33-34.)

In reviewing this condition, the Board believes that, while notifications may not be necessary given the proposed facility plans, there is no harm in retaining this condition in case circumstances change once AEP Transco actually commences construction. Accordingly, this condition should be adopted, as set forth below in Section VI of this order.

15. Proposed Staff Conditions 34-36 - Communications Effects

These conditions deal with possible interference with television signals and reception and telephone service that may be caused by the project and any necessary mitigation of those effects. In response to these proposed conditions, AEP Transco asserts that they go beyond the Board's normal operations and are not based on any evidence in the record of this case (Staff Ex. 1 at 34). AEP Transco witness Klinect testified that he was not aware of many cases where electric transmission lines or substations interfered with television or radio reception and that those instances were typically attributable to lower voltage lines and loose hardware that, once replaced, fixed the problem. Moreover, AEP Transco argues that advancing technology combined with the signal strength in the central Ohio area make these condition unnecessary. AEP Transco argues that these conditions are overbroad in the absence of proof that such a problem could exist and there is no testimony on the record supporting the need for these conditions. Instead, AEP Transco

asserts that these conditions should not be included in the certificate. (AEP Br. at 34-35; AEP Reply Br. 25-26.)

The Barkeloos assert that these conditions are necessary in case reception is damaged by the installation of the proposed facility and that, in that case, it is only right that AEP Transco be required to mitigate the effects of the facility operation. In addition, the Barkeloos request that radio reception should be added to these conditions to assure that it is also not affected by the installation of the substation. (Barkeloo Br. at 35-36.)

We agree with intervenors that, despite the assertions of AEP Transco that these types of facilities rarely interfere with television reception, these conditions should remain in the certificate. These conditions provide protection should something unique about this facility interfere with neighbors' reception. Moreover, we believe that these conditions should be modified to protect against interference with radio reception. Accordingly, as modified, these proposed conditions should be adopted, as set forth below in Section VI of this order.

16. Proposed Staff Conditions 37-38 – Microwave Paths

These proposed conditions address any potential interference with microwave paths located in the project area (Staff Ex. 1 at 34). AEP Transco argues that these conditions are unnecessary because there is no requirement by the Federal Communications Commission (FCC) that AEP Transco study potential microwave interference from its project. Further, AEP Transco avers that there are no licensed or unlicensed microwave paths crossing over the location of the proposed facility. Accordingly, AEP Transco recommends that this condition not be included in the certificate because it is unnecessary. (AEP Br. at 35-36.)

In reviewing this condition, the Board is mindful that no microwave paths have been located in the project area and, accordingly, sees no harm in retaining this condition to assure that no paths are present in the project area and that no interference will occur. Accordingly, these proposed conditions should be adopted, as set forth below in Section VI of this order.

17. Proposed Staff Conditions Requiring Studies and/or Plans

The Barkeloos point out that Staff recommends 12 conditions (proposed Staff Conditions 6-13, 30, 34-35, and 37) that call for plans and studies that would be performed after a certificate is issued. According to the Barkeloos, all of the conditions containing requirements after the certificate is issued are necessary to identify any potential harm that could result from the project and to formulate measures to decrease those potential harms.

Accordingly, the Barkeloos argue that those plans or studies should have been submitted prior to the hearing. (Barkeloo Br. at 37-38.)

Specifically, the Barkeloos give a number of reasons why they believe that setting forth requirements for after the certificate is issued is unlawful. First, they argue that AEP Transco has the burden to prove that it is entitled to a certificate after the Board has the opportunity to fully review all of the evidence regarding the impacts of the facility. The Barkeloos opine that, by issuing a certificate prior to the provision of the plans and studies requested, AEP Transco is relieved of its burden. Second, the Barkeloos argue that the Board cannot adequately determine the project's environmental impact, or whether it is in the public interest, without some of the requested information. In particular, the Barkeloos point to the requested low-frequency noise study as an example of information that should be provided prior to the issuance of a certificate. Finally, the Barkeloos assert that the Board's acceptance of any requested information after a hearing deprives intervenors of their right to question this information at a hearing and deprives intervenors of due process. (Barkeloo Br. at 36-39.)

In response, Staff explains that none of the proposed conditions that call for action after the certificate is issued defers consideration of issues until after the evidentiary hearing, and that these conditions do not allow the Board to circumvent its statutory responsibility under Section 4906.10, Revised Code. Moreover, Staff asserts that these requirements do not relieve AEP Transco of its burden of proof. Instead, Staff points out that the siting process is dynamic in nature and does not end with the Board's issuance of a certificate. After the issuance of a certificate, Staff continues to monitor construction activity and collect information to ensure compliance with all certificate conditions approved by the Board. (Staff Reply Br. at 15-17.)

In considering the arguments of the parties, the Board initially points out that Section 4906.02(C), Revised Code, explicitly authorizes the chairman of the Board to assign or transfer duties to the Staff. In keeping with this authority, it is the Board's long-standing policy to establish the specific conditions in its order and then require the applicant to hold a preconstruction conference with Staff to demonstrate compliance with the associated requirements of other state and federal agencies, and other specific particulars of construction. The Board has found that this process is an efficient use of Board resources and is an effective follow-up procedure whereby the Board, through its Staff, is able to ensure that the applicant is complying with the specific certificate conditions. Typically, certificate conditions also require the applicant to demonstrate that the final construction plans for the facility comply with the Board's opinion, order, and certificate, and the conditions thereof, as adopted by the Board. At that time, the Board may also require that particular plans or studies be submitted that were not submitted as part of the initial application, as follow-ups to give the Board and its Staff information to ensure that the conditions of the certificate are adhered to. The certificate conditions also

may require the applicant to have in place certain procedures, like the complaint procedures proposed in this case, that the Board finds appropriate for the construction of the project or to address public interest concerns on a going forward and continual basis throughout the construction process.

We believe that the opportunity to be heard on these conditions is an important point. In the present case, the 12 conditions that the intervenors take issue with were proposed in the staff report issued January 4, 2012. Accordingly, the intervenors had sufficient time between the issuance of the staff report and the commencement of the hearing on January 24, 2012, to determine which, if any, of these conditions they opposed and to formulate their opposition. In the present case, the Barkeloos object to the provision of a low-frequency noise study after the issuance of a certificate. However, in an attempt to prove the necessity of such a study, the Barkeloos questioned AEP Transco witness Cowan on low-frequency noise, and Mr. Cowan testified repeatedly that an A-weighted noise evaluation was appropriate to determine how the noise of the substation will be perceived by the human ear and that a C-weighted, or low-frequency noise study, was unnecessary (Tr. at 89, 90, 106). The Barkeloos presented no testimony to the contrary to support the necessity of a low-frequency noise study. Accordingly, the Board has found that the testimony of Mr. Cowan sufficiently addresses the issue of the noise generated by the facility, and the Board is requiring a low-frequency noise study only as a follow-up study. In the present case, the Board does not believe, based on the evidence of record, that a low-frequency noise study will show any negative impact by the proposed facility. In the interest of thoroughness, the Board is requiring such a study; however, the Board could have merely relied on the testimony of Mr. Cowan and opted not to require a follow-up study.

As an additional matter, when issuing a certificate that requires some follow-up studies and plans after a certificate is issued, the Board is also mindful of the necessity that the project move forward on a reasonable timetable. In its application, AEP Transco predicts the possibility that grid instability will occur in central Ohio by the summer of 2014. It is important that our review prior to issuing the certificate be thorough and complete, but also efficient so as not to delay construction of projects that are essential to ensure the provision of reliable power to central Ohio. Given the significance of the power siting process, Section 4906.07, Revised Code, provides for an expedited schedule under which the Board and Staff must operate. Section 4906.07(A), Revised Code, provides that, upon receipt of an application complying with Section 4906.06, Revised Code, the Board must promptly fix a date for a public hearing not less than 60 nor more than 90 days after such receipt. Section 4906.07(C), Revised Code, provides that the Board's chairman shall cause each application filed with the Board to be investigated and shall, not less than 15 days prior to the date any application is set for hearing, submit a written report to the Board and to the applicant. In light of this statutory timeframe, follow-up studies and

plans that are monitored by our Staff are a valuable means to facilitate the Board's ongoing review of the parameters of a project.

Recently, in addressing a similar argument, a plurality of the Ohio Supreme Court concluded that, wherein Section 4906.10(A), Revised Code, allows a certificate to be issued upon such conditions as the Board considers appropriate, the statute authorizes a dynamic process that does not end with the issuance of a certificate. The Court concluded that the Board is vested with the authority to allow Staff to monitor compliance with the conditions the Board had set, and on which intervenors had an opportunity to be heard. Moreover, the Court concluded that, proper facility siting is subject to modification as the process continues; proposals are tested and matched to the defined conditions. Simply because certain matters require follow-up studies and plans does not mean they have been improperly delegated to Staff. The Court recognized that potentially holding hearings on every single issue raised in an application would be unworkable. *In re Application of Buckeye Wind, L.L.C. for a Certificate to Construct Wind-Powered Electric Generation Facilities in Champaign County, Ohio*, 2012-Ohio-878, ¶16-17, 30 (*Buckeye*).

As a final matter, as recognized in *Buckeye*, the Board notes that, if an applicant proposes a change to any of the conditions approved in a certificate, the applicant is required to file an amendment. In accordance with Section 4906.07, Revised Code, the Board would be required to hold a hearing, in the same manner as on an application, where an amendment application involves any material increase in any environmental impact or substantial change in the location of all or a portion of the facility.

Accordingly, we find the Barkeloos' claims regarding the Board's process requiring the submission of information, as set forth in the conditions of a certificate, to be without merit. The intervenors had an opportunity to question AEP Transco and Staff on any conditions that require a submission to be made after the issuance of the certificate, and, in this case, did engage in that questioning. However, in reviewing the evidence of record, the Board finds that it is appropriate to issue the certificate with the included conditions and believes that the limited follow-up review delegated to our experienced Staff is a proper delegation of our decision-making authority that is in line with the dynamic power siting process and allows us to ensure that the Applicant is in compliance with the Certificate Conditions.

18. Procedural Matter

During the hearing, Staff moved to strike a portion of the direct testimony of AEP Transco witness Klinect. The motion to strike was granted by the ALJ. (Tr. at 167-171.) In its initial brief, AEP Transco requests that the Board find that the ALJ's ruling was erroneous and asks that the stricken testimony be reinstated. In the prefiled testimony in question, Mr. Klinect addressed proposed Staff Conditions 35 and 36, which relate to the

provision of a telephone noise survey and mitigation of interference with television and telephone service, respectively. Mr. Klinect testified on cross-examination, however, that his testimony was intended to be limited to the subject of television signal interference. Mr. Klinect further testified that his testimony was not intended to address mitigation measures. Additionally, AEP Transco's counsel, in objecting to certain questions from intervenors' counsel during cross-examination, represented that Mr. Klinect's testimony was limited to the science behind television interference, and that Mr. Klinect was not offering a management perspective regarding how interference problems should be mitigated. (Tr. at 148, 158-160, 165-166.) Therefore, the Board finds that the motion to strike was properly granted and the ALJ's ruling should be affirmed.

VI. Conclusion and Order Conditions:

The Board has considered the record in this proceeding, as well as the interests and arguments of each party. Based upon the record, the Board finds that all of the criteria established in accordance with Chapter 4906, Revised Code, are satisfied for the construction, operation, and maintenance of the Vassell project, as described in the application filed with the Board on July 29, 2011, as supplemented on December 1, 2011, and December 30, 2011, subject to certain conditions proposed by the parties, and modified herein. To the extent that a request to amend a particular condition or to supplement the conditions is not discussed or adopted in the conditions set forth below, it is hereby denied. Accordingly, the Board approves the application and hereby issues a certificate to AEP Transco for the construction, operation, and maintenance of the Vassell project, subject to the conditions set forth below:

(1) The facility shall be installed at the Applicant's preferred site as presented in the application, and as modified and/or clarified by the Applicant's supplemental filings and further clarified by recommendations in the staff report.

(2) The Applicant shall utilize the equipment and construction practices as described in the application and as modified and/or clarified in supplemental filings, replies to data requests, and recommendations in the staff report.

(3) The Applicant shall implement the mitigation measures as described in the application and as modified and/or clarified in supplemental filings, replies to data requests, and recommendations in the staff report.

(4) Prior to commencement of each phase 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. 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. For each phase of construction, the Applicant shall delineate each phase prior to any construction and the Applicant shall participate in a preconstruction conference with Staff prior to each phase of construction.

(5) 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 all subcontractors for the project shall attend the preconstruction conference. The conference shall include a presentation of the measures to be taken by the Applicant and contractors to ensure compliance with all conditions of the certificate, and discussion of the procedures for on-site investigations by Staff during construction. Prior to the conference, the Applicant shall provide a proposed conference agenda for Staff review. The Applicant may stage separate preconstruction meetings for grading versus clearing work.

(6) At least 30 days prior to the preconstruction conference, the Applicant shall have in place 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. The Applicant shall provide the complaint resolution procedure to Staff, for review and confirmation that it complies with this condition, prior to the preconstruction conference.

(7) The Applicant shall avoid all cultural resources, including archeological deposits and artifacts. To ensure compliance with this condition, prior to commencement of construction, the Applicant shall develop a cultural resource avoidance plan in consultation with Staff and the OHPO, detailing procedures for flagging and avoiding all potentially NRHP-eligible archeological sites in the project area. The avoidance plan shall also contain measures to be taken should previously-unidentified archeological deposits or artifacts be discovered during construction of the project.

(8) The Applicant shall address the aesthetic and lighting impacts of the facility, including minimum earthen berm heights and lighting locations. To ensure compliance with this condition, prior to commencement of construction, the Applicant shall prepare a landscape and lighting plan that addresses these issues and provide the plan to the satisfaction of Staff. Such plan shall be reviewed for confirmation that it complies with this condition and minimizes the adverse impacts of the facility. The Applicant shall coordinate with affected property owners in the development of this plan.

(9) The Applicant shall have a construction and maintenance access plan based on final plans for the access roads, transmission line, substation facilities, and types of equipment to be used. Prior to commencement of each phase of construction, the Applicant shall submit to Staff, for review and confirmation that it complies with this condition, a construction and maintenance access plan based on final plans for the access roads, transmission lines, substation facilities, and types of equipment to be used. The plan shall consider the location of streams, wetlands, wooded areas, and sensitive plant species, as identified by ODNR, Division of Wildlife (ODNR-DOW), and explain how impacts to all sensitive resources will be avoided or minimized during construction, operation, and maintenance. The plan shall provide specific details on all wetlands, streams, and/or ditches to be crossed by the transmission line, including those where construction or maintenance vehicles and/or facility components such as access roads cannot avoid crossing the waterbody. In such cases, specific discussion of the proposed crossing methodology for each wetland and stream crossing (such as culverts), and post-construction site restoration, must be included. 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. For each phase of construction, the Applicant shall delineate each phase prior to any construction and the Applicant shall participate in a preconstruction conference with Staff prior to each phase of construction.

(10) The Applicant shall have a vegetation management plan. Prior to commencement of construction, the Applicant shall submit a vegetation management plan to Staff, for review and confirmation that it complies with this condition, identifying all areas of proposed vegetation clearing for the project, specifying the extent of the clearing, and describing how trees and shrubs around structures,

along access routes, in the transmission line corridor, at construction staging areas, at the substation, during maintenance operations, and in proximity to any other project facilities will be protected from damage, and, where clearing cannot be avoided, how such clearing work will be done so as to minimize removal of woody vegetation. Priority should be given to protecting mature trees throughout the project area, and all woody vegetation in wetlands and riparian areas, both during construction and during subsequent operation and maintenance of all facilities; low-growing trees and shrubs in particular should be protected wherever possible within the proposed right-of-way. The vegetation management plan should also explore various options for disposing of downed trees, brush, and other vegetation during initial clearing for the project, and recommend methods that minimize the movement of heavy equipment and other vehicles within the right-of-way that would otherwise be required for removing all trees and other woody debris off site.

(11) The Applicant shall have a streamside vegetation restoration plan for the clearing of any riparian vegetation adjacent to stream 1C for the placement of the associated electric transmission interconnection line(s) that minimizes impacts associated with such activity. At least 30 days prior to the commencement of clearing activities, the Applicant shall submit such plan to Staff, for review and confirmation that it complies with this condition.

(12) Prior to any clearing or other construction activity associated with the placement of the new 345 kV electric transmission interconnection lines, as currently proposed, the Applicant shall further evaluate the possibility of relocating one or both of the new 345 kV lines to reduce and/or eliminate the need for further clearing of the wooded riparian corridor along stream 1C beyond that required for the 765 kV line. If the Applicant demonstrates that there is no acceptable alternative but to continue with the current plan, that is, to clear approximately seven acres of wooded riparian vegetation adjacent to stream 1C for the placement of a 765 kV and two 345 kV electric transmission interconnection lines, then 30 days prior to the commencement of clearing activities, the Applicant shall submit to Staff, for review and confirmation that it complies with this condition, a draft wetland and stream conservation proposal. This conservation proposal shall conserve, in perpetuity, wetlands 2A and 2B, and streams 4A and 4B, including buffers, located on an adjacent parcel that is owned by the Applicant. The Applicant shall submit to Staff an acceptable,

notarized, recorded, and filed conservation instrument within six months after the issuance of this certificate. Conservation instrument holders must meet the requirements of Section 5301.68, Revised Code. The conservation instrument shall include, as attachments, a metes and bounds (survey) description of the protected area(s), survey map(s), and an aerial photograph showing the boundaries of, and protected area(s) within, the parcel. Preservation signs shall be placed within visual distance of each other along the boundary of the conservation area(s). The signs will indicate that the area(s) are preserved and that mowing, dumping, or any other activity that would result in a degradation of the wetlands, streams, and buffer area(s) is prohibited without prior authorization from the Board. The Applicant shall ensure the signs are present and shall promptly replace missing signs. The Applicant shall promptly notify and seek input from Staff on any delays to implementation of this conservation easement proposal, which may be beyond the control of the Applicant.

(13) For both construction and future right-of-way maintenance, the Applicant shall limit, to the greatest extent possible, the use of herbicides in proximity to surface waters, including wetlands along the right-of-way. Individual treatment of tall-growing woody plant species is preferred, while general, widespread use of herbicides during initial clearing or future right-of-way maintenance should only be used where no other options exist, and with prior approval from the Ohio EPA. The Applicant shall submit a plan describing the planned herbicide use for all areas in or near any surface waters during initial project construction and/or future right-of-way maintenance to Staff, for review and confirmation that it complies with this condition, prior to commencement of construction.

(14) The Applicant shall remove only the tall-growing tree species and only allow for a very limited track for equipment movement within the right-of-way, with all stumps within 25 feet of stream 1C to be left in place, and shall only use temporary culverts to cross streams if necessary, and only with prior consent from Staff.

(15) The Applicant shall have a Staff-approved environmental specialist on site during construction activities that may affect sensitive areas, as mutually agreed upon between the Applicant and Staff, and as shown on the Applicant's final approved construction plan. Sensitive areas include but are not limited to areas of vegetation clearing, designated

wetlands and streams, and locations of threatened or endangered species or their identified habitat. The environmental specialist shall be familiar with water quality protection issues and potential threatened or endangered species of plants and animals that may be encountered during project construction.

(16) The Applicant shall contact Staff, ODNR-DOW, 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 the identified plants or animals shall be halted until an appropriate course of action has been agreed upon by the Applicant, Staff, and ODNR-DOW 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.

(17) If the golden-winged warbler preferred habitat types are present and will be impacted, then construction in this habitat is prohibited during the nesting period of May 15 to July 15.

(18) The Applicant shall adhere to seasonal cutting dates of September 30 through April 1 for removal of suitable Indiana bat habitat trees, if avoidance measures cannot be achieved. If suitable Indiana bat habitat trees must be cut during the summer season of April 2 through September 29, a mist-netting survey must be conducted in May or June prior to cutting. Net surveys shall incorporate either two net sites per square kilometer of project area, with each net site containing a minimum of two nets used for two consecutive nights, or one net site per kilometer of stream within the project limits, with each net site containing a minimum of two nets used for two consecutive nights. Staff and ODNR shall be contacted to discuss methodologies prior to commencement of any mist-netting surveys proposed by the Applicant. All mist-netting results shall be reviewed and approved by Staff and ODNR prior to the cutting of any Indiana bat habitat trees during the summer season.

(19) The Applicant shall not work in the types of streams listed below during fish spawning restricted periods (April 15 to June 30), unless a waiver is sought from and issued by the ODNR and approved by Staff releasing the Applicant from a portion of, or the entire, restriction period:

(a) Class 3 primary headwater streams (watershed < one mi^2)

(b) Exceptional Warmwater Habitat

(c) Coldwater Habitat

(d) Warmwater Habitat

(e) Streams supporting threatened or endangered species

(20) At least seven days before the preconstruction conference, the Applicant shall submit to Staff, for review and acceptance, a copy of all NPDES permits, including its approved SWPPP, approved SPCC procedures, and its erosion and sediment control plan. Any soil issues must be addressed through proper design and adherence to the Ohio EPA best management practices related to erosion and sedimentation control.

(21) The Applicant shall employ the following erosion and sedimentation control measures, construction methods, and best management practices when working near environmentally-sensitive areas and/or when in close proximity to any watercourses, in accordance with the Ohio NPDES permit(s) and SWPPP obtained for the project:

(a) During construction of the facility, seed all disturbed soil, except within actively cultivated agricultural fields, within seven days of final grading with a seed mixture acceptable to the appropriate county cooperative extension service. Denuded areas, including spoil piles, shall be seeded and stabilized within seven days, if they will be undisturbed for more than 21 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 24-hour period, and maintain

controls until permanent vegetative cover has been established on disturbed areas.

(c) Delineate all watercourses, including wetlands, by fencing, flagging, or other prominent means.

(d) Avoid entry of construction equipment into watercourses, including wetlands, except at specific locations where construction has been approved.

(e) Prohibit storage, stockpiling, and/or disposal of equipment and materials in these sensitive areas.

(f) Locate structures outside of identified watercourses, including wetlands, except at specific locations where construction has been approved.

(g) Divert all storm water runoff away from fill slopes and other exposed surfaces to the greatest extent possible, and direct instead to appropriate catchment structures, sediment ponds, etc., using diversion berms, temporary ditches, check dams, or similar measures.

(22) The Applicant shall comply with fugitive dust rules by the use of water spray or other appropriate dust suppressant measures whenever necessary.

(23) The Applicant shall comply with any drinking water source protection plan for any part of the facility that is located within drinking water source protection areas of the local villages and cities.

(24) The Applicant shall restrict public access to the site with appropriately placed warning signs or other necessary measures.

(25) Prior to commencement of each phase of construction, the Applicant shall obtain all required transportation permits. The Applicant shall coordinate with the appropriate authority regarding any temporary or permanent road closures, lane closures, road access restrictions, and traffic control for access/egress off of State Route 37 necessary for construction and operation of the proposed facility. Coordination shall include, but not be limited to, the county engineer, Ohio

Department of Transportation, local law enforcement, and health and safety officials. This coordination shall be detailed as part of a final traffic plan submitted to Staff prior to the preconstruction conference for review and acceptance. For each phase of construction, the Applicant shall delineate each phase prior to any construction and the Applicant shall participate in a preconstruction conference with Staff prior to each phase of construction.

(26) The Applicant is prohibited, under all circumstances, from blasting during the construction of the proposed facility.

(27) The Applicant shall monitor and review low-frequency noise to ensure there are no adverse impacts. To ensure compliance with this condition, the Applicant shall provide a low-frequency noise study prior to the preconstruction conference that conforms to the parameters outlined within any applicable data requests. Any concerns raised by Staff in regard to low-frequency noise shall be sufficiently addressed and mitigated to the satisfaction of Staff, in coordination with the affected resident(s), prior to commencement of construction.

(28) After commencement of commercial operation, the Applicant shall further review the impact and possible mitigation of all project noise complaints. Mitigation shall be required if the project contribution at the exterior of any residence within 1,500 feet of the project boundary exceeds the forecasted maximum sound levels generated by the facility, as provided within the AEP Vassell Substation Noise Analysis dated December 27, 2011. For purposes of determining exceedances of these values, sampling shall be conducted at the location of the complaint and during the same time of day or night as that identified in the complaint. Mitigation, if required, shall consist of either reducing the impact so that the project contribution does not exceed the forecasted maximum sound levels generated by the facility, as provided within the AEP Vassell Substation Noise Analysis dated December 27, 2011, or other means of mitigation approved by Staff in coordination with the affected receptor(s).

(29) 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 within the meaning of Rule 4906-5-08(C)(3), O.A.C., of upcoming construction activities including potential for nighttime construction activities.

(30) Thirty days prior to commencement of construction, the Applicant notify, in writing, any owner of an airport located within 20 miles of the project boundary, whether public or private, whose operations, operating thresholds/minimums, landing/approach procedures and/or vectors are expected to be altered by the siting, operation, maintenance, or decommissioning of the facility.

(31) The Applicant shall monitor and review the baseline television reception and signal strength to ensure there are no adverse impacts. At least 30 days prior to the preconstruction conference, the Applicant shall complete a baseline television reception and signal strength study and provide the results to Staff for review and confirmation that the Applicant is complying with this condition.

(32) The Applicant shall monitor and review the telephone noise to ensure there is no adverse impact. At least 30 days prior to the preconstruction conference, the Applicant shall conduct a telephone noise survey in coordination with the local service provider(s) and provide the results to Staff for review and confirmation that the Applicant is complying with this condition.

(33) The Applicant shall monitor the AM/FM radio frequencies to ensure there are no adverse impacts. At least 30 days prior to the preconstruction conference, the Applicant shall conduct an AM/FM radio survey and provide the results to Staff for review and confirmation that the Applicant is complying with this condition.

(34) The Applicant shall meet all FCC and other federal agency requirements to construct an object that may affect communications and, to the satisfaction of Staff, mitigate any effects or degradation caused by substation operation or placement. For any residence that is shown to experience a degradation of television or radio reception or interference of wired telephone service due to facility operation, the Applicant shall provide, at its own expense, cable or direct broadcast satellite television service or other mitigation acceptable to the affected resident(s), the Applicant, and Staff.

(35) The Applicant shall monitor the microwave paths to ensure there are no adverse impacts. At least 30 days prior to the preconstruction conference, the Applicant shall conduct a microwave path study that identifies all existing microwave paths that intersect the project area, and a worst-case Fresnel zone analysis for each path. A copy of this study shall be provided to the path licensee(s), for review, and to Staff for review and confirmation that the Applicant is complying with this condition. The assessment shall conform to the following requirements:

(a) An independent and registered surveyor, licensed to survey within the state of Ohio, shall determine the exact location and worst-case Fresnel zone dimensions of the above-referenced paths, and the center point and boundary of the proposed substation site, using the same survey equipment.

(b) Provide the distance (feet) between the surveyed center point and boundary of the proposed substation and the surveyed worst-case Fresnel zone of each microwave path.

(c) Provide a map of the surveyed microwave paths, center points, and boundaries at a legible scale.

(d) Describe the specific, expected impacts of the project on all paths and systems considered in the assessment.

(36) All existing licensed microwave paths and communication systems shall be subject to avoidance or mitigation. The Applicant shall complete avoidance or mitigation measures prior to commencement of construction for impacts that can be predicted in sufficient detail to implement appropriate and reasonable avoidance and mitigation measures. After construction, the Applicant shall mitigate all observed impacts of the project to microwave paths and systems within seven days or within a longer time period acceptable to Staff. Avoidance and mitigation for any known point-to-point microwave paths shall consist of measures acceptable to Staff, the Applicant, and the affected path owner, operator, or licensee(s). If interference with an omni-directional or multi-point system is observed after

construction, mitigation would be required only for the affected receptor(s).

(37) At least 30 days before the preconstruction conference, the Applicant shall submit to Staff, for review and acceptance, one set of detailed engineering drawings of the final project design, including all substations, electric tower and pole locations, temporary and permanent access roads, any crane routes, 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 and conditions of the certificate. The final project layout 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.

(38) If any changes are made to the project layout after the submission of final engineering drawings, all changes shall be provided to Staff in hard copy and as geographically-referenced electronic data. All changes outside the environmental survey areas and any changes within environmentally-sensitive areas will be subject to Staff review and acceptance prior to construction in those areas.

(39) Within 60 days after the commencement of commercial operation, the Applicant shall submit to Staff a copy of the as-built specifications for the entire facility. If the Applicant demonstrates that good cause prevents it from submitting a copy of the as-built specifications for the entire facility within 60 days after commencement of commercial operation, it may request an extension of time for the filing of such as-built specifications. The Applicant shall use reasonable efforts to provide as-built drawings in both hard copy and as geographically-referenced electronic data.

(40) 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.

(41) As the information becomes available, the Applicant shall provide to Staff the date on which construction will begin, the date on which construction is completed, and the date on which the facility begins commercial operation.

As with all certificates, the Board emphasizes that, should the Staff discover, through its continued monitoring and review of the progress of the Vassell project, that the Applicant is not complying with a Certificate Condition, the Staff should bring such concern to the attention of the Board. Moreover, if, at any time, it appears that the Applicant is proposing a change to the facility that would result in any material increase in any environmental impact of the facility or a substantial change in the location of all or a portion of such facility, other than as provided in the alternate set forth in the application, the Applicant must comply with Section 4906.07(B), Revised Code, and file an amendment application for the Board's consideration. We find the above Certificate Conditions to be reasonable and appropriate. Accordingly, based upon all of the above, the Board approves the application and hereby issues a certificate to AEP Transco for the construction, operation, and maintenance of the Vassell project, at the preferred site, subject to the conditions set forth above.

FINDINGS OF FACT AND CONCLUSIONS OF LAW:

(1) The Vassell project is a major utility facility as defined in Section 4906.01(B)(1), Revised Code.

(2) AEP Transco is a person under Section 4906.01(A), Revised Code.

(3) AEP Transco held a public informational meeting on May 12, 2011, in Sunbury, Ohio. On June 10, 2011, AEP Transco filed the proof of publication of the public informational meeting.

(4) On July 29, 2011, AEP Transco filed its application for a certificate for the Vassell project. AEP Transco supplemented its application on December 1, 2011, and December 30, 2011.

(5) By letter dated September 26, 2011, the Board notified AEP Transco that its application had been found to comply with Chapters 4906-01 et seq., O.A.C.

(6) On October 20, 2011, AEP Transco filed proof of service of the certified application on local public officials in accordance with Rule 4906-5-06, O.A.C.

(7) By entry issued October 28, 2011, a local public hearing was scheduled for January 19, 2012, at the Sunbury Town Hall, in Sunbury, Ohio, and an adjudicatory hearing was scheduled for January 24, 2012, at the offices of the Commission, in Columbus, Ohio.

(8) On December 8, 2011, and January 19, 2012, AEP Transco filed proof of publication of notice of the hearings as required by Rule 4906-5-08, O.A.C.

(9) On January 4, 2012, the staff report was filed. Therein, Staff recommended that AEP Transco be issued a certificate for the Vassell project at the preferred site, subject to the conditions listed in the staff report.

(10) The local public hearing was held on January 19, 2012, as scheduled. Six members of the public elected to offer testimony about the Vassell project.

(11) The adjudicatory hearing was held on January 24 and 25, 2012.

(12) The record establishes the need for the Vassell project, as required by Section 4906.10(A)(1), Revised Code.

(13) The record establishes the nature of the probable environmental impact from construction, operation, and maintenance of the Vassell project, as required by Section 4906.10(A)(2), Revised Code.

(14) The record establishes that the preferred site for the Vassell project, subject to the Certificate Conditions set forth in this order, 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, as required by Section 4906.10(A)(3), Revised Code.

(15) The record establishes that the preferred site for the Vassell project, subject to the Certificate Conditions set forth in this order, is consistent with regional plans for expansion of the electric grid for the electric systems serving this state and interconnected utility systems and that the preferred site, subject to the conditions set forth in this order, will serve the interests of electric system economy and reliability, as required by Section 4906.10(A)(4), Revised Code.

(16) The record establishes that the preferred site for the Vassell project, subject to the Certificate Conditions set forth in this order, will comply with Chapters 3704, 3734 and 6111, Revised Code, and Sections 1501.33, 1501.34, and 4561.32, Revised

Code, and all rules and regulations thereunder, to the extent applicable, as required by Section 4906.10(A)(5), Revised Code.

(17) The record establishes that the Vassell project, subject to the Certificate Conditions set forth in this order, will serve the public interest, convenience, and necessity, as required by Section 4906.10(A)(6), Revised Code.

(18) The record contains adequate data on the Vassell project for the Board to determine the project's impact on the viability as agricultural land of any land in an existing agricultural district established under Chapter 929, Revised Code, within the preferred and alternate sites, as required by Section 4906.10(A)(7), Revised Code.

(19) Inasmuch as water conservation practices are not involved with the Vassell project, Section 4906.10(A)(8), Revised Code, does not apply in this circumstance.

(20) The record evidence provides sufficient factual data to enable the Board to make an informed decision.

(21) Based on the record, the Board shall issue a certificate for the construction, operation, and maintenance of the Vassell project, subject to the Certificate Conditions set forth in the opinion, order, and certificate.

ORDER:

It is, therefore,

ORDERED, That a certificate be issued to AEP Transco for the construction, operation, and maintenance of the Vassell project at the preferred site. It is, further,

ORDERED, That the certificate contain the Certificate Conditions set forth in Section VI of this opinion, order, and certificate. It is, further,

ORDERED, That a copy of this opinion, order, and certificate be served upon each party of record and any other interested persons of record.

THE OHIO POWER SITING BOARD

Todd A. Snitchler, Chairman
Public Utilities Commission of Ohio

Christiane Schmenk, Board Member and Director of the Ohio Department of Development

James Zehringer, Board Member and Director of the Ohio Department of Natural Resources

Theodore Wymyslo, Board Member and Director of the Ohio Department of Health

Scott Nally, Board Member and Director of the Ohio Environmental Protection Agency

David Daniels, Board Member and Director of the Ohio Department of Agriculture

Board Member and Public Member

SJP/KLS/sc
Entered in the Journal
MAR 26 2012

Barcy F. McNeal
Secretary