



Legal Department

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September 6, 2016

Chairman Asim Z. Haque  
Ohio Power Siting Board  
180 East Broad Street  
Columbus, Ohio 43215

Erin C. Miller  
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**Re: PUCO Case No. 16-1576-EL-BLN Request for Expedited Treatment  
In the Matter of the Letter of Notification for the  
Gable-S. Cadiz 138 kV Transmission Line Rebuild Project**

Dear Chairman Haque,

Attached please find a copy of the Letter of Notification for the Gable-S. Cadiz 138 kV Transmission Line Rebuild Project by AEP Ohio Transmission Company, Inc. ("AEP Ohio Transco"). This filing and notice is in accordance with O.A.C. 4906-6-05.

A copy of this filing will also be submitted to the executive director or the executive director's designee. A copy will be provided to the Board Staff via electronic message. AEP Ohio Transco will also submit a check in the amount of \$2,000 to the Treasurer, State of Ohio, for Fund 5610 for the expedited review fee.

If you have any questions, please do not hesitate to contact me.

Respectfully Submitted,

/s/ Erin C. Miller  
Erin C. Miller  
Contract Counsel  
AEP Ohio Transmission Company, Inc.

cc: Jon Pawley, OPSB Staff



**LETTER OF NOTIFICATION FOR THE  
GABLE-SOUTH CADIZ 138 KV  
TRANSMISSION LINE PROJECT**

**PUCO Case No. 16-1576-EL-BLN**

**Submitted pursuant to OAC 4906-6-05**

**AEP Ohio Transmission Company, Inc.**

**SEPTEMBER 6, 2016**

LETTER OF NOTIFICATION FOR THE GABLE-SOUTH CADIZ 138 KV TRANSMISSION LINE  
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**LETTER OF NOTIFICATION**  
**Gable-South Cadiz 138 kV Transmission Line Project**

American Electric Power Ohio Transmission Company, Inc. ("AEP Ohio Transco") provides this Letter of Notification ("LON") to the Ohio Power Siting Board in accordance with the accelerated requirements of Ohio Administrative Code ("O.A.C.") Chapter 4906-6-05.

**4906-6-05(B) GENERAL INFORMATION**

**B(1) The applicant shall provide the name of the project and applicant's reference number, names and reference number(s) of resulting circuits, a brief description of the project, and why the project meets the requirements for a letter of notification or construction notice application.**

AEP Ohio Transco proposes to rebuild approximately one mile of a portion of the existing S. Cadiz-Tidd 138 kV transmission line on a new alignment, which will connect to the newly-constructed Gable Station, creating a new 138 kV transmission line circuit called Gable-S. Cadiz ("Project"). The Project is located in Jefferson, County, Ohio and is identified as part of PJM Reference Number B2502, the "Nottingham Area Project." The first portion of the Nottingham Area Project was submitted to the Ohio Power Siting Board under Case Number 14-1818-EL-BLN for the Nottingham Station. The station is currently under construction and will be in-service this fall. The overall Nottingham Area Project consists of new construction and upgrades to both stations and transmission line facilities to increase system reliability in the area.

The Project meets the requirements for a Letter of Notification ("LON") because it is within the types of projects defined by Item (1)(b) of 4906-1-01 Appendix A, "Application Requirement Matrix for Electric Power Transmission Lines." This item states:

*(1) New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:*

*(b) Line(s) greater than 0.2 miles in length but not greater than two miles in length.*

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**B(2) If the proposed project is an electric power transmission line or gas pipeline, the applicant shall provide a statement explaining the need for the proposed facility.**

The proposed Project is necessary in order to provide networked (two-way) 138 kV service to the South Cadiz station and Gable station. The South Cadiz station is owned by Ohio Power Company, an affiliate of AEP Ohio Transco and a wholly-owned subsidiary of American Electric Power Company, Inc. The Gable station is owned by AEP Ohio Transco. A portion of the line needs to be re-routed in order to reach the new Gable station. This new right-of-way ("ROW") will facilitate construction and outage-scheduling with PJM. In addition, this revised line route will allow a portion of the old Tidd-South Cadiz 138kV line to be retired and removed.

The overall Nottingham Area Project was needed based on high load growth in Harrison County and resulting 69kV system overloads and low voltage concerns. The Nottingham, South Cadiz and Gable upgrades resolve the overload and voltage concerns and provide a solid foundation for future customer growth and continued service reliability in the area. The Gable-South Cadiz 138kV transmission line is a critical piece in tying together the area transmission grid in Jefferson and Harrison Counties.

**B(3) The applicant shall provide the location of the project in relation to existing or proposed lines and substations shown on an area system map of sufficient scale and size to show existing and proposed transmission facilities in the project area.**

The location of this Project in relation to existing transmission lines and stations is shown on Figure 1. The project directly impacts the following existing substation facilities:

- Gable Station: A new 138-12kV transmission and distribution station under construction, south of Smithfield.
- South Cadiz Station: An existing 138-69-12kV transmission and distribution station, south of Cadiz. Note that this station location lies about 10 miles to the west of the drawing provided as Figure 1.

**B(4) The applicant shall describe the alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion shall include, but not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.**

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For the portion of the Project requiring new ROW, AEP negotiated with property owners to identify a mutually acceptable corridor. The remaining portion of the proposed Project is along an existing transmission line ROW.

The portion of the route that requires new ROW was chosen to minimize the outages necessary on the Tidd-South Cadiz 138kV circuit and to facilitate safe construction of the transmission line. This is a heavily-loaded 138kV circuit and critical source to the area 69kV sub-transmission system; therefore scheduling outages with the PJM RTO and AEP Operations would have been extremely difficult and would have delayed the in-service date of the multiple system upgrades. The proposed route is best suited for the proposed facility as it limits socioeconomic, ecological, construction and engineering impacts associated with the Project.

**B(5) The applicant shall describe its public information program to inform affected property owners and tenants of the nature of the project and the proposed timeframe for project construction and restoration activities.**

AEP Ohio Transco informs affected property owners and tenants about its projects through several different mediums. Within seven days of filing this LON, AEP Ohio Transco will issue a public notice in a newspaper of general circulation in the project area. The notice will comply with all requirements under O.A.C. Section 4906-6-08(A)(1-6). Further, AEP Ohio Transco mailed a letter, via first class mail, to affected landowners, tenants, contiguous owners and any other landowner AEP Ohio approached for an easement necessary for the construction, operation, or maintenance of the facility. The letter complies with all the requirements of O.A.C. Section 4906-6-08(B). AEP Ohio Transco also maintains a website (<http://aeptransmission.com/ohio/>) which provides the public access to an electronic copy of this LON and the public notice for this LON. A paper copy of the LON will be served to the public library in each political subdivision affected by this Project. Lastly, AEP Ohio Transco retains ROW land agents who discuss project timelines, construction and restoration activities with affected owners and tenants.

**B(6) The applicant shall provide an anticipated construction schedule and proposed in-service date of the project.**

Construction will begin in approximately October 2016. The in-service date for the Project is approximately July 2017.

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**B(7) The applicant shall provide a map of at least 1:24,000 scale clearly depicting the facility with clearly marked streets, roads, and highways, and an aerial image.**

Figures 1 and 2 provide the proposed Project area on a map of 1:24,000-scale. Figure 1 provides the proposed Project centerline on the United States Geological Survey 7.5-minute topographic maps of the Steubenville West, Tiltonsville, Smithfield, and Dillonvale quadrangles. Figure 2 shows the proposed Project area on recent aerial photography, as provided by Bing Maps. To access the Project location, take I-70 East for approximately 125 miles. Take exit 225 for US-250 W/OH-7/Bridgeport. Proceed 0.2 miles then turn left onto Marion Street then turn right onto Main Street after 466 ft. Proceed 0.3 miles then turn left onto US-250 East. After 489 feet exit onto OH-7/Lincoln Ave/Ohio River Scenic Byway and continue on Ohio Scenic Byway for 9 miles. Take the exit for OH-150/Rayland/Dillonvale then turn right onto Co Road 80. In approximately 0.2 miles turn onto OH-150 West then turn right again onto Litter Rd. In 3.2 miles, turn left onto Co Rd 16 and proceed 0.2 miles and turn right onto Co Rd 15. Gable Station will be on the right in 3.2 miles at Latitude 40.254513 Longitude -80.751288.

**B(8) The applicant shall provide a list of properties for which the applicant has obtained easements, options, and/or land use agreements necessary to construct and operate the facility and a list of the additional properties for which such agreements have not been obtained.**

The Project, as proposed, will be constructed primarily within existing ROW. AEP Ohio Transco will obtain easements where necessary. A list of parcels and property owners for which AEP Ohio Transco will obtain new ROW easements for the Project are provided below.

Name	Address	City	State	Zip	Parcel Number
Jeffery John Pazzelli	59 County Road 17	Rayland	OH	43943	50-00926-000
Richard Thornton	2148 County Road 15	Rayland	OH	43943	50-00926-001
William & Margaret Ann Otto	2167 County Road 15	Rayland	OH	43943	50-01516-000
William & Margaret Ann Otto	2167 County Road 15	Rayland	OH	43943	50-01515-001
Jo Ann Whitaker	1402 Robinson Highway	McDonald	PA	15057	30-01814-000
Jo Ann Whitaker	1402 Robinson	McDon	PA	15057	30-01825-000

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	Highway	ald			
Melvin & Mary Kay Letusick	1190 County Road 2	Rayland	OH	43943	50-00516-000
Melvin & Mary Kay Letusick	1190 County Road 2	Rayland	OH	43943	50-01446-000
Brightway Center, Inc.	2021 Monroe Avenue Apt C	Salem	OH	44460	50-00075-001
Adolph E Slechta Jr	2835 County Road 15	Rayland	OH	43943	50-00808-000
Randy M Kinyo	2029 County Road 15	Rayland	OH	43943	50-00921-001
David Ankron & Jodi Miller	351 Township Road 1308	Dillonvale	OH	43917	50-00180-000
Jo Ann Witaker	1402 Robinson Highway	McDonald	PA	15057	50-00964-000
Brightway Center, Inc.	2021 Monroe Avenue Apt C	Salem	OH	44460	50-01515.000
Brightway Center, Inc.	2021 Monroe Avenue Apt C	Salem	OH	44460	50-01515.002
Brightway Center, Inc.	2021 Monroe Avenue Apt C	Salem	OH	44460	50-00075.000
Brightway Center, Inc.	2021 Monroe Avenue Apt C	Salem	OH	44460	50-00074.000
Brightway Center, Inc.	2021 Monroe Avenue Apt C	Salem	OH	44460	30-00212.000

**B(9) The applicant shall describe the following information regarding the technical features of the project:**

**(a) Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.**

The proposed 138 kV single-circuit transmission line will consist of one 1033.5 kcmil ACSR 54/7 Curlew conductor per phase. Two 7#8 Alumoweld overhead ground wires will be used as shield wires above the phase conductors. The insulator assemblies will consist of polymer insulators. The replacement structures will be primarily galvanized steel two-pole structures with horizontal cross arm (H-Frames).

Sketches of the proposed structure types may be provided as supplemental information subsequent to the filing of this Letter of Notification, as required.

**(b) For electric power transmission lines that are within one hundred feet of an occupied residence or institution, the production of electric and magnetic fields**

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during the operation of the proposed electric power transmission line. This includes:

**(i) Calculated Electric and Magnetic Field Levels**

Three loading conditions were examined: (1) normal maximum loading, (2) emergency line loading, and (3) winter normal conductor rating. Normal maximum loading represents the peak flow expected with all system facilities in service; daily/hourly flows fluctuate below this level. Emergency loading is the maximum current flow during unusual (contingency) conditions, which exist only for short periods of time. Winter normal (WN) conductor rating represents the maximum current flow that a line, including its terminal equipment, can carry during winter conditions. It is not anticipated that this line would operate at its WN rating in the foreseeable future. Loading levels and the calculated electric and magnetic fields ("EMF") are summarized below.

EMF CALCULATIONS				
Condition	Circuit Load (A)	Ground Clearance (feet)	Electric Field (kV/m)*	Magnetic Field (mG)*
(1) Normal Maximum Loading	471.8	32.0	0.61 / 1.21 / 0.61	9.05 / 28.66 / 9.40
(2) Emergency Line Loading	815.0	32.0	0.61 / 1.21 / 0.61	15.53 / 49.21 / 16.14
(3) Winter Normal Conductor Rating	2682.0	23.0	0.64 / 2.20 / 0.64	101.18 / 480.80 / 105.10

\* EMF levels (left ROW edge/maximum/right ROW edge) calculated one meter above ground assuming balanced currents and nominal voltages. Electric fields reflect normal and emergency operations; lower electric fields are expected during emergency conditions when one mutually-coupled line is out of service.

**(ii) Discussion of the Company's Design Alternatives Regarding EMF Levels**

Design alternatives were not considered due to EMF strength levels. Transmission lines, when energized, generate EMF. Laboratory studies have failed to establish a strong correlation between exposure to EMF and effects on human health. However, some people are concerned that EMF have impacts on human health. Due to these concerns, EMF associated with the new circuits was calculated in the table above. The EMF was computed assuming the highest possible EMF values that could exist along the proposed transmission line. Normal daily EMF levels will operate below these maximum load conditions. Based on studies from the National Institutes of Health, the magnetic field (measured in milliGauss, or mG) associated with emergency loading at the highest EMF value for this transmission line, is lower than those associated with normal household appliances like microwaves, electric shavers and hair dryers. shavers and



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hair dryers. For additional information regarding EMF, the National Institute of Health has posted information on their website: <http://www.niehs.nih.gov/health/topics/agents/emf/>. Additionally, information on electric and magnetic fields is available on AEP Ohio's website: <https://www.aepohio.com/info/projects/emf/OurPosition.aspx>. The information found on AEP Ohio's website describes the basics of electromagnetic field theory, scientific research activities, and EMF exposures encountered in everyday life. Similar material will be made available for those affected by the construction activities for this Project.

**(c) The estimated capital cost of the project.**

The 2016 capital cost estimates for the proposed project have been tabulated by the Federal Energy Regulatory Commission Electric Plant Transmission Accounts:

ESTIMATES OF APPLICABLE INTANGIBLE AND CAPITAL COSTS		
FERC Account Number	Description	Cost
350	Land and Land Rights	350,000
352	Structures & Improvement	Not Applicable
353	Substation Equipment	Not Applicable
354	Towers & Fixtures	Not Applicable
355	Poles & Fixtures	816,300
356	Overhead Conductors & Devices	659,900
357	Underground Conductors & Devices	Not Applicable
358	Underground-to-overhead Conversion Equipment	Not Applicable
359	Right-of-way Clearing, Roads, Trails or Other Access	662,700
	<b>TOTAL</b>	<b>2,488,900</b>

**B(10) The applicant shall describe the social and ecological impacts of the project:**

**(a) Provide a brief, general description of land use within the vicinity of the proposed project, including a list of municipalities, townships, and counties affected.**

AEP Ohio Transco's consultant prepared a Socioeconomic, Land Use, and Agricultural District Review Report. This report is included as Appendix A.

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- (b) Provide the acreage and a general description of all agricultural land, and separately all agricultural district land, existing at least sixty days prior to submission of the application within the potential disturbance area of the project.**

AEP Ohio Transco's consultant prepared a Socioeconomic, Land Use, and Agricultural District Review Report. This report is included as Appendix A.

- (c) Provide a description of the applicant's investigation concerning the presence or absence of significant archaeological or cultural resources that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.**

An archaeological investigation has been completed by AEP Ohio Transco's consultant for this Project. A copy of the resulting report is provided as Appendix D.

- (d) Provide a list of the local, state, and federal governmental agencies known to have requirements that must be met in connection with the construction of the project, and a list of documents that have been or are being filed with those agencies in connection with siting and constructing the project.**

There are no local, state, or federal governmental agencies known to have requirements that must be met in connection with the construction of the Project.

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization to discharge storm water associated with construction activities under General Permit OHC000004.

- (e) Provide a description of the applicant's investigation concerning the presence or absence of federal and state designated species (including endangered species, threatened species, rare species, species proposed for listing, species under review for listing, and species of special interest) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.**

AEP Ohio Transco's consultant prepared a Threatened and Endangered Species Report and coordinated with the USFWS and ODNR regarding special status species in the

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vicinity of the Project. No impacts to threatened or endangered species are expected. The full Threatened and Endangered Species Report for the Project is included as Appendix B.

- (f) Provide a description of the applicant's investigation concerning the presence or absence of areas of ecological concern (including national and state forests and parks, floodplains, wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.**

AEP Ohio Transco's consultant prepared an Areas of Ecological Concern, Wetland Delineation, and Stream Assessment Report. No impacts to wetlands or streams are anticipated. The full Areas of Ecological Concern, Wetland Delineation, and Stream Assessment Report for the Project is included as Appendix C.

- (g) Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.**

To the best of AEP Ohio Transco's knowledge, no unusual conditions exist that would result in environmental, social, health, or safety impacts. Construction and operation of the proposed Project will meet all applicable safety standards established by the Occupational Safety and Health Administration, and will be in accordance with the requirements specified in the latest revision of the National Electrical Safety Code as adopted by the Public Utilities Commission of Ohio. The Stormwater Pollution Prevention Plan, which will include the Access Plan, will be provided to the OPSB under separate cover, after submission of this Letter of Notification.

**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**9/6/2016 2:57:41 PM**

**in**

**Case No(s). 16-1576-EL-BLN**

Summary: Letter of Notification 16-1576-EL-BLN part 1 of 6  
Request for Expedited Treatment of the Letter of Notification electronically filed by Mrs. Erin C  
Miller on behalf of AEP Ohio Transmission Company