

Legal Department

American Electric Power 1 Riverside Plaza Columbus, OH 43215-2373 AEP.com

December 28, 2018

Hector Garcia Christen M. Blend Senior Counsel – Regulatory Services (614) 716-3410 (P) (614) 716-1915 (P) hgarcia1@aep.com cmblend@aep.com Chairman Asim Z. Haque Ohio Power Siting Board 180 East Broad Street Columbus, Ohio 43215

Re: PUCO Case No. 18-1857-EL-BLN
In the Matter of the Letter of Notification for the
Adjustment to Carrollton-Sunnyside 138kV Transmission Line

Dear Chairman Haque,

Attached please find a copy of the Letter of Notification for the above-captioned project ("Project") by AEP Ohio Transmission Company, Inc. 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, including an electronic copy.

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

Respectfully submitted,

/s/ Christen Blend

Christen Blend (0086881), Counsel of Record Hector Garcia (0084517) Counsel for AEP Ohio Transmission Company, Inc.

cc: John Jones, Counsel OPSB Staff Jon Pawley, OPSB Staff

Letter of Notification Adjustment to the Carrollton-Sunnyside 138 kV Transmission Line Rebuild Project



PUCO Case No. 18-1857-EL-BLN

Submitted to:

The Ohio Power Siting Board Pursuant to Ohio Administrative Code Section 4906-6-05

Submitted by:

AEP Ohio Transmission Company, Inc.

December 28, 2018

Letter of Notification

AEP Ohio Transmission Company, Inc. (AEP Ohio Transco) Adjustment to the Carrollton-Sunnyside 138 kV Transmission Line

4906-6-05

AEP Ohio Transmission Company, Inc. ("AEP Ohio Transco") provides the following information in accordance with the requirements of Ohio Administrative Code Section 4906-6-05.

4906-6-5(B) General Information

B(1) Project Description

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.

AEP Ohio Transco proposes the Carrollton-Sunnyside 138 kV Transmission Line Project ("Project"), which is located in Carroll and Stark Counties, Ohio. The Project involves rebuilding approximately 19.7 miles of existing 138 kV transmission line between Carrollton Station and Sunnyside Station. The Project was originally approved under Case Number 17-1318-EL-BLN on September 25, 2017. Changes to the proposed centerline due to detailed engineering and property owner preferences are provided in this updated letter of notification ("LON"). The maximum shift from the approved centerline to the newly-proposed centerline is approximately 155 feet. This shift is back to the existing centerline. No changes occur along 3.6 miles of the approved Project. Six miles of the proposed centerline shift from the approved centerline to the existing centerline. These changes were primarily at the request of the specific property affected owners. Other minor engineering adjustments accounted for 10.1 miles, with 4.8 miles of those adjustments being less than 5 feet.

The Project consists of rebuilding the existing 138 kV single-circuit transmission line predominantly within an existing right-of-way ("ROW") between Carrollton Station and Sunnyside Station. Approximately 0.4 mile of the rebuild will occur outside of existing ROW in order to avoid physical obstructions or in order to meet engineering requirements. Figures 1A through 1D show the location of the 19.7-mile long Project in relation to the surrounding vicinity.

The Project meets the requirements for a Letter of Notification because it is within the types of projects defined by Items (1)(b) and (2)(c) of Appendix A to Ohio Adm. Code 4906-1-01, Application Requirement Matrix for Electric Power Transmission Lines:

- 1. New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distributions 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.

- 2. Adding new circuits on existing structures designed for multiple circuit use, replacing conductors on existing structures with larger or bundled conductors, adding structures to an existing transmission line, or replacing structures with a different type of structure, for a distance of:
 - (b) More than two miles.

B(2) Statement of Need

If the proposed project is an electric power transmission line or gas or natural gas transmission line, a statement explaining the need for the proposed facility.

The Carrollton-Sunnyside 138kV circuit was built in 1916 on steel lattice towers with 6-wired 200 kcmil copper conductor. After being installed 99 years ago, the lattice towers have shown significant rusting and deterioration. Some of the tower legs in the ground have corroded significantly. The copper conductor has become brittle, with a high chance of failure anywhere along the circuit. In addition, much of the hardware and insulators are worn. Overall, this 138kV transmission line is well beyond its original life expectancy and does not meet AEP's current standards.

The high risk of equipment failure on this line necessitates an upgrade, as the Carrollton-Sunnyside 138kV circuit serves to import power from the Ohio River area (Tidd/Cardinal plant) north to the Canton area (Sunnyside station). In addition, this area of eastern Ohio has shown above-average load growth, due to large block load additions from customers in the Utica shale industry (e.g., midstream processing and pipeline compressor stations). A reliable source of transmission is critical to serving these energy-intensive facilities. The project is not PJM mandated, but is driven by the need to improve the poor condition of the line.

B(3) Project Location

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 the Project in relation to existing transmission lines and stations is shown on Figures 1A through 1D. The Project directly impacts the following existing facilities:

- Carrollton Station, Sunnyside Station
- Carrollton-Sunnyside 138 kV transmission line

B(4) Alternatives Considered

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.

The proposed Project is a rebuild of an existing 138kV transmission line, which, in this case has significantly less impact than building a new 138kV green-field transmission line in eastern Ohio. Portions of the existing right-of-way will be utilized, while some new sections will need to be supplemented with new ROW. No other primary alternatives were considered. The proposed Project will not incur any significant socioeconomic, ecological, or construction impacts as the proposed Project will be largely within AEP Ohio Transco's currently maintained easement.

B(5) Public Information Program

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 will inform affected property owners and tenants about this Project through several different mediums. Within seven days of filing this Letter of Notification ("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 of Ohio Adm. Code 4906-6-08(A)(1)-(6). Further, AEP Ohio Transco has mailed (or will mail) a letter, via first class mail, to affected landowners, tenants, contiguous owners and any other landowner AEP Ohio Transco may approach for an easement necessary for the construction, operation, or maintenance of the Project. The letter will comply with all requirements of Ohio Adm. Code 4906-6-08(B). AEP Ohio Transco 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 for this Project. AEP Ohio Transco retains ROW land agents that discuss Project timelines, construction and restoration activities and convey this information to affected owners and tenants.

B(6) Construction Schedule

The applicant shall provide an anticipated construction schedule and proposed in-service date of the project.

Construction of the Project began in December 2017 under the original LON approval in OPSB Case No. 17-1318-EL-BLN. The Project has an anticipated in-service date of June 2019.

B(7) Area Map

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 1A through 1D and 2A through 2D provide the proposed Project area on maps of 1:24,000-scale. Figures 1A through 1D provide the proposed Project centerline on the United States Geological Survey (USGS) 7.5-minute topographic maps of the Carrollton, Dellroy, Malvern, Waynesburg, and Canton East quadrangles. Figures 2A through 2D show the Project area on recent aerial photography, as provided by Bing Maps. To access the Project location from the OPSB Office, take I-70 East toward Wheeling for approximately 80 miles. At exit 65, take the ramp right for U.S. 36 and turn right onto U.S. 36 East. After 13.9 miles, the road name changes to U.S. 250. U.S. 250 turns to the left after 1.4 miles. After 0.6 mile, turn left onto Wolf Run Road and then immediately right onto Roxford Church Road SE. Continue 4.7 miles and bear right onto Beans Road SE. After 0.3 mile, keep left onto Crum Road. After 2 miles, bear right onto State Route 39. Bear right again after 2.3 miles to stay on State Route 39. Continue for 4.5 miles before turning right to stay on State Route 39 (West Main Street). Go 7.9 miles turn left onto State Route 9 (North Lisbon Street). After 1.2 miles, turn left onto 12th Street NW. The station entrance is on the left after approximately 500 feet. The approximate address of Carrollton Station is 107 12th Street, Carrollton, Ohio 44615 at latitude 40.587, longitude -81.082.

B(8) Property Agreements

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 proposed Project will be constructed predominantly within existing ROW. Approximately 0.4 mile of the rebuild project will be constructed outside of existing ROW. Property owners requiring new and supplemental easements to construct the proposed Project are shown in Figure 3.2.

B(9) Technical Features

The applicant shall describe the following information regarding the technical features of the project:

B(9)(a) Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.

The proposed Project will consist of two (2) –1233.6 kcmil ACSS/TW 38/19 Yukon conductor per phase. Two (2) 96 fiber OPGW 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 one-pole structures with Davit arms. Sketches of the proposed structure types are included as Figure 3.1

B(9)(b) Electric and Magnetic Fields

For electric power transmission lines that are within one hundred feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line.

B(9)(b)(i) Calculated Electric and Magnetic Field Strength Levels

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 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	18.9/61.3/19.8	
(2) Emergency Line Loading	657.00	32.0	0.61 / 1.21 / 0.61	15.53 / 49.21 / 16.14	
(3) Winter Normal Conductor Rating	1690.21	23.0	0.64 / 2.20 / 0.64	101.18 / 480.80 / 150.10	

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.

B(9)(b)(ii) Design Alternatives

A discussion of the applicant's consideration of design alternatives with respect to electric and magnetic fields and their strength levels, including alternate conductor configuration and phasing, tower height, corridor location, and right-of-way width.

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 and set forth in the table above. The EMF was computed assuming the highest possible EMF values that could exist along the proposed transmission line rebuild. 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 hair dryers. For additional information regarding EMF, the National Institutes 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.

B(9)(c) Project Cost

The estimated capital cost of the project.

The capital cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately \$50,000,000.

B(10) Social and Economic Impacts

The applicant shall describe the social and ecological impacts of the project:

B(10)(a) Land Use Characteristics

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

An AEP Ohio Transco consultant prepared a Socioeconomic, Land Use, and Agricultural District Review Report. This report was included as Appendix A to the LON filed in Case No. 17-1318-EL-BLN.

B(10)(b) Agricultural Land Information

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.

An AEP Ohio Transco consultant prepared a Socioeconomic, Land Use, and Agricultural District Review Report. This report was included as Appendix A to the LON filed in Case No. 17-1318-EL-BLN.

B(10)(c) Archaeological and Cultural Resources

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.

A cultural report was completed in 2017. No cultural resources eligible for listing in the National Register of Historic Places (NRHP) were identified. The Ohio Historic Preservation Office (OHPO) indicated that no further coordination was necessary.

B(10)(d) Local, State, and Federal Agency Correspondence

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.

Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHC000004. There are no other known local, state, or federal requirements that must be met prior to commencement of the proposed Project.

B(10)(e) Threatened, Endangered, and Rare Species

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.

An AEP Ohio Transco consultant prepared an Areas of Ecological Concern, Wetland Delineation, and Stream Assessment Report. The consultant coordinated with the USFWS and ODNR regarding special status species in the vicinity of the Project. No impacts to threatened or endangered species are expected. A copy of the coordination for the Project is included in the Areas of Ecological Concern, Wetland Delineation, and Stream Assessment Report was included as Appendix B to the LON filed in Case No. 17-1318-EL-BLN.

B(10)(f) Areas of Ecological Concern

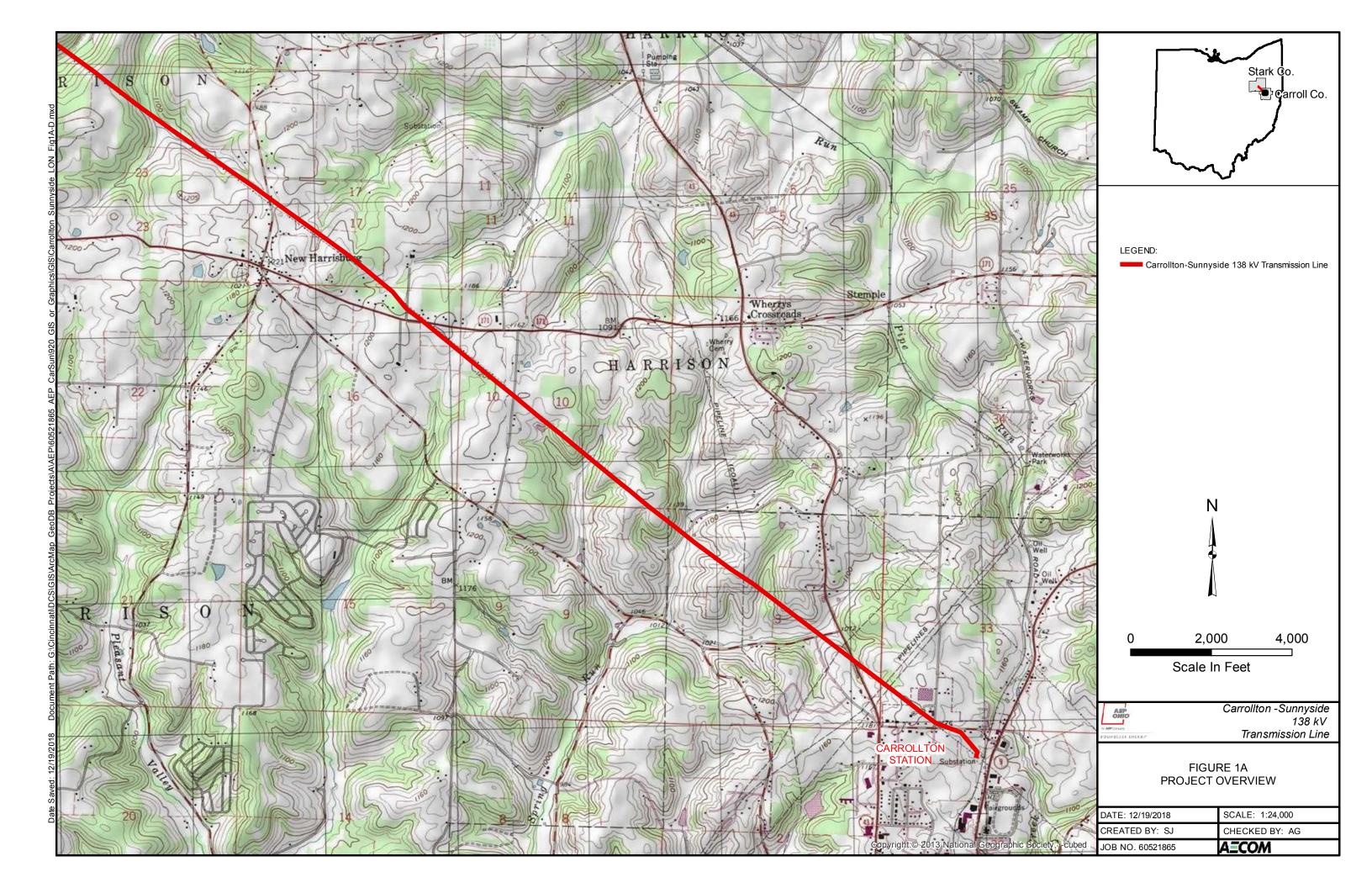
Provide a description of the applicant's investigation concerning the presence or absence of areas of ecological concern (including national and state forests and parks, floodplains, wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife 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.

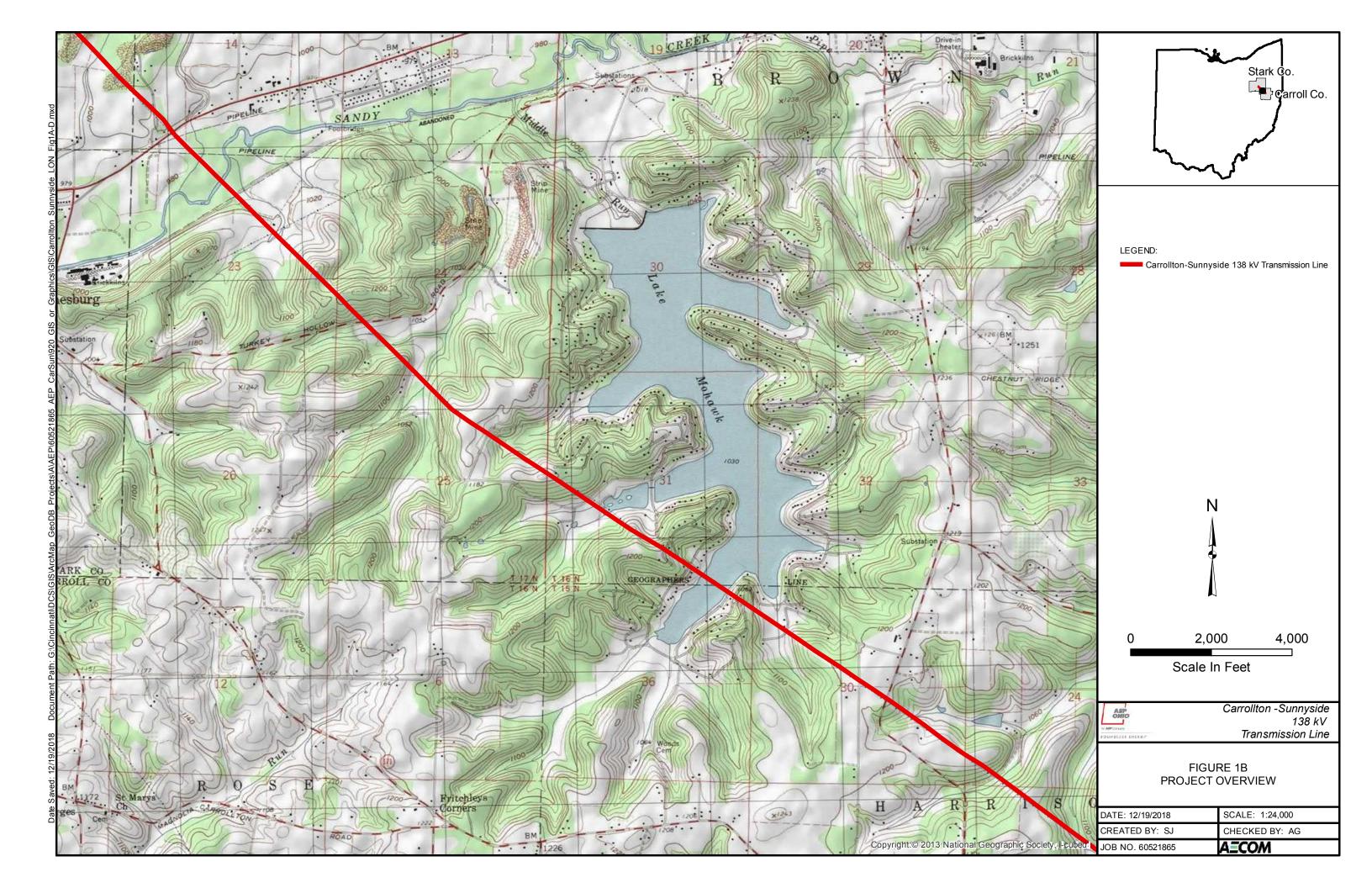
An AEP Ohio Transco consultant prepared an Areas of Ecological Concern, Wetland Delineation, and Stream Assessment Report. A copy of the Areas of Ecological Concern, Wetland Delineation, and Stream Assessment Report for the Project was included as Appendix B to the LON filed in Case No. 17-1318-EL-BLN.

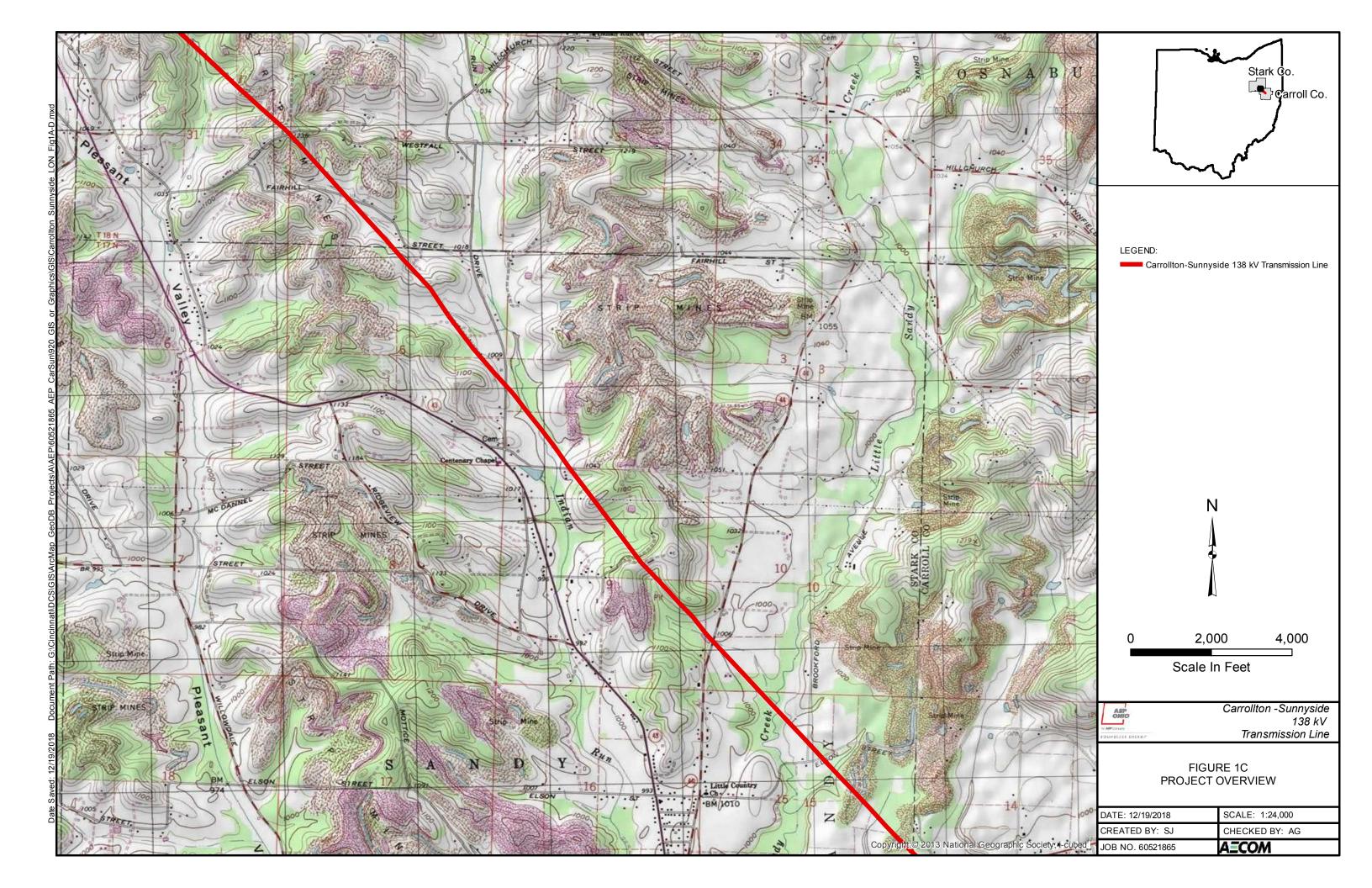
B(10)(g) Unusual Conditions

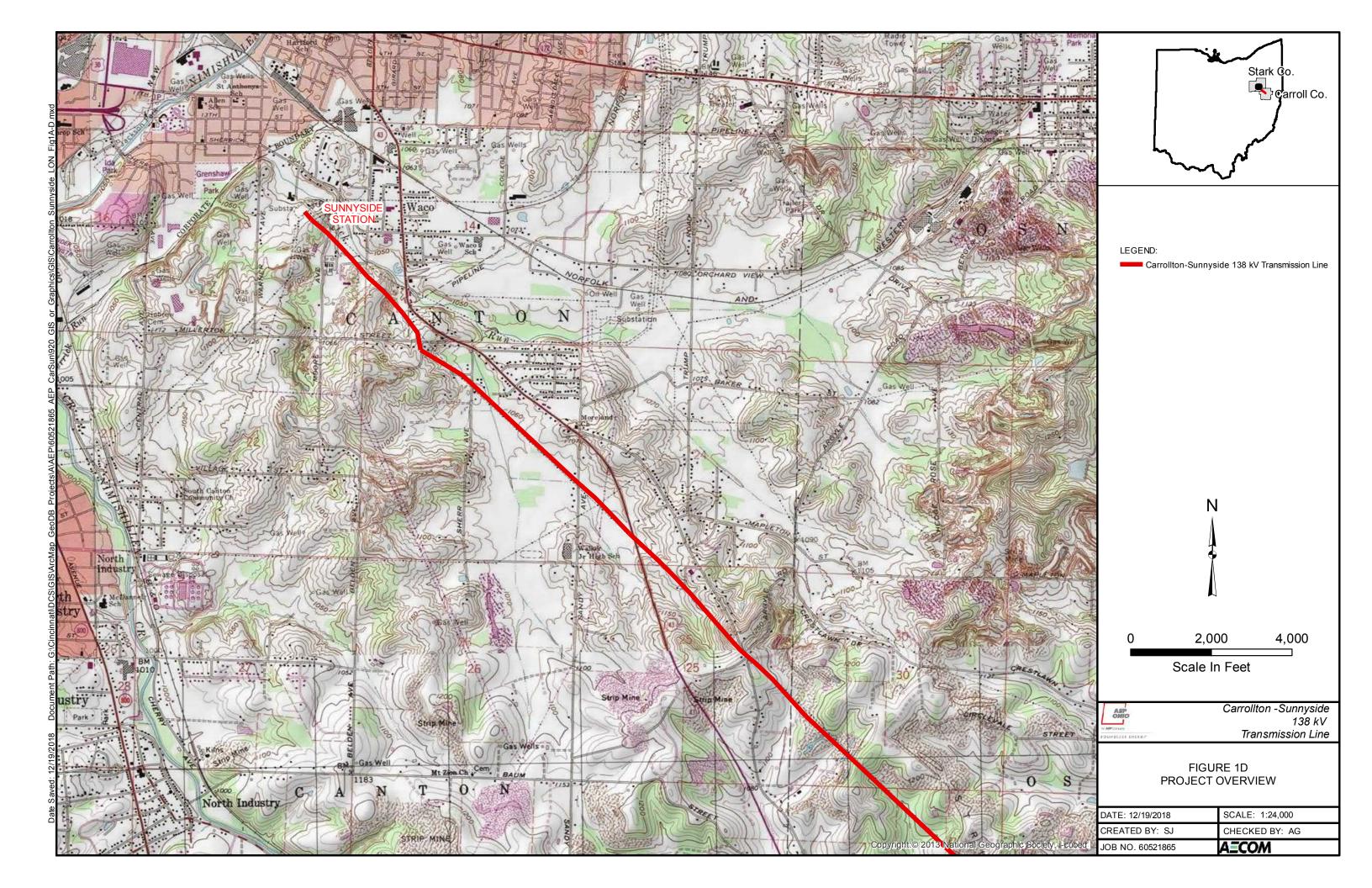
Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

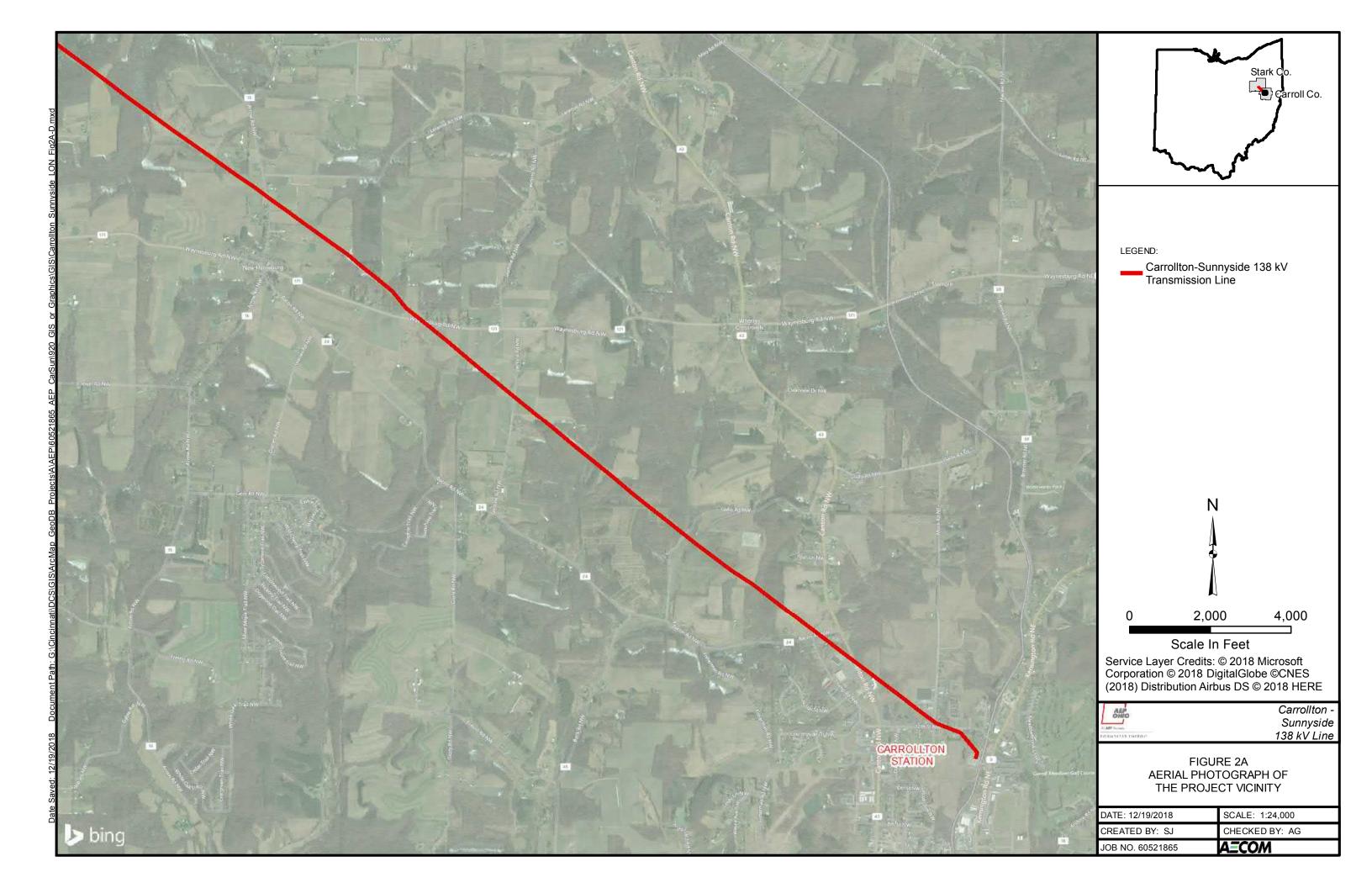
To the best of AEP Ohio Transco's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

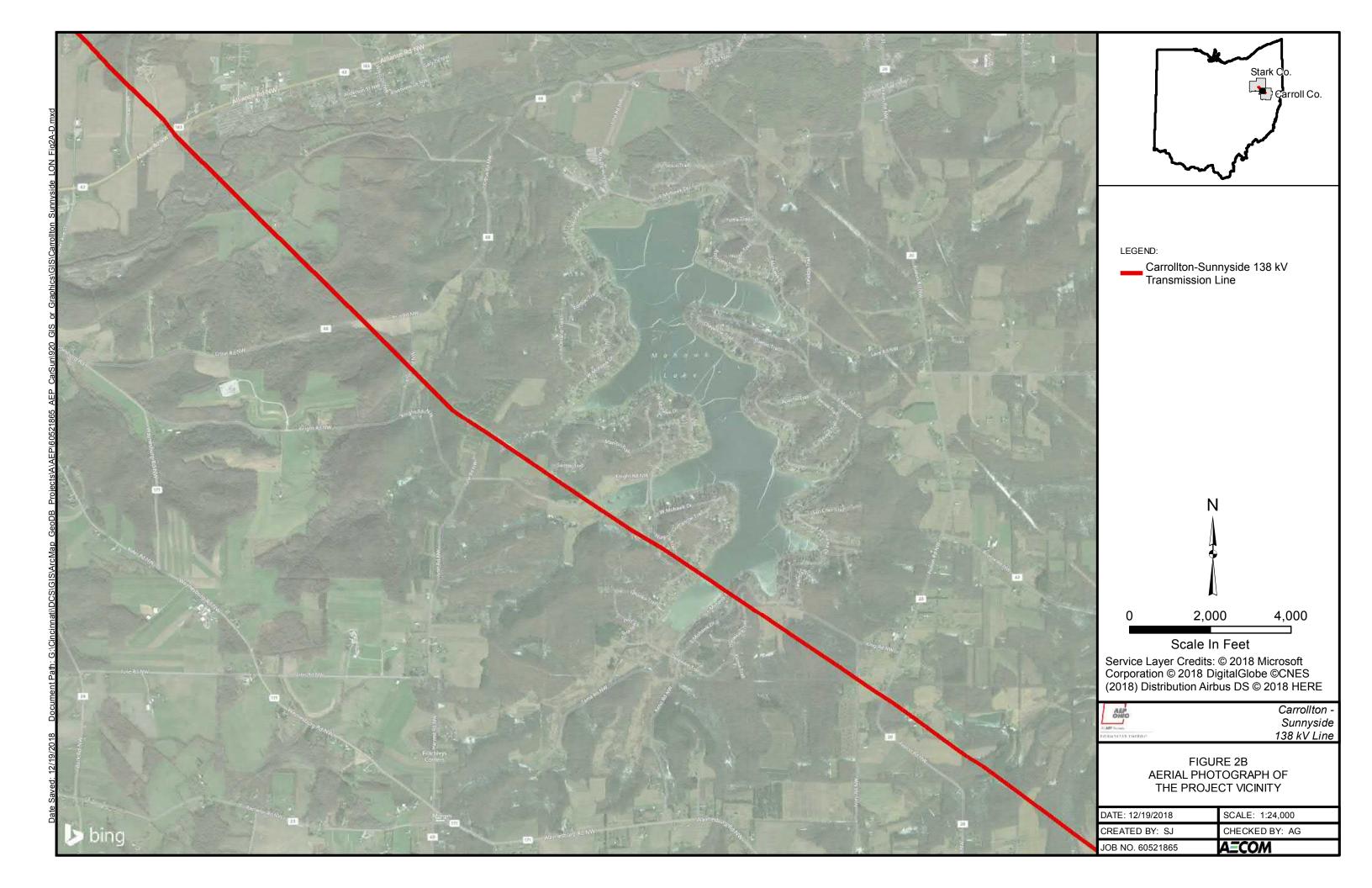


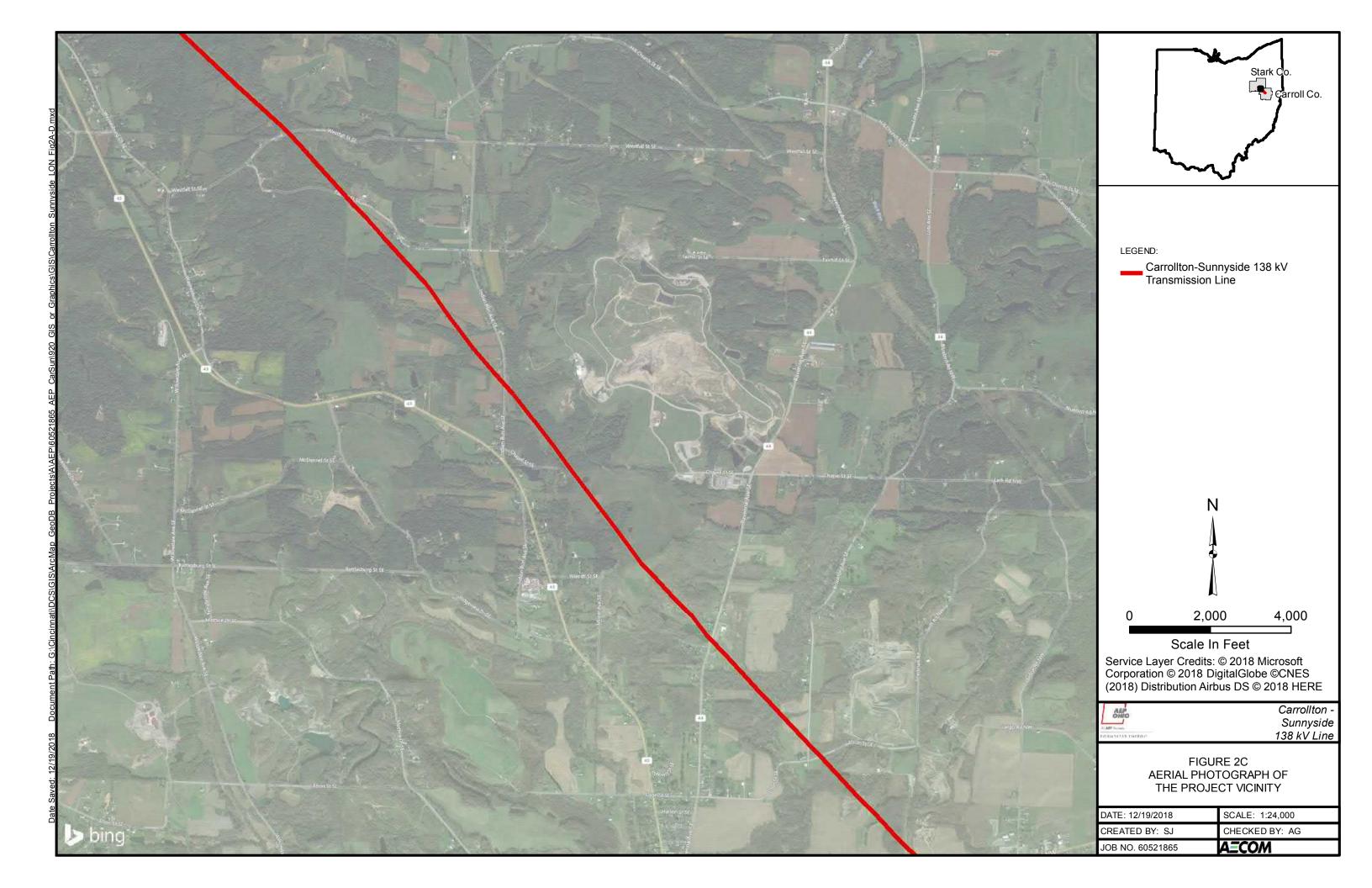


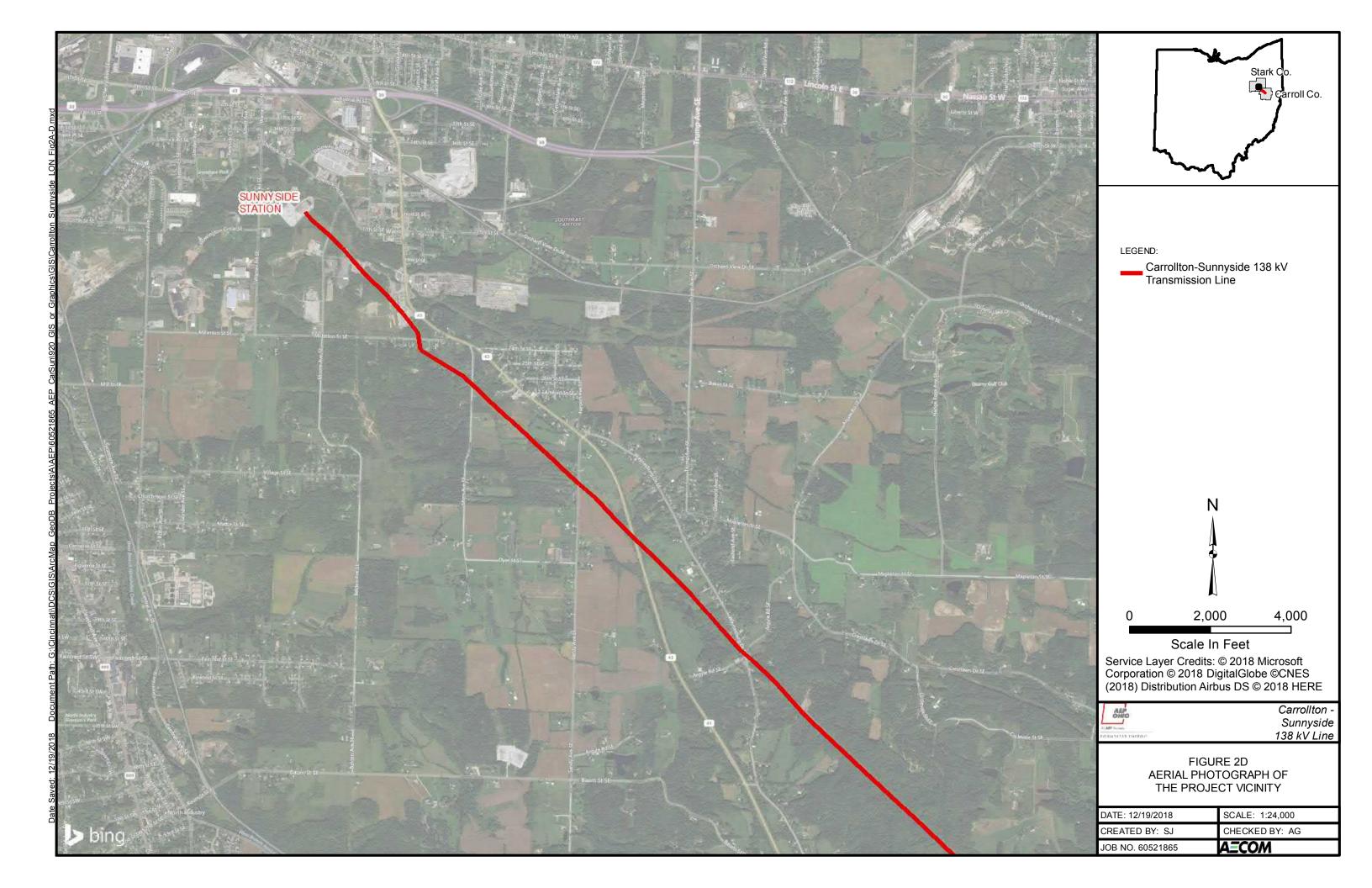


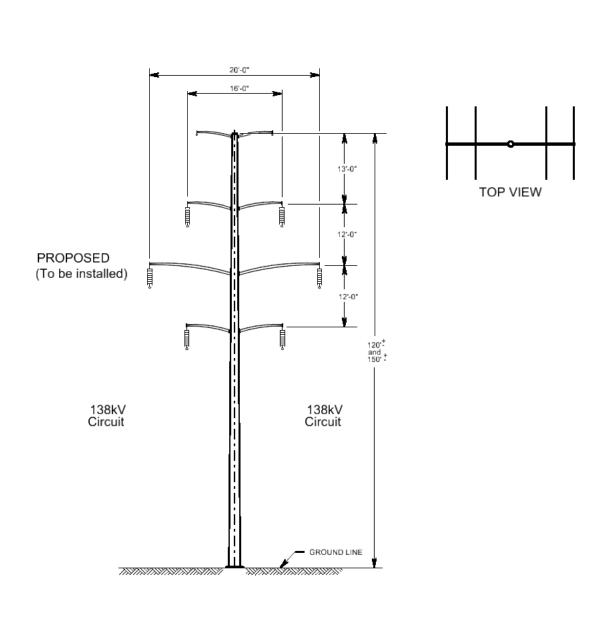












TIDD - SUNNYSIDE 138KV LINE

TIDD - SUNNYSIDE 138KV LINE



PROPOSED JUNE ROAD STATION TYPICAL STRUCTURE CONFIGURATION

NOT TO SCALE

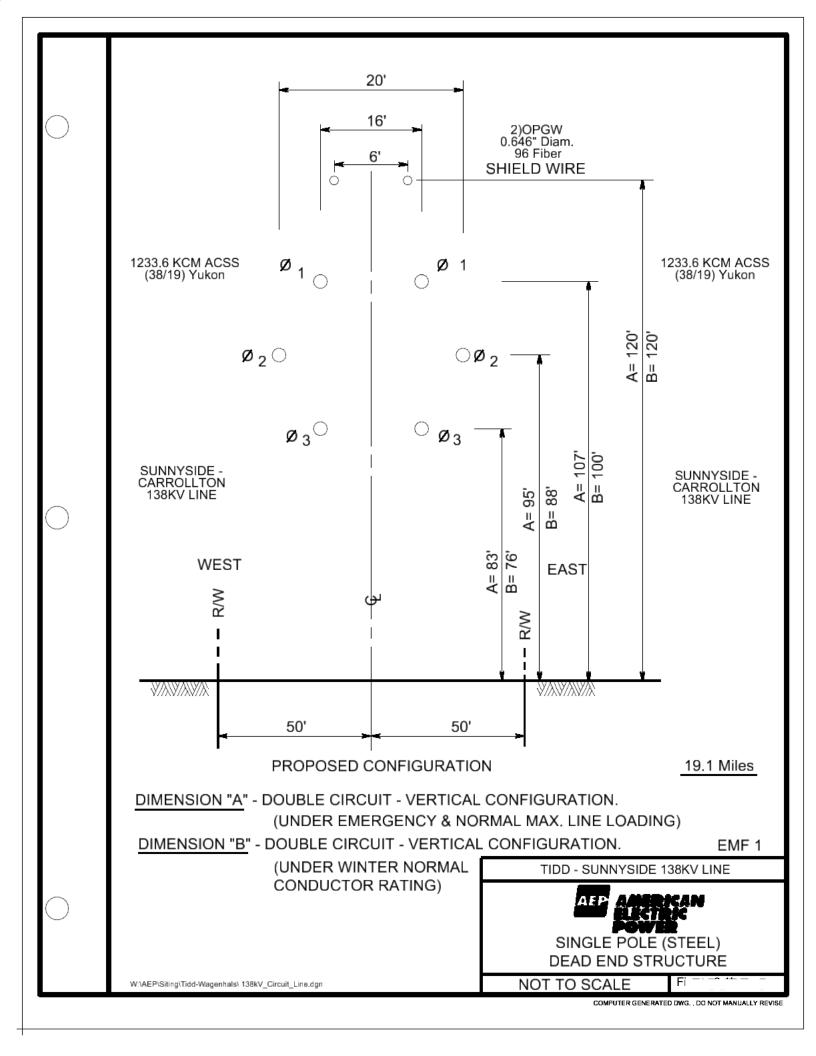


Figure 3.2

Project:	Sunnyside - Carrollton 138kV
Parcel Info	
Parcel #	County
100001730000	Carroll
100000443000	Carroll
100000444000	Carroll
100001708000	Carroll
100001707000	Carroll
100060004000	Carroll
100001312001	Carroll
100001026000	Carroll
100060007000	Carroll
100060066000	Carroll
100000496000	Carroll
90000832001	Carroll
90000832000	Carroll
360000519000	Carroll
100001709002	Carroll
100001709000	Carroll
90000106001	Carroll
90000107001	Carroll
90000106000	Carroll
90000107003	Carroll
90000379000	Carroll
90000393000	Carroll
90000180000	Carroll
90000392000	Carroll
150005110001	Carroll
150000426016	Carroll
150000426003	Carroll
150000426013	Carroll
150000426014	Carroll
150000426015	Carroll
150000426000	Carroll
150000426001	Carroll
150000426004	Carroll
150000837000	Carroll
150000423000	Carroll
150000497000	Carroll
150000680000	Carroll
150000525000	Carroll
150000865000	Carroll
150005035000	Carroll
150003533000	
150000682000	Carroll
150000696000	Carroll
150000375000	Carroll
13000373000	Carroll

Project:	Sunnyside - Carrollton 138kV
Parcel Info	
150000137000	Carroll
150000301000	Carroll
150004758000	Carroll
150000804001	Carroll
150000803000	Carroll
150000742000	Carroll
150000742001	Carroll
150000743006	Carroll
150000065006	Carroll
150000065000	Carroll
150000370000	Carroll
150000606000	Carroll
150000606006	Carroll
150004842000	Carroll
150000316000	Carroll
160000248000	Carroll
160000117000	Carroll
160000163000	Carroll
160000024000	Carroll
160000234000	Carroll
160000190000	Carroll
160000227000	Carroll
30000126000	Carroll
30000683000	Carroll
30002019000	Carroll
30000976000	Carroll
30001724000	Carroll
3000074000	Carroll
30001073000	Carroll
30001529000	Carroll
30002003000	Carroll
30002012000	Carroll
30001683000	Carroll
30001590000	Carroll
30001590001	Carroll
30002510000	Carroll
30001146000	Carroll
30002644000	Carroll
30002590000	Carroll
30002599000	Carroll
30002032000	Carroll
30002573000	Carroll
30001462000	Carroll
30003236000	Carroll
30001463000	Carroll

Project:	Sunnyside - Carrollton 138kV
Parcel Info	
6102287	Stark
6101458	Stark
6101547	Stark
6100118	Stark
6102648	Stark
6102652	Stark
6102639	Stark
6102294	Stark
6102036	Stark
6100466	Stark
6102063	Stark
6102519	Stark
6102626	Stark
6102625	Stark
6102102	Stark
6101889	Stark
6300014	Stark
6100143	Stark
10007632	Stark
3702980	Stark
3700365	Stark
3700102	Stark
3703388	Stark
3700557	Stark
3800110	Stark
3800181	Stark
10002871	Stark
3704097	Stark
3800034	Stark
3800023	Stark
10005401	Stark
3800052, 10003791	Stark
1302397	Stark
1307365	Stark
1302239	Stark
1308866	Stark
1307531	Stark
1309096	Stark
1300617	Stark
1309356	Stark
1300618	Stark
10003050	Stark
1309750	Stark
1309748	Stark
1308986	Stark
	Otan

Project:	Sunnyside - Carrollton 138kV		
Parcel Info	·		
1308812	Stark		
1300619	Stark		
1313787	Stark		
1312957	Stark		
1313519	Stark		
1313465	Stark		
1313466	Stark		
1300649	Stark		
1308968	Stark		
10004080	Stark		
1309488	Stark		
1308922	Stark		
1309430	Stark		
1300898	Stark		
1308718	Stark		
1310183	Stark		
1310186	Stark		
1302948	Stark		
1302945	Stark		
1302946	Stark		
1300862	Stark		
1301685	Stark		
1300795	Stark		
1309364	Stark		
1310136	Stark		
1300473	Stark		
1300226	Stark		
1309484	Stark		
1300796	Stark		
1300797	Stark		
1301151	Stark		
1315165	Stark		
1308683	Stark		
1312333	Stark		
1308517	Stark		

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

12/28/2018 10:36:54 AM

in

Case No(s). 18-1857-EL-BLN

Summary: Letter of Notification electronically filed by Ms. Christen M. Blend on behalf of AEP Ohio Transmission Power Company, Inc.