AMERICAN TRANSMISSION SYSTEMS, INCORPORATED
A FIRSTENERGY COMPANY

LETTER OF NOTIFICATION

EASTLAKE-LEROY CENTER 138-kV TRANSMISSION LINE LOOPS TO NEW RING BUS PROJECT

OPSB CASE NO.: 19-0455-EL-BLN

April 9, 2019

American Transmission Systems, Incorporated
76 South Main Street
Akron, Ohio 44308

LETTER OF NOTIFICATION
EASTLAKE-LEROY CENTER 138 kV TRANSMISSION LINE LOOPS
TO NEW RING BUS PROJECT

The following information is being provided in accordance with the procedures in the Ohio Administrative Code (OAC) Chapter 4906-6 for the application and review of Accelerated Certificate Applications. Based upon the requirements found in Appendix A to OAC Rule 4906-1-01, this Project qualifies for submittal to the Ohio Power Siting Board ("Board") as a Letter of Notification application.

4906-6-05: ACCELERATED APPLICATION REQUIREMENTS

4906-6-05: Name and Reference Number

Name of Project: Eastlake-Leroy Center 138 kV Transmission Line Loops to New Ring Bus Project ("Project").

4906-6-05 (B)(1): Brief Description of the Project

In this Project, American Transmission Systems, Incorporated ("ATSI"), a FirstEnergy company, proposes to extend two transmission line loops from the existing double circuit Eastlake-Leroy Center 138 kV Transmission Line approximately 420 feet (0.08 mile) to a new ring bus, referenced as Grand River Substation. The proposed Grand River Substation will be approximately 77,300 square feet in size. The proposed transmission line loops to the new ring bus will create the new Eastlake-Grand River 138-kV Transmission Line and Grand River-Leroy Center 138-kV Transmission Line. The Project will remove one existing lattice tower (structure #1125) from the transmission line corridor in order to route the 138 kV transmission line loops into the new ring bus. The proposed transmission line loops will require the installation of four (4) new structures in the existing transmission line right-of-way.

The general location of the Project is shown in **Exhibit 1** on a United States Geological Survey ("USGS") topographic map. **Exhibit 2** shows the general Project layout superimposed on aerial imagery provided by ESRI, a geographic information system company. The general layout of the two proposed loop lines are shown in **Exhibit 3**

superimposed on aerial imagery provided by ESRI. The Project will be located in Painesville Township in Lake County, Ohio.

4906-6-05 (B)(1): Letter of Notification Requirement

The Project meets the requirements for a Letter of Notification application because the Project is within the type of projects defined by Item (3) of the Application Requirement Matrix for Electric Power Transmission Lines, Appendix A of OAC Rule 4906-1-01. The Project is also within the type of projects defined by Item (1)(a). These items state:

> *(3) Constructing a new electric power transmission substation; and*
>
> *(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:*
>
> *(a) Line(s) not greater than 0.2 miles in length.*

The proposed Project includes the construction of two 138 kV transmission line loops less than 0.2 miles in length to a new ring bus that is considered a new electric power transmission substation.

4906-6-05 (B)(2): Need For the Project

The Eastlake-Leroy Center 138 kV Q15 and Q16 Transmission Lines are currently constructed as a double circuit transmission line that serves approximately 276 MW of load and approximately 60,000 customers. A transmission system loss involving both the Eastlake-Leroy Center 138 kV Q15 and Q16 Transmission Lines would result in a sustained loss of power for all customers served by these lines. From 2012 to present, the Eastlake-Leroy Center Q15 and Q16 138 kV Transmission Lines have had six momentary outages and nine sustained outages ranging from 15 to 5,373 minutes. The causes of these outages included switch failures, lightning strikes, insulator failures,

foreign (customer) interference, transformer bushing, power system conditions, and unknown causes.

In addition, the existing configuration of these lines reduces FirstEnergy's operational flexibility to perform maintenance on all or a part of these transmission lines. The Project, which includes installing a new transmission ring bus and looping in the transmission lines, reduces the number of customers at risk during a transmission system loss and provides redundant sources of power to reduce the frequency and duration of outages. Furthermore, the Project lessens the impact of routine maintenance on transmission lines and substations with reduced service interruptions to the customers.

The proposed Project reduces the total amount of load potentially lost under various contingency scenarios, such as a multiple line outage, or a common tower outage, to a maximum of approximately 134 MW (approximately 31,000 customers). The proposed new configuration also increases FirstEnergy's flexibility to perform operational maintenance on the Eastlake-Leroy Center Q15 and Q16 138 kV Transmission Lines.

The Project need and solution was presented by FirstEnergy at the January 8, 2018 and February 14, 2018 Subregional Regional Transmission Expansion Plan (SRRTEP) Committee Western meeting and was assigned Project supplemental upgrade identification number s1468. The PJM SSRTEP-Western presentation slide is included as **Exhibit 4**.

4906-6-05 (B)(3): Location of the Project Relative to Existing or Proposed Lines

The location of the Project relative to existing or proposed lines is shown in the ATSI Transmission Network Map, included as part of the confidential portion of the FirstEnergy Corp. 2018 Long-Term Forecast Report. This map was submitted to the PUCO in Case 18-449-EL-FOR under OAC Rule 4901:5-5-04 (C)(2)(b). The map is incorporated by reference only. This map shows ATSI's 345 kV and 138 kV transmission lines and transmission substations including the Eastlake-Leroy Center 138 kV Transmission Line. The Project area is located approximately 3 1/5 inches (11" x 17"

printed version) from the right edge of the map and 1 1/10 inches (11" x 17" printed version) from the top of the map. The general location and layout of the project area is shown in **Exhibits 1** and **2**.

4906-6-05 (B)(4): Alternatives Considered

Alternatives to the proposed Project included the following:

- No Action – Continued operation of the system as currently configured does not reduce the risk of the loss of approximately 276 MW of load and corresponding loss of service to approximately 60,000 customers of FirstEnergy and American Municipal Power, Inc. ("AMP") under contingency scenarios.

- Alternative Placement of Ring Bus Substation – As the objective of the proposed Project is to sectionalize the Eastlake – Leroy Center 138kV Transmission Line, placement of the new substation as proposed between the existing Nash and Painesville Municipal Electric substations will effectively balance the loading on either side of the ring bus. Placement of the new substation at another position along this corridor will reduce the potential benefits, leaving one side with more exposure than the other.

- Alternatives to the Proposed Four-Breaker Ring Bus – Through the PJM review process for supplemental projects at the SRRTEP Western meeting, an alternative recommendation to the four-breaker ring bus project was proposed. The proposed alternative considered was to close normally open bus ties at Painesville Municipal Electric #1 and #2 substations and move line taps at these two sites to allow transmission network power flow through these substations. After review, this alternative proposal was determined to be less optimal than the Project for the following reasons:
  - Ownership requirements: FirstEnergy must have ownership and control of all Bulk Electric System ("BES") through-flow interrupting devices. The proposed alternative would require FirstEnergy to purchase the through-flow assets from Painesville Municipal Electric.

- Configuration requirements: FirstEnergy's standard configuration for substations with a loop feed is a ring bus. In order to implement the proposed alternative, FirstEnergy would need to build ring buses at both Painesville Municipal Electric substations. Because of the increased construction and acquisition costs for the proposed alternative, this alternative was ultimately rejected.

- Siting Alternatives – Available property between Nash and Painesville Municipal Electric were reviewed. The area is densely developed with residential and commercial properties along with forested areas and known wetlands. Limited suitable property was available within a reasonable distance to the existing transmission line corridor to house the proposed substation footprint. Given the transmission line requirements for the proposed project, a location was targeted as close to the corridor as practical. Availability of alternative sites was limited. Those that were available would have required greater land use impacts or required more complicated engineering to extend the transmission lines into the substation (e.g. crossing railroad tracks, or highways). Based on the analysis of alternative sites, no other site was identified that was available, had fewer impacts and lower Project costs. The proposed substation site is the best available for the Project.

4906-6-05 (B)(5): Public Information Program

The ATSI manager of External Affairs will advise local officials of features and the status of the proposed Project as necessary. ATSI will maintain a copy of this Letter of Notification application on FirstEnergy's website. Letters will be sent to affected property owners at least 7 days before construction begins informing them of the Project's start and a proposed timeframe of construction and restoration activities.

4906-6-05 (B)(6): Construction Schedule

Construction is scheduled to begin as early as May 9, 2019 and be completed by October 2019.

ATSI will publish notice of the Project in a local newspaper with general circulation in the Project area. Additionally, letters will be sent to affected property owners informing them of the Project when this Letter of Notification application is submitted to the Board.

4906-6-05 (B)(7): Area Map

Exhibit 1 depicts the general location of the Project on a United States Geological Survey ("USGS") topographic map. **Exhibit 2** shows the general Project layout superimposed on aerial imagery provided by ESRI, a geographic information system company.

4906-6-05 (B)(8): Property Owner List

The Project proposes to extend two transmission line loops from an existing transmission line corridor owned by the Cleveland Electric Illuminating Company ("CEI"), to a property owned by ATSI.

Table 1: Property Owner List

Parcel Number(s)	Property Owner	Mailing Address	Easement/Option/Land Use Agreement
11B0660000070	American Transmission Systems, Incorporated ("ATSI")	76 S. Main Street, Akron, OH 44308	ATSI Owned Parcel
11B8880361000	Cleveland Electric Illuminating Company ("CEI")	76 S. Main Street, Akron, OH 44308	Existing Transmission Right-of-Way

4906-6-05 (B)(9): TECHNICAL FEATURES OF THE PROJECT

4906-6-05 (B)(9)(a): Operating Characteristics

The equipment and facilities described below will be located within the fenced area of the new substation once construction is complete:

138 kV Circuit Breaker – 4

Relay Panel – 6

138 kV Switch – 14

138 kV Capacitive Voltage Transformer ("CCVT") – 12

138 kV Station Service Voltage Transformer ("SSVT") – 1

Control House – 1

The transmission line construction will have the following characteristics:

Voltage:	138 kV
Conductors:	795 kcmil 26/7 ACSR
Static Wire:	7#8 Alumoweld
Insulators:	Porcelain
ROW Width:	100 feet (138 kV Transmission Corridor)
Structure Types:	Existing lattice tower #1125, located in the existing transmission corridor, will be removed in order to extend the transmission line loops to the new ring bus. Four (4) new structures will be installed with the Project: **Exhibit 5** – Two (2) Deadend, Steel Pole Structures **Exhibit 6** – Two (2) Deadend, 3-Pole Steel Structures

4906-6-05 (B)(9)(b): Electric and Magnetic Fields

The closest occupied residence or institution is approximately 500 feet from the proposed transmission line; therefore, no Electric and Magnetic Field ("EMF") calculations are required by this code provision.

4906-6-05 (B)(9)(c): Estimated Cost

The estimated capital cost for the proposed project is approximately $11,400,000.

4906-6-05 (B)(10): SOCIAL AND ECOLOGICAL IMPACTS

4906-6-05 (B)(10)(a): Land Uses

The Project is located in Painesville Township in Lake County, Ohio. A majority of the Project Area is comprised of the maintained transmission line corridor. The proposed

transmission loop lines will extend from the existing transmission corridor to a recently acquired commercial parcel. A commercial building is present on recent aerial imagery used in **Exhibit 3**. Prior to the start of construction, pending approval from the OPSB, the existing building located on ATSI owned property will be demolished. Adjacent land use includes a commercial storage facility to the northeast, residential property across Lakeshore Boulevard generally to the north, a vacant commercial property to the west, and an existing transmission line corridor to the south.

4906-6-05 (B)(10)(b): Agricultural Land

No agricultural land is located with the proposed Project area.

4906-6-05 (B)(10)(c): Archaeological or Cultural Resources

As part of the investigation, a search of the Ohio Historic Preservation Office ("OHPO") online database was conducted to identify the existence of any significant archaeological or cultural sites within 0.50-miles of the Project Area. The results of the search are shown in **Exhibit 7**. The specific location of any archaeological resources are excluded from the map and are instead listed in Table 2.

The OHPO database includes all listings on the National Register of Historic Places ("NRHP") Database, including districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture. The results of the search indicate the no listed NRHP sites and no NRHP eligible sites are located within 0.50-miles of the Project Area.

The OHPO database also includes data pertaining to the Ohio Archaeological Inventory ("OAI"), the Ohio Historic Inventory ("OHI"), previous cultural resource surveys, and the Ohio Genealogical Society ("OGS") cemetery inventory. No OHI resources or OGS resources were identified within 0.50-mies of the Project Area. Two (2) OAI listed archeological resources and one (1) previous cultural resource survey have been previously inventoried within 0.50-miles of the Project Area and are shown in Tables 2 and 3.

Table 2. List of OAI Listed Archeological Resources

OAI Number	Affiliation	Description	County	Quad Name
LA0114	Prehistoric	Type Unknown	Lake	Mentor
LA0117	Prehistoric	Type Unknown	Lake	Mentor

Table 3. List of Previous Phase I Archaeological Assessments

Year	Name	County	Municipality
2006	Phase I Archaeological Survey for the LAK-2-3.32 (PID 13486) Reconstruction Project in the Municipalities of Eastlake, Willoughby, Mentor, and Painesville, Lake County, Ohio	Lake	Eastlake, Willoughby, Mentor, and Painesville

Ground disturbing activities will be limited to the parcels owned by CEI and ATSI referenced in Table 1. Both OAI resources LA0114 and LA0117 reside well outside the Project Area's disturbance footprint; therefore, the proposed Project will have no effect on these resources. The previous Phase I Archaeological Survey preformed within 0.50-miles of the Project Area was performed in support of the State Route 2 reconstruction project and did not encompass any portion of the Project Area disturbance footprint.

4906-6-05 (B)(10)(d): Local, State, and Federal Requirements

Table 4 shows the list of government agency requirements being obtained in association with the Project.

Table 4. List of Government Agency Requirements

Agency	Permit Requirement
Ohio EPA	NPDES General Permit for Storm Water Discharges Associated with Construction Activity
Painesville Township	Zoning Approval
Lake County Building Department	Plan Approval
Lake County Soil & Water Conservation District	Plan Approval
Lake County Engineer's Office	Plan Approval
ODOT	Access Permit

4906-6-05 (B)(10)(e): Endangered, Threatened, and Rare Species Investigation

Investigations regarding endangered, threatened and rare species and habitat included agency consultation requests, and a review of state listed wildlife and plant species.

TRC Companies, Inc., on behalf of FirstEnergy, submitted a request to the Ohio Department of Natural Resources ("ODNR") Office of Real Estate to conduct an Environmental Review of the Project Area on January 17, 2019. A response from ODNR is currently pending. In addition, TRC Companies, Inc., on behalf of FirstEnergy, submitted a request to the U.S. Fish and Wildlife Service ("USFWS") for an Ecological Review of the Project Area on January 17, 2019. A response from the USFWS was received on February 20, 2019. The USFWS comments indicate that there are no Federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the Project area, and that the Project is not anticipated to adversely affect any federally endangered, threatened, proposed, or candidate species. The response from the USFWS is included as **Exhibit 8**.

Records of State Listed Wildlife and Plant Species for Lake County, obtained from ODNR Division of Wildlife, were also reviewed. The list of state listed wildlife species is included in **Exhibit 9**, and a list of state listed plant species is included in **Exhibit 10**. Adverse impacts to state listed wildlife and plant species are not anticipated to result from the Project based on the current land use, surrounding setting, and absence of potential habitat for these species within the Project Area. In addition, no significant vegetative clearing will be required to support this Project.

4906-6-05 (B)(10)(f): Areas of Ecological Concern

TRC Companies, Inc., on behalf of FirstEnergy, performed a wetland and stream assessment of the Project Area. The assessment focused on the study area consisting of the commercial parcel along Lake Shore Boulevard, and a portion of the existing transmission corridor. A map of the delineated features is included as **Exhibit 11**. As part of this Project, approximately 0.08 acre of palustrine emergent ("PEM") wetlands

will be impacted. Since the acreage of wetland impacts is less than 0.1 acre and no other notification thresholds are exceeded pursuant to Nationwide Permit 12 under Section 404 of the Clean Water Act, a pre-construction notification to the Ohio EPAU.S. Army Corps of Engineers is not required. Existing access to the site will be retained from Lake Shore Boulevard for the Project. Temporary work will need to take place within the boundary of wetlands depicted on Exhibit 11. Best management practices will be utilized to protect the identified wetlands with the use of construction wetland matting and the implementation of erosion and sediment controls.

The Project Area work limits do not encroach on any regulated floodplains based on a review on online FEMA Flood Insurance Rate Mapping.

4906-6-05(B)(10)(g): Other Information

Construction and operation of the proposed Project will be in accordance with the requirements specified in the latest revision of the National Electric Safety Code as adopted by the PUCO and will meet all applicable safety standards established by the Occupational Safety and Health Administration.

No other or unusual conditions are expected that will result in significant environmental, social, health or safety impacts.

4906-6-07: Documentation of Letter of Notification Transmittal and Availability for Public Review

This Letter of Notification application is being provided to the following officials in Painesville Township in Lake County, Ohio.

Lake County

Mr. Jerry C. Cirino, President
Lake County Board of Commissioners
105 Main Street
Painesville, OH 44077

Mr. Walter R. Siegel, Chair
Lake County Planning Commission
105 Main Street
Painesville, OH 44077

Mr. Ron Young, Vice President
Lake County Board of Commissioners
105 Main Street
Painesville, OH 44077

Mr. James R. Gills, P.E., P.S.
Lake County Engineer
550 Blackbrook Road
Painesville Twp., OH 44077

Mr. John R. Hamercheck, Commissioner
Lake County Board of Commissioners
105 Main Street
Painesville, OH 44077

Mr. Dan Donaldson, District Administrator
Lake County Soil & Water Conservation District
125 E. Erie Street #1
Painesville, OH 44077

Painesville Township

Mr. Michael Manary, Administrator
Painesville Township
55 Nye Road
Painesville Township, OH 44077

Mr. Josh Pennock, Trustee
Painesville Township Trustee
55 Nye Road
Painesville Township, OH 44077

Mr. Gabe Cicconetti, Trustee
Painesville Township Trustee
55 Nye Road
Painesville Township, OH 44077

Mr. Michael A. Patriarca, Fiscal Officer
Painesville Township Trustee
55 Nye Road
Painesville Township, OH 44077

Mr. Chuck Hillier, Trustee
Painesville Township Trustee
55 Nye Road
Painesville Township, OH 44077

Local Library

Aurora Martinez, Director
Morley Library
184 Phelps Street
Painesville, OH 44077

Copies of the transmittal letters to these officials have been included with this application as proof of compliance under OAC Rule 4906-6-07 (B) to provide the Board with proof of notice to local officials as required by OAC Rule 4906-6-07 (A)(1) and to libraries per OAC Rule 4906-6-07 (A)(2).

Information is posted at www.firstenergycorp.com/about/transmission_project/ohio.html on how to request an electronic or paper copy of this Letter of Notification application. The link to this website is being provided to meet the requirements of OAC Rule 4906-6-07 (B) and to provide the Board with proof of compliance with the notice requirements in OAC Rule 4906-6-07 (A)(3).