

# AMERICAN TRANSMISSION SYSTEMS, INCORPORATED &

### **OHIO EDISON COMPANY**

## LETTER OF NOTIFICATION East Akron-Hanna 138 kV Transmission Line Tap To Old Forge Substation OPSB CASE NO.: 12-\_\_\_\_-EL-BLN

January 4, 2013

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

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Ohio Edison Company 76 South Main Street Akron, Ohio 44308

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#### LETTER OF NOTIFICATION EAST AKRON-HANNA 138 kV TRANSMISSION LINE TAP TO OLD FORGE SUBSTATION

The following information is being provided in accordance with the procedures delineated in Ohio Administrative Code Section 4906-11-01: <u>Letter of Notification Requirements</u> of the Rules and Regulations of the Ohio Power Siting Board.

#### 4906-11-01 (B): General Information

#### <u>4906-11-01 (B) (1) a : Name and Reference Number</u>

Name of Project:	East Akron-Hanna 138 kV Transmission Line Tap to Old
	Forge Substation ("Project")

2012 LTFR Reference: This Project is not identified in FirstEnergy Corp.'s 2012 Electric Long-Term Forecast Report ("LTFR") submitted to the Public Utility Commission of Ohio in Case Number 12-504-EL-FOR.

#### 4906-11-01 (B) (1) b: Brief Description of Project

In the East Akron-Hanna 138 kV Transmission Line Tap to Old Forge Substation Project, American Transmission Systems, Incorporated ("ATSI") and Ohio Edison Company ("OE"), subsidiaries of FirstEnergy Corp., will install a single radial tap, with two switches, extending from the existing East Akron-Hanna 138 kV transmission line to the take off structure of the Old Forge Substation, approximately 300 feet away. The general location of the Project is shown in Exhibit 1, which is a partial copy of the United States Geological Survey, Portage County, Ohio Quad, Maps ID 41081-A3 and 41081-A4. Exhibit 2 shows the general layout of the proposed Project.

The Project is located on the south side of Old Forge Road approximately 0.6 miles east of the intersection of Mogadore Road and Eastwood Avenue/Old Forge Road in Brimfield Township, Portage County, Ohio on an approximately 29.27 acre parcel

owned by OE. ATSI's existing East Akron-Hanna 138 kV transmission line ("Transmission Line") bisects the property. The Transmission Line extends to the southwest and north on this property. Two new switches will be installed on new wood poles, one on each side of the tap. The switch structures will be located approximately 150 feet on the north and south sides of the tap structure.

The Project will be located on the existing right-of-way of the East Akron-Hanna 138 kV transmission line and OE's property at the Old Forge Substation. ATSI owns the existing East Akron-Hanna 138 kV transmission line and will own the two new switch structures and the tap structure on this line. OE will own the transmission line tap.

# <u>4906-11-01 (B) (1) c: Why the Project Meets the Requirements for a Letter of Notification</u>

The Project meets the requirements for a Letter of Notification because the Project is within the types of project defined by Items (1)(d) and (4)(a) of the Interim Application Requirement Matrix for Electric Power Transmission Lines in Appendix A of 4906-1-01 of the Ohio Administrative Code. These items state:

1) Rerouting or extension or new construction of single or multiple circuit electric power transmission line(s) as follows:

(d) Line(s) one hundred twenty-five kV and above, but less than three hundred kV, and greater than 0.2 miles in length but not greater than two miles in length.

(4) Replacing electric power transmission line structure(s) with a different type of structure(s) or adding structure(s) within an existing electric power transmission line and:

(a) Two miles or less of new right-of-way required.

As described above the proposed Project includes installing a single radial tap, with two switches, extending from the existing East Akron-Hanna 138 kV transmission line to the take off structure located at the Old Forge Substation, approximately 300 feet away.

#### <u>4906-11-01 (B) (2): Need for the Project</u>

The Old Forge Substation, located south of the Kent, Ohio area, is required to relieve area distribution loading problems and Planning Criteria. The area is located on the south side of the city of Kent and has been experiencing heavy commercial and residential load growth.

#### 4906-11-01 (B) (3): Location Relative to Existing or Proposed Lines

The location of the Project relative to existing or proposed transmission lines is shown in the FirstEnergy System Facilities map, included as the last page of Chapter 3 of the confidential portion of the FirstEnergy Corp. 2012 Long-Term Forecast Report submitted to the PUCO in case no. 12-504-EL-FOR under rules 4901:5-5:04 (C) of the Ohio Administrative Code. This map shows ATSI's 345 kV and 138 kV transmission lines and transmission substations, including the location of the East Akron-Sammis 138 kV Transmission Line. The project area is located approximately 4 1/16 inches (11 by 17 inch printed version) from the right edge of the map box and 5 7/16 inches (11 by 17 inch printed version) from the bottom of the map box. The general location of the Project is shown in Exhibit 1, which is a partial copy of the United States Geological Survey, Portage County, Ohio Quad, Maps ID 41081-A3 and 41081-A4. Exhibit 2 shows the general layout of the proposed Project.

#### 4906-11-01 (B) (4): Alternatives Considered

Alternatives considered included installing an additional transformer and distribution circuits at the Gilchrist Substation and extending the feeders from the Gilchrist Substation to Tallmadge Road and Old Forge Road to relieve Brimfield #1 and #2 transformers with load transformers from the Howe, Burnette and Arcadia distribution circuits. This option was rejected because it is considerably more expensive due to the amount of line work (4 miles) from the Gilchrist Substation to the Brimfield areas.

East Akron-Hanna 138 kV Transmission Line Tap To Old Forge Substation

#### 4906-11-01 (B) (5): Construction Schedule

Construction on the proposed Project is scheduled to begin on or about March 1, 2013, and is expected to be placed in service by June 1, 2013.

#### 4906-11-01 (B) (6): Area Map

Exhibit 1 is a map depicting the general location of the Project site. To locate and view the Project site from the Columbus, Ohio area, travel northeast on I-71 (SR-161) to I-76 near Lodi, Ohio. From I-76, take exit 29 towards Tallmadge/Mogadore. Turn right on Southeast Ave, OH-532 for 0.2 miles and turn left on Newton Street. Travel on Newtown Street for 1 mile and turn right onto Old Forge Road/County Route 82. Travel on Old Forge Rd for approximately 0.5 miles. The Project Area is located on the right and is adjacent to the steel lattice towers.

#### 4906-11-01 (B) (7): Property Owner List

The Old Forge Substation is located on property owned by OE and no additional land rights are needed for this Project.

#### 4906-11-01 (C): Technical Features of the Project

#### 4906-11-01 (C) (1): Operating Characteristics

The new transmission line tap, similar to the existing East Akron-Hanna 138 kV transmission line, will be designed and constructed for 138 kV operations. Additional details are included in section 4906-11-02(B)(2) above. The transmission line tap has the following characteristics:

Voltage:	138 kV
Tap Conductor:	336.4 kcmil 26/7 ACSR
Switches:	138-kV MOAB switches with SCADA control
Structure types:	
Structure 1:	New Wood Pole Structures (Exhibit 3)
Structure 2:	Switch Structure (Exhibit 4)
Structure 3:	Wood Static-Wire Pole (Exhibit 5)

#### 4906-11-01 (C) (2) (a): Calculated Electric and Magnetic Fields

The following table itemizes the line loading of the transmission line tap being installed in the proposed Project. The proposed Project normal line loading is 46 amps and the emergency line loading is 71 amps. The winter rating for the proposed Project is based on the continuous maximum conductor ratings (MCR) of the circuits for an ambient temperature of zero degrees centigrade (32 deg. F), wind speed of 1.3 miles per hour, and a circuit design operating temperature of 100 degrees centigrade (212 deg. F).

Line Name	Normal Loading	Emergency	Winter Rating
	Amps	Loading Amps	Amps
East Akron-Hanna 138 kV Transmission Line Tap to Old Forge Substation	46	71	754

The following calculations provide an approximation of the magnetic and electric fields strengths of the new 138 kV transmission line tap. The calculations provide an approximation of the electric and magnetic field levels based on specific assumptions utilizing the EPRI EMF Workstation 2009 program software. This program software assumes the input transmission line configuration is located on flat terrain. Also, a balanced, three-phase circuit loading is assumed for the transmission circuit. The model utilizes the normal line loading, emergency line loading, and winter conductor rating of the tap.

EMF CALCULATIONS		Electric Field kV/meter	Magnetic Field mGauss
Normal	Under Lowest Conductors	1.79	5.47
Loading	At Right-of-Way Edges	0.40	2.86
Emergency Loading	Under Lowest Conductors	1.79	8.44
	At Right-of-Way Edges	0.40	4.41
Winter Rating	Under Lowest Conductors	1.79	89.68
	At Right-of-Way Edges	0.40	46.85

#### <u>4906-11-01 (C) (2) (b): EMF Discussion</u>

#### **Background Information**

Electric and magnetic fields (EMFs) are naturally occurring in the environment and can be found in the Earth's interior and in the human body. EMFs are generated essentially anywhere there is a flow of electricity, including electrical appliances and power equipment. Electric fields are associated with the voltage of the source; magnetic fields are associated with the flow of current in a conductor. The strength of these fields decreases rapidly with distance from the source. EMFs associated with electricity use are not disruptive to cells, unlike x-rays or ultraviolet rays from the sun which are harmful. These fields are thought to be too weak to break molecular or chemical bonds in cells. Extensive research has been conducted over the past three decades to determine whether EMFs are associated with adverse health effects. A number of independent scientific panels have reviewed the research and have stated that there is no basis to conclude that EMFs cause adverse health effects nor has it been shown that levels in everyday life are harmful.

#### Recent Developments

As a part of the National Energy Policy Act of 1992, the Electric and Magnetic Fields Research and Public Information Dissemination (EMF RAPID) program was initiated within the five-year effort under the National EMF Research Program. The culmination of this five-year effort resulted in a final RAPID Working Group report, which was released for public review in August 1998. The Director of the National Institutes of Environmental Health Sciences (NIEHS) then prepared a final report to Congress after receiving public comments.

The NIEHS' Director's final report, released to Congress on May 4, 1999, concluded that extremely low frequency electric and magnetic fields (ELF-EMF) exposure cannot be recognized at this time as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard. The Director further stated that the conclusion of this report is insufficient to warrant aggressive regulatory concern.

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#### Sources for Additional Information

The following websites sponsored by federal agencies or other organizations provide additional information on EMF:

- Centers for Disease Control/National Institute for Occupational Safety and Health: <u>http://www.cdc.gov/niosh/topics/emf/</u>
- National Institute of Environmental Health Sciences (NIEHS) EMF Rapid Program: <u>http://www.niehs.nih.gov/emfrapid/home.htm</u>

#### <u>4906-11-01 (C) (3): Estimated Costs</u>

The estimated capital costs for the Project is \$396,812

#### 4906-11-01 (D): Socioeconomic Data

#### 4906-11-01 (D) (1): Land Use

The Project area is located predominately on agricultural land. The eastern and southern portion of the Project area consists of scrub shrub and woodlots. Neighboring land use in the area of the proposed Project includes agricultural and residential use. The Project area is located between the city of Tallmadge in Summit County, Ohio and Brimfield census designated place (CDP) in Portage County, Ohio. The Project area is located entirely within Portage County. Based on the U.S. Census Bureau, the 2010 population for the city of Tallmadge was 17,537, Brimfield CDP was 3,343, and Portage County was 161,419.

#### <u>4906-11-01 (D) (2): Agricultural Land</u>

Installation of the new poles will utilize a small portion of land currently used for agricultural purposes.

#### 4906-11-01 (D) (3): Archaeological or Cultural Resources

As part of ATSI's investigation of the project site, a search of the Ohio Historic Preservation Office (OHPO) National Register of Historic Places on-line database was conducted. This search did not identify the existence of any historic sites within the project area. Properties in the OHPO database include all Ohio listings on the National

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Register of Historic Places as well as districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The Brimfield Station-Westlawn Cemetery is located approximately 0.9 miles north of the project area.

#### 4906-11-01 (D) (4) a: Documentation of Letter of Notification Transmittal

This Letter of Notification is being provided to the following officials of Brimfield Township, and Portage County, Ohio. Copies of the transmittal letters to these officials have been included with the transmittal letter submitting this Letter of Notification to the Ohio Power Siting Board.

#### **Portage County**

Mr. Chris Smeiles, President Portage County Board of Commissioners 449 S. Meridian Street, 7th Floor, Portage County Administration Bldg. Ravenna, Ohio 44266

Ms. Maureen T. Frederick, Board Member Portage County Board of Commissioners 449 S. Meridian Street, 7th Floor, Portage County Administration Bldg. Ravenna, Ohio 44266

Ms. Tommie Jo Marisilio, Vice President Portage County Board of Commissioners 449 S. Meridian Street, 7th Floor, Portage County Administration Bldg. Ravenna, Ohio 44266

#### **Brimfield Township (Portage County)**

Ms. Sue Fields Brimfield Township Trustee Brimfield Town Hall 1333 Tallmadge Road Brimfield, Ohio 44240

Mr. Michael Marozzi Portage County Engineer 5000 Newton Falls Road Ravenna, Ohio 44266

Mr. Todd Peetz, Director Portage County Regional Planning Commission 124 North Prospect Street Ravenna, Ohio 44266

Mr. Mike Kostensky Brimfield Township Trustee Brimfield Town Hall 1333 Tallmadge Road Brimfield, Ohio 44240

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Mr. Charles Sprague Brimfield Township Trustee Brimfield Town Hall 1333 Tallmadge Road Brimfield, Ohio 44240 John C. Dalziel Brimfield Township Fiscal Officer Brimfield Town Hall 133 Tallmadge Road Brimfield, Ohio

#### 4906-11-01 (D) (4) b: Public Information Program

Ohio Edison's Manager of External Affairs will advise local officials of features and the status of the proposed transmission line Project as necessary.

#### 4906-11-01 (D) (5): Current or Pending Litigation

There is no known current or pending litigation involving this Project.

#### 4906-11-01 (D) (6): Local, State, and Federal Requirements

A wetland area and small intermittent stream located on the project site may be impacted by the project activities at the site, however, it is anticipated that all impacts can be permitted through the U.S. Army Corps of Engineers (USACE) Nationwide Permit (NWP) program and the companion Ohio Environmental Protection Agency (OEPA) 401 Water Quality Certification. There are no additional known local, state, or federal requirements that must be met prior to commencement of construction on the proposed transmission line Project.

#### 4906-11-01 (E): Environmental Data

#### 4906-11-01 (E) (1): Endangered, Threatened, and Rare Species Investigation

A written request was submitted to the Ohio Department of Natural Resources (ODNR) to research the presence of any endangered, threatened, or rare species within the Project area. At the time of filing ODNR's response had not been received.

#### 4906-11-01 (E) (2): Areas of Ecological Concern

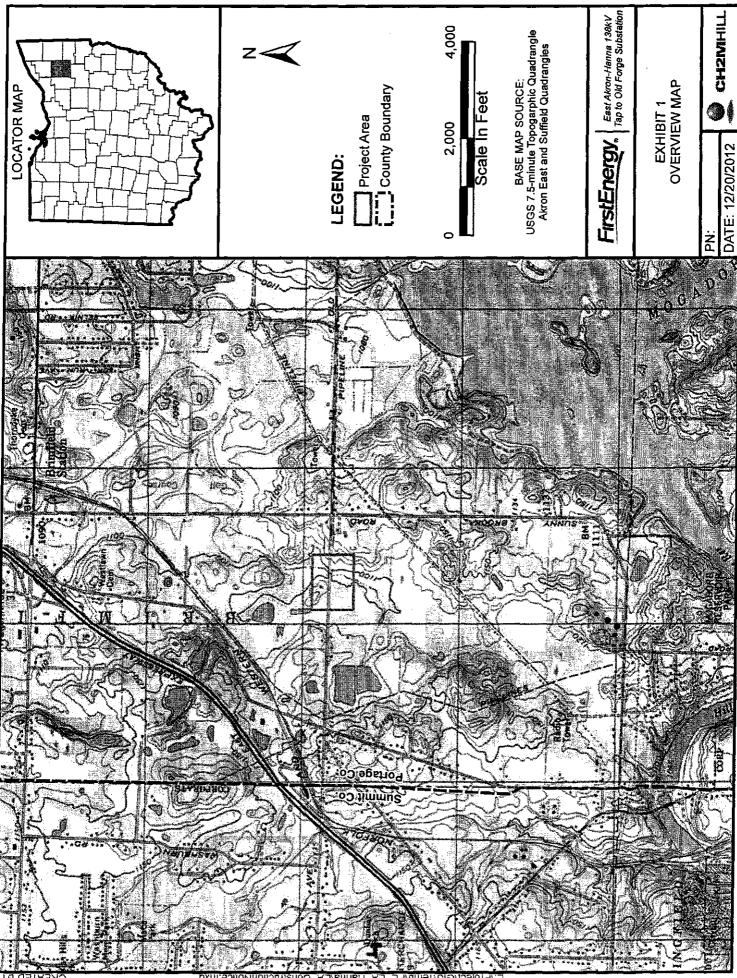
A visual assessment of the Project area identified a wetland area and small intermittent stream located on the project site that may be impacted by the project activities. It is

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anticipated, however, that all impacts can be permitted through the U.S. Army Corps of Engineers (USACE) Nationwide Permit (NWP) program, Under Nationwide Permit 12, and the companion Ohio Environmental Protection Agency (OEPA) 401 Water Quality Certification. Anticipated impacts would include the permanent installation of two new wooden poles, and temporary disturbance due to construction access. It is anticipated that temporary impacts associated with construction activities will be restored after construction has been completed.

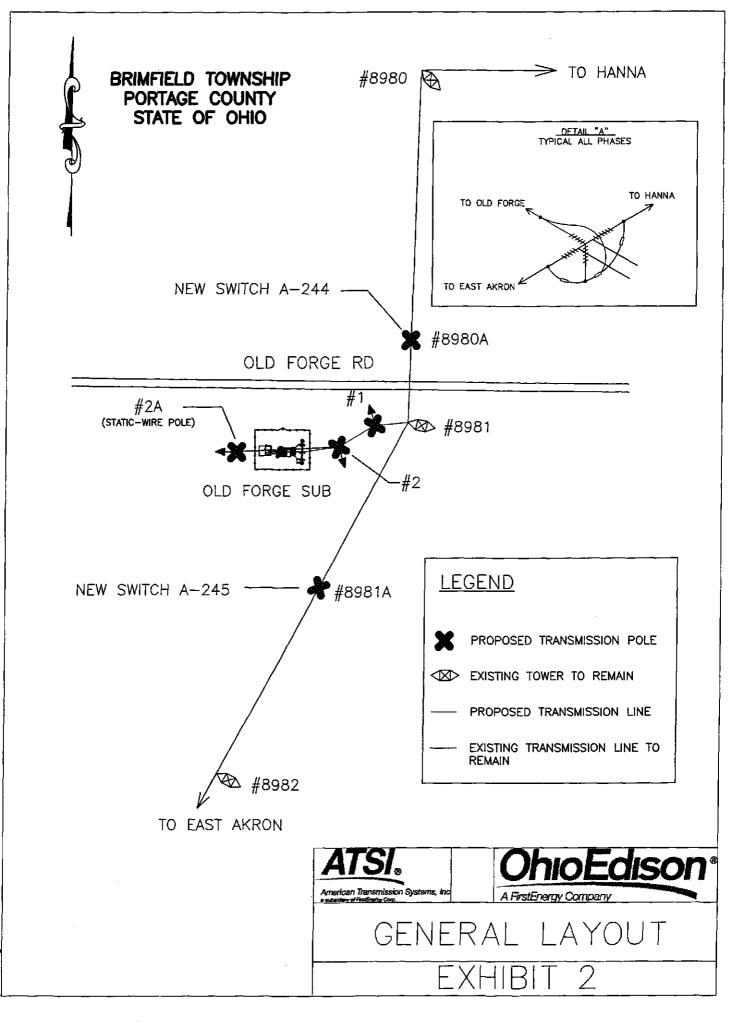
#### 4906-11-01 (E) (3): Additional Information

Construction and operation of the proposed Project 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 and will meet all applicable safety standards established by Occupational Safety and Health Administration.

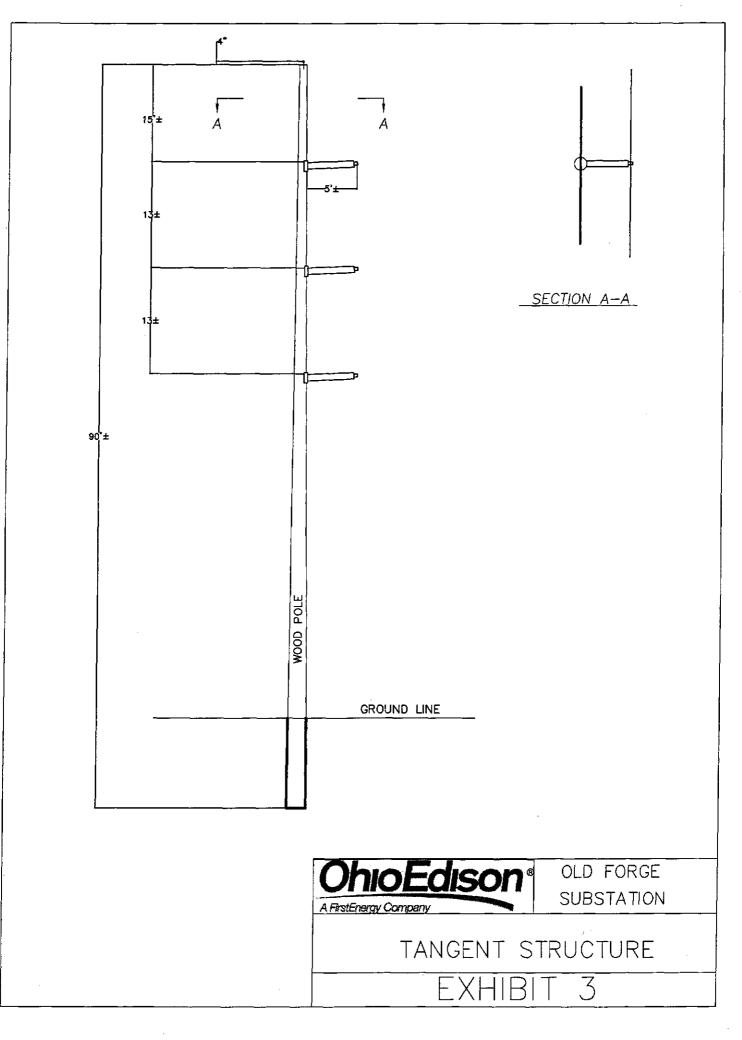


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