

# Staff Report of Investigation

South Field Energy Generation Facility

Case Number 15-1716-EL-BGN

May 20, 2016



Power Siting  
Board

John R. Kasich, Governor | Andre T. Porter, Chairman

**In the Matter of the Application of South Field Energy, )  
LLC for a Certificate of Environmental Compatibility )  
and Public Need to Construct an Electric Generation )  
Facility in Columbiana County. )**

**15-1716-EL-BGN**

## **Staff Report of Investigation**

Submitted to the  
OHIO POWER SITING BOARD

BEFORE THE POWER SITING BOARD OF THE STATE OF OHIO

**In the Matter of the Application of South Field Energy, )  
LLC for a Certificate of Environmental Compatibility ) 15-1716-EL-BGN  
and Public Need to Construct an Electric Generation )  
Facility in Columbiana County. )**

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| Chairman, Public Utilities Commission     | Director, Department of Natural Resources |
| Director, Department of Agriculture       | Public Member                             |
| Director, Development Services Agency     | Ohio House of Representatives             |
| Director, Environmental Protection Agency | Ohio Senate                               |
| Director, Department of Health            |   |

To the Honorable Power Siting Board:

In accordance with the Ohio Revised Code (R.C.) 4906.07(C) and rules of the Ohio Power Siting Board (Board), Staff has completed its investigation in the above matter and submits its findings and recommendations in this staff report for consideration by the Board.

The Staff of the Public Utilities Commission of Ohio (Staff) has prepared this *Staff Report of Investigation*. The findings and recommendations contained in this report are the result of Staff coordination with the following agencies that are members of the Board: Ohio Environmental Protection Agency, the Ohio Department of Health, the Ohio Development Services Agency, the Ohio Department of Natural Resources, and the Ohio Department of Agriculture. In addition, the Staff coordinated with the Ohio Department of Transportation, the Ohio Historic Preservation Office, the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the Federal Aviation Administration.

In accordance with R.C. 4906.07 and 4906.12, copies of this staff report have been filed with the Docketing Division of the Public Utilities Commission of Ohio and served upon the Applicant or its authorized representative, the parties of record, and the main public libraries of the political subdivisions in the project area.

The staff report presents the results of the Staff's investigation conducted in accordance with R.C. Chapter 4906 and the rules of the Board, and does not purport to reflect the views of the Board nor should any party to the instant proceeding consider the Board in any manner constrained by the findings and recommendations set forth herein.

Respectfully submitted,



Patrick Donlon  
Director, Rates and Analysis  
Public Utilities Commission of Ohio

## TABLE OF CONTENTS

|  |    |
|--|----|
| I. POWERS AND DUTIES .....                               | 1  |
| Ohio Power Siting Board .....                            | 1  |
| Nature of Investigation .....                            | 1  |
| Criteria .....   | 3  |
| II. APPLICATION .....                                    | 5  |
| Applicant .....  | 5  |
| History of the Application .....                         | 5  |
| Project Description .....                                | 7  |
| Project Maps .....                                       | 10 |
| III. CONSIDERATIONS AND RECOMMENDED FINDINGS .....       | 13 |
| Basis of Need .....                                      | 13 |
| Nature of Probable Environmental Impact .....            | 14 |
| Minimum Adverse Environmental Impact .....               | 22 |
| Electric Grid .....                                      | 24 |
| Air, Water, Solid Waste, and Aviation .....              | 26 |
| Public Interest, Convenience, and Necessity .....        | 29 |
| Agricultural Districts .....                             | 30 |
| Water Conservation Practice .....                        | 31 |
| IV. RECOMMENDED CONDITIONS OF CERTIFICATE .....          | 33 |
| General Conditions .....                                 | 33 |
| Socioeconomic Conditions .....                           | 34 |
| Ecological Conditions .....                              | 35 |
| Public Services, Facilities, and Safety Conditions ..... | 36 |
| Air, Water, Solid Waste, and Aviation Conditions .....   | 37 |

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## **I. POWERS AND DUTIES**

### **OHIO POWER SITING BOARD**

The Ohio Power Siting Board (Board) was created in 1972, by amended Substitute House Bill 694. The authority of the Board is prescribed by Ohio Revised Code (R.C.) Chapter 4906.

R.C. 4906.03 authorizes the Board to issue certificates of environmental compatibility and public need for the construction, operation, and maintenance of major utility facilities defined in R.C. 4906.01. Included within this definition of major utility facilities are: electric generating plants and associated facilities designed for, or capable of, operation at 50 megawatts (MW) or more; electric transmission lines and associated facilities of a design capacity greater than or equal to 125 kilovolts (kV); and gas and natural gas transmission lines and associated facilities designed for, or capable of, transporting gas or natural gas at pressures in excess of 125 pounds per square inch. In addition, pursuant to R.C. 4906.20, the Board authority applies to economically significant wind farms, defined in R.C. 4906.13(A) as wind turbines and associated facilities with a single interconnection to the electrical grid and designed for, or capable of, operation at an aggregate capacity of 5 MW or greater but less than 50 MW.

Membership of the Board is specified in R.C. 4906.02(A). The voting members include: the Chairman of the Public Utilities Commission of Ohio (PUCO) who serves as Chairman of the Board; the directors of the Ohio Environmental Protection Agency (Ohio EPA), the Ohio Department of Health, the Ohio Development Services Agency, the Ohio Department of Agriculture, and the Ohio Department of Natural Resources (ODNR); and a member of the public, specified as an engineer, appointed by the Governor from a list of three nominees provided by the Ohio Consumers' Counsel. Ex-officio Board members include two members (with alternates) from each house of the Ohio General Assembly.

### **NATURE OF INVESTIGATION**

The Board has promulgated rules and regulations, found in Chapter 4906 of the Ohio Administrative Code (Ohio Adm.Code), which establish application procedures for major utility facilities and wind farms.

#### **Application Procedures**

Any person that wishes to construct a major utility facility or economically significant wind farm in this state must first submit to the Board an application for a certificate of environmental compatibility and public need.<sup>1</sup> The application must include a description of the facility and its location, a summary of environmental studies, a statement explaining the need for the facility and how it fits into the Applicant's energy forecasts (for transmission projects), and any other information the Board may consider relevant.<sup>2</sup>

Within 60 days of receiving an application, the Board must determine whether the application is sufficiently complete to begin an investigation.<sup>3</sup> If an application is considered complete, the Chairman of the Board will cause a public hearing to be held 60 to 90 days after the official filing

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<sup>1</sup> R.C. 4906.04 and 4906.20.

<sup>2</sup> R.C. 4906.10(A) and 4906.20(B)(1).

<sup>3</sup> Ohio Adm.Code 4906-5-05(A), effective for applications filed before December 11, 2015.

date of the completed application. At the public hearing, any person may provide written or oral testimony and may be examined by the parties.<sup>4</sup>

### **Staff Investigation and Report**

The Chairman will also cause each application to be investigated and a report published by the Board's Staff not less than 15 days prior to the public hearing.<sup>5</sup> The report sets forth the nature of the investigation and contains the findings and conditions recommended by Staff. The Board's Staff, which consists of career professionals drawn from the Staff of the PUCO and other member agencies of the Board, coordinates its investigation among the agencies represented on the Board and with other interested agencies such as the Ohio Department of Transportation (ODOT), the Ohio Historical Society, and the U.S. Fish and Wildlife Service (USFWS).

The technical investigations and evaluations are conducted pursuant to Ohio Adm.Code Chapter 4906. The recommended findings resulting from Staff's investigation are described in the staff report pursuant to R.C. 4906.07(C). The report does not represent the views or opinions of the Board and is only one piece of evidence that the Board may consider when making its decision. Once published, the report becomes a part of the record, is served upon all parties to the proceeding and is made available to any person upon request.<sup>6</sup> A record of the public hearings and all evidence, including the staff report, may be examined by the public at anytime.<sup>7</sup>

### **Board Decision**

The Board may approve, modify and approve, or deny an application for a certificate of environmental compatibility and public need. If the Board approves, or modifies and approves an application, it will issue a certificate subject to conditions. The certificate is also conditioned upon the facility being in compliance with applicable standards and rules adopted under the Ohio Revised Code.<sup>8</sup>

Upon rendering its decision, the Board must issue an opinion stating its reasons for approving, modifying and approving, or denying an application for a certificate of environmental compatibility and public need.<sup>9</sup> A copy of the Board's decision and its opinion is memorialized upon the record and must be served upon all parties to the proceeding.<sup>10</sup> Any party to the proceeding that believes its issues were not adequately addressed by the Board may submit within 30 days an application for rehearing.<sup>11</sup> An entry on rehearing will be issued by the Board within 30 days and may be appealed within 60 days to the Supreme Court of Ohio.<sup>12</sup>

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<sup>4</sup> R.C. 4906.08(C).

<sup>5</sup> R.C. 4906.07.

<sup>6</sup> R.C. 4906.07(C) and 4906.10.

<sup>7</sup> R.C. 4906.09 and 4906.12.

<sup>8</sup> R.C. 4906.10.

<sup>9</sup> R.C. 4906.11.

<sup>10</sup> R.C. 4906.10(C).

<sup>11</sup> R.C. 4903.10 and 4906.12.

<sup>12</sup> R.C. 4903.11, 4903.12, and 4906.12.

## **CRITERIA**

Staff developed the recommendations and conditions in this *Staff Report of Investigation* pursuant to the criteria set forth in R.C. 4906.10(A), which reads, in part:

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 pipeline;
- (2) The nature of the probable environmental impact;
- (3) That 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, that the 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 that the facility will serve the interests of electric system economy and reliability;
- (5) That the facility will comply with Chapters 3704, 3734, and 6111 of the Revised Code and all rules and standards adopted under those chapters and under sections 1501.33, 1501.34, and 4561.32 of the Revised Code. In determining whether the facility will comply with all rules and standards adopted under section 4561.32 of the Revised Code, the board shall consult with the office of aviation of the division of multi-modal planning and programs of the department of transportation under section 4561.341 of the Revised Code;
- (6) That the facility will serve the public interest, convenience, and necessity;
- (7) In addition to the provisions contained in divisions (A)(1) to (6) of this section and rules adopted under those divisions, what its impact will be on the viability as agricultural land of any land in an existing agricultural district established under Chapter 929 of the Revised Code that is located within the site and alternative site of the proposed major utility facility. Rules adopted to evaluate impact under division (A)(7) of this section shall not require the compilation, creation, submission, or production of any information, document, or other data pertaining to land not located within the site and alternative site; and
- (8) That 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.



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## **II. APPLICATION**

### **APPLICANT**

South Field Energy, LLC (Applicant) falls within the corporate structure of Advanced Power AG, an international developer of independent power generation projects. Advanced Power, Incorporated in 2000 in Zug, Switzerland, has developed more than 15,000 MW of power generation projects in North America and Europe.<sup>13</sup>

### **HISTORY OF THE APPLICATION**

Prior to formally submitting its application, the Applicant consulted with Staff and representatives of the Board regarding application procedures.

On October 20, 2015, the Applicant held a public information meeting regarding the proposed electric generating facility in Wellsville, Ohio.

On December 7, 2015, the Applicant filed the South Field Energy Generation Facility application.

On December 7, 2015, the Applicant also filed a Motion for Waivers from the requirements to provide an extensive site selection study, to supply a site map showing existing vegetative cover and cover that may be removed during construction, to supply a map of the grade elevations where modified during construction, and to provide a layout map of the water supply and sewage lines for the proposed facility. Staff did not oppose the waiver requests, and the Administrative Law Judge granted the waiver requests in an Entry dated March 29, 2016.

On February 5, 2016, the Director of Rates and Analysis, PUCO issued the Applicant a letter of compliance regarding the application.

On February 17, 2016, American Transmission Systems, Inc. (ATSI) and Ohio Edison filed a Motion to Intervene in the case.

On March 4, 2016, the Ohio Valley Jobs Alliance and Kenneth Johnson filed a Motion to Intervene in the case.

On March 29, 2016, the Administrative Law Judge issued an Entry consolidating this case with the interconnection facilities case (case number 15-1717-EL-BTX) and establishing a procedural schedule for the cases.

On May 12, 2016, the Columbiana County Development Department and Yellow Creek Township filed motions to intervene in the cases.

A local public hearing is scheduled for June 6, 2016 at 6:00 p.m., at the Wellsville High School, 1 Bengal Boulevard, Wellsville, Ohio 43968. The adjudicatory hearing will commence on June 21, 2016, at 10:00 a.m., in Hearing Room 11-D, at the offices of the PUCO, 180 East Broad Street, Columbus, Ohio, 43215.

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<sup>13</sup> “About,” Advanced Power, accessed May 5, 2016, <http://advancedpowerna.com>.

This summary of the history of the application does not include every filing in case number 15-1716-EL-BGN. The docketing record for this case, which lists all documents filed to date, is accessible online at <http://dis.puc.state.oh.us>.

## **PROJECT DESCRIPTION**

The Applicant proposes to develop, build, and operate a \$925 million natural gas-fired combined-cycle generating facility with a capacity of 1,105 MW in Yellow Creek Township, Columbiana County, Ohio.

### **Project Area**

The proposed location for the facility consists of 150-acre parcel located in Yellow Creek Township, Columbiana County at the northwest corner of the intersection between Forbes Road and Hibbetts-Mill Road. The site is located less than one mile south of State Route 45 and is generally bounded by Hibbetts-Mill Road to the south and east.

### **Construction Laydown Areas**

The Applicant intends to deliver construction materials directly to the construction site. The Applicant would use 20 acres on the project site as a temporary construction laydown area. The Applicant would also use an additional 13-acre parcel that is located adjacent to and immediately southeast of the project site as a temporary construction laydown/staging area for material and equipment storage, construction trailers, and parking. The Applicant may install lighting in its temporary construction parking area.

### **Generating Equipment**

The facility would utilize two 320 MW combustion turbine generators. The Applicant is considering the General Electric 7HA.02 model. The combustion turbines would include evaporative coolers as an inlet air cooling system, which utilizes water to increase the density of the turbine inlet air and increases performance on hot summer days. The facility would be capable of year-round operation but actual hours of operation would depend upon energy needs in the region and would incorporate downtime for planned and unplanned maintenance events.

The facility would also include two three-pressure-level heat recovery steam generators (HRSG) with auxiliary duct burners. The facility would also include two reheat condensing steam turbine generators—each with an output of 246 MW. Each steam turbine generator would be connected to a HRSG.<sup>14</sup> For faster facility startup, an auxiliary steam boiler would be used to generate steam. The heat rate for the combined cycle power plant would be approximately 6,340 British thermal units per kilowatt-hour.<sup>15</sup> The sum of the two combustion turbines (320 MW) and two steam turbine generators (246 MW) yields a gross power output of 1,132 MW. Some of this power would be used to operate equipment on-site. The nominal net output of the facility is 1,105 MW.

A standby/backup diesel generator would be used to safely shut the facility down in the event of a power delivery disruption and then power essential services.

### **Air Emission Control and Monitoring Equipment**

The primary fuel for the facility would be natural gas, with the capability to use ultra-low sulfur distillate (ULSD) as a back-up fuel. In order to minimize emissions of nitrogen oxides (NO<sub>x</sub>), the combustion turbines would include dry low NO<sub>x</sub> (DLN) burners. Selective catalytic reduction (SCR) systems installed in the HRSG exhausts would further reduce NO<sub>x</sub> concentrations during

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<sup>14</sup> A HRSG is a heat exchanger that recovers heat from a hot gas stream and produces steam.

<sup>15</sup> Heat rate is a measure of the efficiency of electric power generation.

operation of the facility. NO<sub>x</sub> emissions would be higher during facility start-up and shutdown, due to less efficient combustion during these periods.

The Applicant would use good combustion practices and an oxidation catalyst to control emissions to best available control technology levels for control of carbon monoxide (CO). This would also minimize volatile organic compounds pollution. Good combustion practices are efficient operation and proper maintenance of the equipment and using the proper air to fuel ratio in the combustion turbines and HRSG.

Particulate matter and sulfur dioxide (SO<sub>2</sub>) emissions would be controlled through the use of low-sulfur, pipeline quality natural gas fuel. When running on back-up fuel, the use of ULSD will minimize SO<sub>2</sub> emissions.

A continuous emission monitoring system (CEMS) would be installed within each HRSG exhaust stack to monitor compliance with air permit requirements.

### **Water Supply, Treatment, Storage, and Discharge**

Raw (untreated) and potable water would be supplied to the site from the Buckeye Water District water treatment plant at a flow rate of up to 7.6 million gallons per day (MGD). Some of the raw water would be stored on site in a 360,000-gallon fire suppression and raw water storage tank.

The raw water from the Buckeye Water District would be treated. Some of this water would receive demineralization polishing treatment for use in the evaporative cooler and makeup water to the HRSG and steam turbine generator. Demineralized water would be stored in a 360,000 demineralized water storage tank.

Wastewater from facility operations would discharge to the Buckeye Water District. The wastewater would consist of evaporative cooler blowdown, HRSG blowdown, and reverse osmosis rejection water. Equipment drains would be routed through an oil/water separator. Waste oil and equipment wash solutions would be collected and removed by a qualified waste contractor. Sanitary wastewater would be treated through an on-site septic system. Stormwater would be routed to on-site stormwater collection ponds and then allowed to recharge local groundwater.

### **Cooling Towers**

The facility would use two 440-foot long mechanical draft wet cooling towers for steam condensing and other plant cooling needs. The majority of water consumption would be for makeup water to the cooling towers. The cooling towers provide heat rejection through airflow and evaporation of the circulating cooling water.

### **Electrical System**

The power generated by the combustion and steam turbine generators would be stepped up from the turbines' native voltage of 18 kV to 345 kV with generator step-up transformers. The step-up transformers would connect to a 345 kV transmission line approximately 3.9 miles in length. Two auxiliary transformers would also provide power for the facility back fed from the electric grid as needed.

#### *345 kV Transmission Line and Interconnection Switchyard*

The Applicant would construct a new 345 kV transmission line to deliver electricity generated by the facility to a new point of interconnect 345 kV switchyard, which would be constructed adjacent

to FirstEnergy's Highland-Sammis 345 kV electric transmission line. Electrical system interconnection components are described in further detail in the application for case number 15-1717-EL-BTX. The Applicant has provided two routes for the 345 kV transmission line. Electric power from the 3.5-acre switchyard would connect to the ATSI bulk transmission system and ultimately the PJM Interconnection (PJM) electric grid.

### **Natural Gas and Fuel Supply**

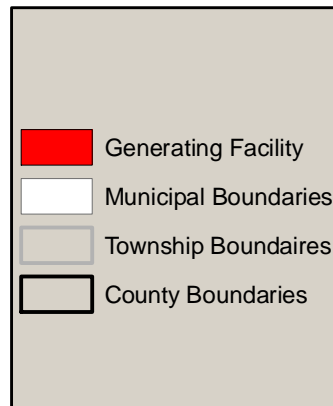
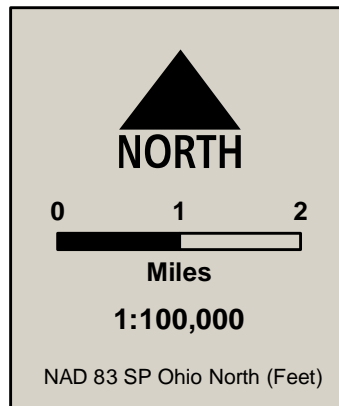
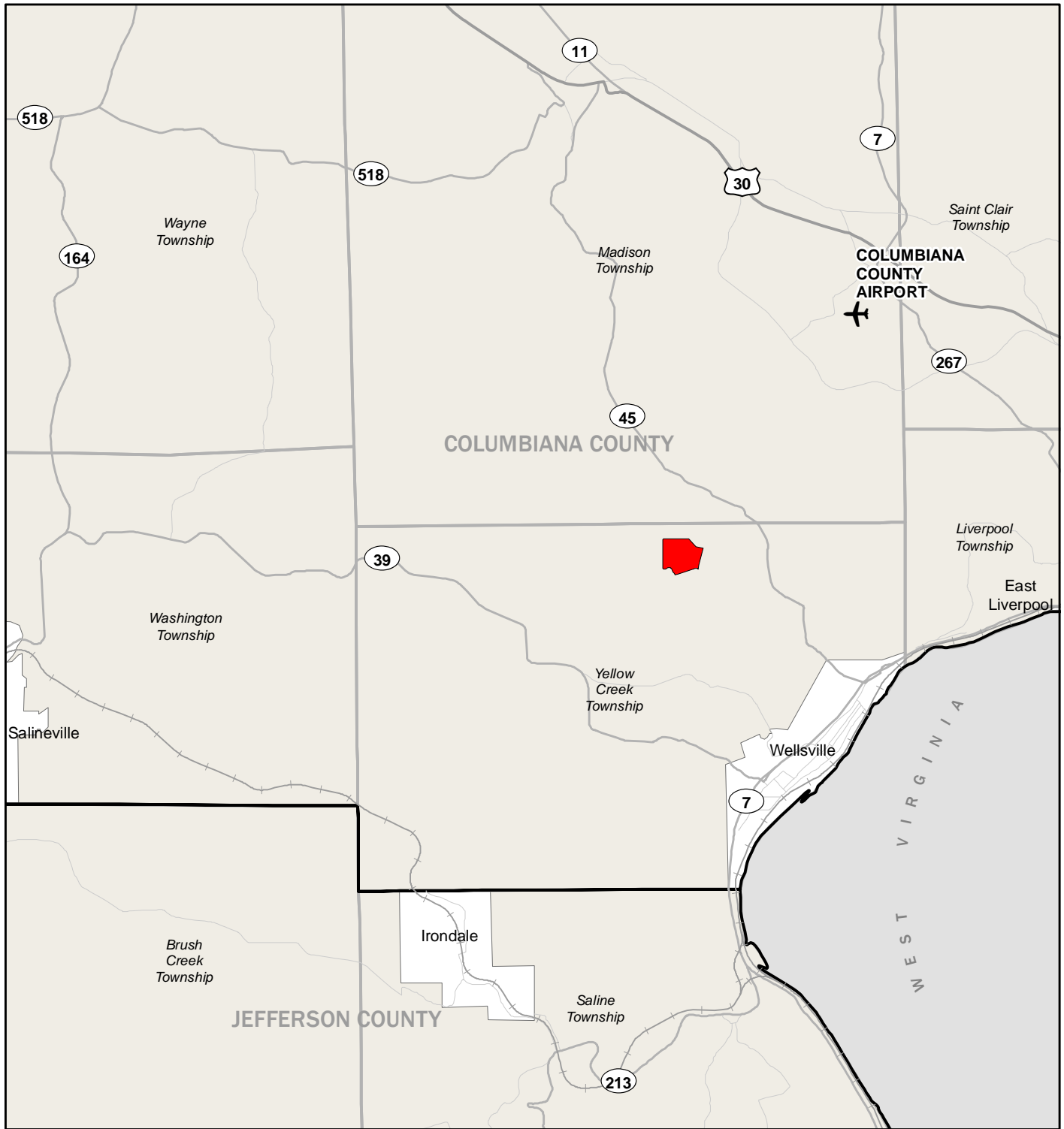
The facility would be fueled with natural gas supplies from the nearby Dominion Transmission, Inc. (Dominion) pipeline. A preheating system, knockout drum, and filters/separator would be installed in order to assure the natural gas meets necessary quality requirements prior to combustion. The facility may require gas compression and, if necessary, a gas compressor would be located on the facility site.

The Applicant would also be able to use ULSD as a secondary/backup fuel source. The Applicant would have a 3,000,000-gallon ULSD tank on-site that would be able to provide a significant number of hours of operation of the facility. ULSD fuel would be delivered to the facility by truck.

The Applicant will submit to the Board separately, at a later date, a proposal for a natural gas transmission pipeline that would connect the existing Dominion pipeline to the facility.

### **Project Timeline**

The Applicant proposes to commence construction in January 2017 and begin commercial operation by January 2020.



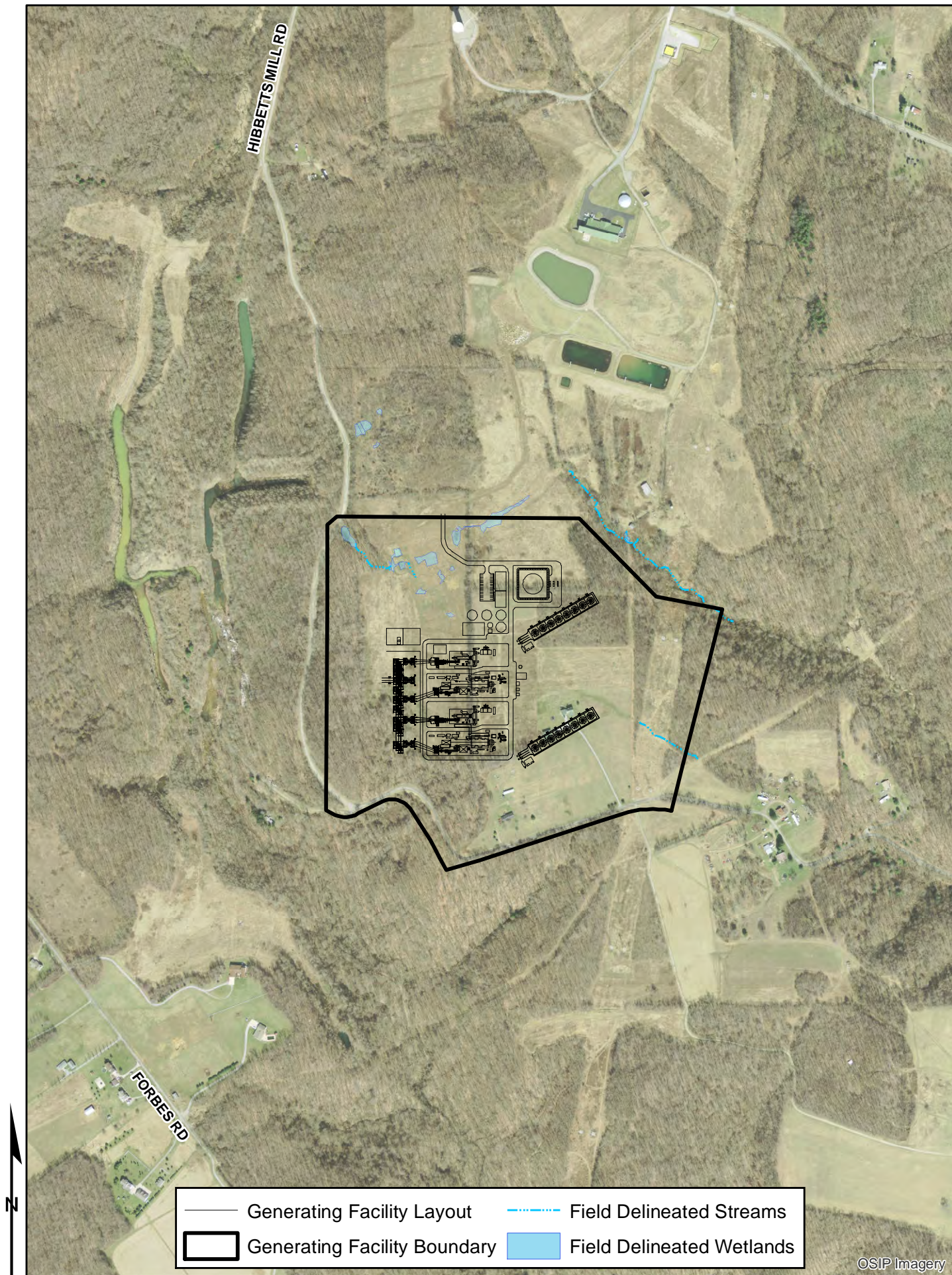
## Overview Map

### 15-1716-EL-BGN

#### South Field Energy Generation Facility

*Maps are presented solely for the purpose of providing a visual representation of the project in the staff report, and are not intended to modify the project as presented by the Applicant in its certificate application and supplemental materials.*







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### **III. CONSIDERATIONS AND RECOMMENDED FINDINGS**

In the matter of the application of South Field Energy, LLC, Staff submits the following considerations and recommended findings pursuant to R.C. 4906.07(C) and 4906.10(A).

#### **Considerations for R.C. 4906.10(A)(1)**

##### **BASIS OF NEED**

The basis of need as specified under R.C. 4906.10(A)(1) is not applicable to this electric generating facility.

##### **Recommended Findings**

Staff recommends that the Board find that the basis of need as specified under R.C. 4906.10(A)(1) is not applicable to this electric generating facility.

## **Considerations for R.C. 4906.10(A)(2)**

### **NATURE OF PROBABLE ENVIRONMENTAL IMPACT**

Pursuant to R.C. 4906.10(A)(2), the Board must determine the nature of the probable environmental impact of the proposed facility.

#### **Socioeconomic Impacts**

##### *Demographics*

Population density within a five-mile radius of the project is sparse. Six townships: Brush Creek, Yellow Creek, Madison, East Liverpool, Washington, and Wayne are within the five-mile project radius. The Applicant estimates that these townships had 8,426 inhabitants in 2014. Current population estimates for 2024 project a decline to 7,985 residents.

##### *Land Use*

The majority of land use in proximity to the project site is agricultural. A significant portion of the surrounding area is comprised of forest vegetation. Except for one church, there are no sensitive land uses such as schools, nursing homes, recreational facilities, or cemeteries within 2 miles of the proposed plant. The church is located approximately 0.7 miles to the north of the facility. Four residences are located within 2,000 feet of the facility's boundaries. However, the closest house is more than 500 feet away from the Applicant's property line. Extensive existing vegetative screening and buffering distances surround the facility, reducing impacts to surrounding residences. Limited commercial and industrial facilities are present in the project area.

##### *Cultural, Archaeological, and Architectural Resources*

The Applicant conducted a Phase I archaeology survey for the project site and construction laydown area. The study identified two cultural finds. However, neither possessed significant archaeological value. Impacts to any site that is eligible for inclusion in the National Register of Historic Places are unlikely.

The Applicant conducted an historic architecture survey to evaluate potential visual impacts to above ground features. Four eligible structures are located within the area of potential effect. Two structures are located approximately five miles away and their view of the proposed facility would be completely blocked. The hilly topography and forested vegetation would restrict the visibility of the remaining two structures. No impacts to historic structures are anticipated.

##### *Aesthetics*

Due to overall site topography, distance from sensitive receptors, and the Applicant's plan to retain much of the surrounding vegetation, visual impacts resulting from the facility would be limited.

##### *Economics*

The Applicant filed all estimated capital, intangible, and operation and maintenance costs of the facility under seal.

EDR Group prepared a socioeconomic report on behalf of the Applicant. The analysis of the report examines estimated economic impacts for the state of Ohio and a 22-county northeast Ohio region. Based on report findings, construction of the facility would generate up to \$925 million of total economic impact in the state of Ohio and 22-county region. Construction of the facility is expected

to support 2,969 job-years (1,375 of which are direct), with approximately \$805.5 million spent on supplies and \$117 million spent on labor income in the region.<sup>16</sup> The operation and maintenance of the proposed facility would also benefit the region economically. In operating and maintaining the proposed facility, \$25.3 million would be spent annually, including \$21.3 million on supplies and \$4 million on labor.

The Applicant has approached the Columbiana County Economic Development Director with interest in establishing an enterprise zone within which the facility site would be located. Discussions on tax revenue increases or amount are preliminary to date, but the Applicant estimates local tax revenues could increase up to a million dollars per year during the 15-year term of the enterprise zone agreement.

All Staff recommendations for the requirements discussed in this section of the *Staff Report of Investigation* are included under the **Socioeconomic Conditions** heading of the Recommended Conditions of Certificate section.

## **Ecological Impacts**

### *Geology*

The southern third of Columbiana County, which includes the facility site, forms the boundary of the Unglaciaded Allegheny Plateau Province. The underlying bedrock in Columbiana County is sandstone, shale, and limestone. Bedrock at the facility site appears to be a hard and dense shale based on the nearest well log and drilling report or a gray sandstone based on the geological cross section of the eight borings provided by the Applicant.

Columbiana County has a history of coal mining. Several abandoned underground and surface mining operations have occurred to the northwest, west, and southwest of the facility site. The facility site itself does not appear to be affected by any former coal mining operations.

The Applicant has proposed to prepare the site for construction using the cut and fill method. Due to the fact that the bedrock is quite shallow at the facility site, blasting may be necessary to assist in the removal of rock for site preparation. Preliminary results do not indicate that any geological issues exist that would restrict the construction of this facility. However, the Applicant will perform a more extensive geotechnical program for final design and construction engineering purposes.

### *Seismology*

There is no recorded seismic activity in Columbiana County.

### *Soils and Test Borings*

According to the *Soil Survey of Columbiana County*, there are several soil units present at the facility site. The Keene silt loam, Berks channery silt loam, and the Coshocton silt loam, make up 70 percent of the soil units present at the site.

The Applicant's consultant, Tetra Tech, performed eight test borings at the facility site. Standard penetration test soil samples were obtained in all test borings at 1.5-foot intervals. Bedrock was sampled continuously for rock quality description and percent recovery. Bedrock was encountered

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<sup>16</sup> A job-year is equal to one job for one-year.

in all of the test borings. Test results indicated groundwater was encountered in four of the borings at the termination of drilling. Groundwater monitoring wells were placed in each of the borings (B-04, B-05, B-06, and B-08) for further examination.

The Applicant states that perched groundwater may be present at the facility site, as water infiltrates the surface and percolates downward from upland areas, until either relatively dense or less permeable soil or bedrock is encountered. Due to the location, geology, and topography of the site, the Applicant anticipates localized perched water tables may develop intermittently based upon seasonal variations in precipitation. Although the soil units present at the site do not appear to present any limitations to the construction of this facility, additional drilling would be needed for site-specific design and construction purposes. Construction would also require some water removal method to ensure the stability of the foundation for this facility.

#### *Surface Waters*

The facility site contains three intermittent streams and three ephemeral streams totaling 1,472 linear feet. No streams are located on the construction laydown site. The streams within the facility site flow into an unnamed tributary of Little Yellow Creek. These streams are typical of the area and are of generally small and of low quality. A qualified biologist assessed these streams using the Ohio EPA Qualitative Habitat Evaluation Index and Primary Headwater Habitat Evaluation Index scoring data forms.

The facility site contains one modified category 2 wetland and eight category 1 wetlands, with 0.783 acre of wetland within the project site. These wetlands have been heavily impacted by farming activities and are of generally low quality. All wetlands are located outside of the proposed limits of disturbance. No wetlands are located on the construction laydown site. The Applicant would take care to avoid or minimize wetland filling and sedimentation that may occur as a result of construction activities through the implementation of best management practices (BMP).

The Applicant has committed to avoidance measures during construction to minimize impacts to streams, including environmental training, environmental monitors, and site restoration. The required permit and the Stormwater Pollution Prevention Plan (SWPPP) that will be prepared for the project will identify additional controls and BMP to be followed during construction and operation. The Applicant will provide a copy of the SWPPP to Staff.

The Applicant would clear a total of 14 acres of forest during construction for the facility site with an additional 1.4 acres of clearing for the construction laydown site. Neither the facility site nor the construction laydown site would impact any ponds. The Applicant did not observe any lakes or reservoirs within the project site.

No wildlife areas, nature preserves or other conservation areas are present on the facility site. The closest conservation area is the Highlandtown Wildlife Area, located approximately 3.5 miles west of the facility site.

Prior to construction, the Applicant would acquire a general National Pollutant Discharge Elimination System (NPDES) permit (OHC000004) from the Ohio EPA for discharges associated with construction. In order to minimize impacts to surface waters, Staff recommends that the Applicant be required to provide a construction access plan for Staff review prior to the preconstruction conference. The plan would consider the location of streams, wetlands, wooded areas, and sensitive plant species, as identified by the ODNR Division of Wildlife, and would

explain how impacts to all sensitive resources would be avoided or minimized during construction, operation, and maintenance. The plan would include the measures the Applicant shall use to restore the area around all temporary access points, and a description of any long-term stabilization required along permanent access routes.

### *Threatened and Endangered Species*

The Applicant requested information from the ODNR and the USFWS regarding state and federally listed threatened and endangered plant and animal species. Staff gathered additional information through field assessments and review of published ecological information. The following table shows the results of the information requests, field assessments, and document review.

| <b>BIRDS</b>                   |                                     |                       |                     |   |
|--------------------------------|-------------------------------------|-----------------------|---------------------|---|
| <b>Common Name</b>             | <b>Scientific Name</b>              | <b>Federal Status</b> | <b>State Status</b> | <b>Presence in Project Area</b>   |
| American bittern               | <i>Botaurus lentiginosus</i>        | N/A                   | Endangered          | Due to the location and the type of habitat present at the project site, this project is not likely to impact this species.   |
| <b>FISH</b>                    |                                     |                       |                     |   |
| Channel darter                 | <i>Percina copelandi</i>            | N/A                   | Threatened          | Due to the type of work proposed, and no in-water work in a perennial stream, no impacts to this species are anticipated.   |
| Tippecanoe darter              | <i>Etheostoma tippecanoe</i>        | N/A                   | Threatened          | Due to the type of work proposed, and no in-water work in a perennial stream, no impacts to this species are anticipated.   |
| <b>REPTILES AND AMPHIBIANS</b> |                                     |                       |                     |   |
| <b>Common Name</b>             | <b>Scientific Name</b>              | <b>Federal Status</b> | <b>State Status</b> | <b>Presence in Project Area</b>   |
| Eastern massasauga             | <i>Sistrurus catenatus</i>          | Federal Candidate     | Endangered          | Due to the location, type of habitat present at the project site, and within the vicinity of the project area, and the type of work proposed, no impacts to this species are anticipated. |
| Eastern hellbender             | <i>Cryptobranchus alleganiensis</i> | Federal Candidate     | Endangered          | Due to the location, and no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, no impacts to this species are anticipated.                      |
| <b>MAMMALS</b>                 |                                     |                       |                     |   |
| <b>Common Name</b>             | <b>Scientific Name</b>              | <b>Federal Status</b> | <b>State Status</b> | <b>Presence in Project Area</b>   |
| Indiana bat                    | <i>Myotis sodalis</i>               | Endangered            | Endangered          | Historical range includes the project area.   |
| Northern long-eared bat        | <i>Myotis septentrionalis</i>       | Threatened            | Threatened          | Historical range includes the project area.   |
| Black bear                     | <i>Ursus americanus</i>             | N/A                   | Endangered          | Due to the mobility of the species, no impacts are expected to this species   |

| MUSSELS             |                           |                |              |  |
|---------------------|---------------------------|----------------|--------------|--|
| Common Name         | Scientific Name           | Federal Status | State Status | Presence in Project Area   |
| Threehorn wartyback | <i>Obliquaria reflexa</i> | N/A            | Threatened   | Due to the location, and no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, no impacts to this species are anticipated. |

With the exception of the Indiana bat and the Northern long-eared bat, neither the Applicant nor Staff expect the proposed project to negatively impact the species listed above.

The Indiana bat and Northern long-eared bat have a historical range that includes the project area. As tree-roosting species during the non-winter months, the Indiana bat and Northern long-eared bat, if present at the site, could be negatively impacted as a result of tree clearing associated with construction and maintenance of the project. Limiting tree removal, particularly in the areas identified as potential Indiana bat and Northern long-eared bat habitat, would help reduce potential impacts to these species. In order to reduce potential negative impacts to these species, the ODNR and Staff recommend that the Applicant be required to adhere to seasonal cutting dates (October 1 through March 31) for the clearing of trees.

#### *Vegetation*

The facility site contains several vegetative communities. The construction laydown site is dominated by active hayfield and had been recently mowed during official site visits. The following table reflects the major vegetative communities present at both sites.

| Vegetation Community Type | Project Site (Acres) |
|---------------------------|----------------------|
| Open Field                | 53.5                 |
| Forest                    | 15                   |
| Maintained Lawn           | 10                   |
| Old Field                 | 5                    |
| Scrub/Shrub               | 3                    |

Staff recommends that the Applicant be required to provide a construction access plan and a vegetation management plan for Staff's review prior to the preconstruction conference. The plan should identify all areas of proposed vegetation clearing for the project, specify the extent of the clearing, and describe how it would conduct such clearing work to minimize removal of woody vegetation. The plan should also describe how the Applicant would protect trees and shrubs from damage around structures, along access routes, and at construction staging areas, including during operation of the facility. Where the Applicant cannot avoid extensive removal of existing woody riparian vegetation, the Applicant should include its plan for targeted replanting of site-appropriate, low-growing woody species.

All Staff recommendations for the requirements discussed in this section of the *Staff Review of Investigation* are included under the **Ecological Conditions** heading of the Recommended Conditions of Certificate section.

## **Public Services, Facilities, and Safety**

### *Public Services and Traffic*

The principal impact on public services would be short-term increases in traffic on routes leading to and from the proposed facility due to deliveries of equipment and materials during construction. Workers arriving and departing during construction would also increase traffic. Some traffic management during the construction phase may be required in the immediate vicinity of the project area to ensure safe and efficient maintenance of existing traffic patterns and usages. Once the proposed facility is operational, related traffic would be minimal and would not be expected to significantly impact local roadways. Potential emergency service requirements would be coordinated with local officials. Local emergency response personnel would be trained to be familiar with the facility's emergency response system.

The Applicant would restrict public access to the facility with appropriately placed warning signs and other necessary measures.

### *Roads and Bridges*

Access to the proposed facility is available from the interstate highway and state highway systems and then by county and township roads. The U.S. Interstate Highway and Ohio State Highway routes in the area allow vehicles up to 80,000 pounds gross weight to travel without an Ohio Special Hauling Permit. Any truck loaded in excess of 80,000 pounds gross weight traveling on the U.S. Interstate Highway and Ohio State Highway Systems would require an Ohio Special Hauling Permit. Road use of county and township roads would require local permits obtained from Columbiana County.

The Applicant proposes to use an access road located off Hibbetts-Mill Road as the ingress and egress to the facility site. The road would be upgraded in order to support construction activities. The Applicant plans to pave this access road once construction of the facility is completed.

The Applicant would not dispose of gravel or any other construction material during or following construction of the facility access road by spreading such material on agricultural land. All construction debris and contaminated soil would be promptly removed and properly disposed of in accordance with Ohio EPA regulations.

Staff recommends the Applicant be required to develop a final transportation management plan that would include a road use agreement as outlined in the Recommended Conditions of Certificate section. Under such an agreement, any damaged public roads and bridges would be repaired promptly to their previous condition by the Applicant under the guidance of the appropriate regulatory agency. Any temporary improvements would be removed unless the appropriate regulatory agency request that they remain.

### *Noise*

Noise impacts from construction activities would include the operation of various trucks and heavy equipment. Many of the construction activities would generate significant noise levels. However, the adverse impact of construction noise would be temporary and intermittent, would occur away from most residential structures, and would normally be limited to daytime working hours.

The Applicant obtained the services of a noise consultant to conduct a background ambient noise level study in order to understand the existing noise levels near the facility. The study included



measurements at one long-term measurement location. The results of that study showed that the equivalent continuous sound level (Leq) for the eight-day monitoring period was 42 decibel A-weighting (dBA) for daytime hours and 36 dBA for nighttime hours.

The Applicant's consultant also estimated the noise from the operation of the facility by using noise modeling, with the CadnaA computer noise model.<sup>17</sup> The Applicant established a noise level design goal of 45 dBA at non-participating residences. To meet the design goal, the mitigated sound model incorporates acoustic dampening measures. The actual mitigation measures may differ from those shown in the model, but the Applicant has stated that all non-participating residences would be impacted with a noise level 45 dBA or less.

In order to minimize adverse impacts associated with increased noise levels, Staff recommends that the Applicant use the mitigation measures included in the mitigated model, or similar measures, and include procedures in its complaint resolution process for resolving noise complaints.

#### *Gas Pipeline Safety*

In order to operate the natural gas interconnection and associated equipment safely and reliably, and to minimize the possibility of failure in the gas supply system, the equipment should be built, operated, and maintained to meet the requirements in Title 49 CFR parts 191 and 192, the Federal Minimum Pipeline Safety Standards; part 199 and part 40, the Drug and Alcohol Regulations; R.C. 4905.90 through 4905.96, Natural Gas Pipeline Safety Standards; and Ohio Adm.Code 4901:1-16, Gas Pipeline Safety.

#### *Fire Protection System*

A complete fire protection/detection system would be provided for the facility. The system would include fixed water fire suppression systems, fire hose stations, hydrants, portable fire extinguishers, and smoke/heat/flame/gas detection and control systems. The system would be designed and installed in accordance with National Fire Protection Association (NFPA) standards and insurer's recommendations. The Applicant has committed to use inert gases or compressed air for all cleaning of pipes during construction and consistent with the NFPA standards. All fire protection equipment and systems would be Underwriters' Laboratory approved and comply with the local fire department and the Applicant's insurance carrier requirements.

The Applicant has committed to coordinate emergency service requirements with local emergency responders. The Applicant has indicated that this coordination would be incorporated into an emergency response plan that would address different potential emergencies, levels of response, and resources.

All Staff recommendations for the requirements discussed in this section of the *Staff Report of Investigation* are included under the **Public Services, Facilities, and Safety Conditions** heading of the **Recommended Conditions of Certificate** section.

#### **Recommended Findings**

Staff recommends that the Board find that the Applicant has determined the nature of the probable environmental impact for the proposed facility, and therefore complies with the requirements

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<sup>17</sup> CadnaA was used to create an acoustical model of the facility and predict noise level impacts to residences in the project study area.

specified in R.C. 4906.10(A)(2), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

## **Considerations for R.C. 4906.10(A)(3)**

### **MINIMUM ADVERSE ENVIRONMENTAL IMPACT**

Pursuant to R.C. 4906.10(A)(3), the proposed facility must represent the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, along with other pertinent considerations.

#### **Site Selection**

The Applicant proposes to finance the construction costs for this facility at their economic risk. The Applicant was granted a waiver of the requirement to conduct a site selection study that would evaluate all practicable sites. Upon an assessment of market conditions, the Applicant focused on counties in Ohio for the facility. The Applicant identified Columbiana County as their preferred region.

The Applicant evaluated key factors such as proximity to a high-voltage transmission system and nearby availability of gas transmission lines with sufficient capacity, pressure, and quality. The Applicant also prioritized qualities such as availability of infrastructure for process water and wastewater discharge needs.

The Applicant also studied site-specific factors that included community concerns, minimal ecological constraints, adequate site size to allow for buffering requirements and construction laydown, access to highway transportation routes, and existing land use.

#### **Minimizing Impacts**

The project area is primarily agricultural, with sparse residential development. The Applicant chose this site due to its constructability, the amount of vegetative buffer, the proximity to needed electrical and gas interconnections, and the availability of adequate water and wastewater infrastructure.

Existing wetlands are located outside the limits of disturbance. Approximately 15.4 acres of vegetation would be cleared. Impacts to threatened and endangered species would be minimized by adhering to seasonal tree clearing restrictions. In addition to required national and state construction permits, Staff recommends that the Applicant prepare a construction access plan for the facility in order to ensure that impacts to ecological resources would be minimized.

The proposed facility would have a positive impact on the local and regional economy. Impacts to existing land uses would be avoided or minimized. Temporary traffic increases and impacts to road infrastructure would be addressed by obtaining appropriate permits and road use agreements.

The Applicant modeled potential noise impacts associated with operation of the facility. With the Applicant's proposed noise mitigation measures in place, a noise level design goal of 45 dBA at non-participating residences would be met.

#### **Conclusion**

The project would result in temporary and permanent impacts to the project area. Due to the limited impacts on land use activities and resources, as well as the Applicant's commitments and Staff's recommended conditions, Staff concludes that the proposed facility represents the minimum adverse environmental impact.

**Recommended Findings**

Staff recommends that the Board find that the proposed facility represents the minimum adverse environmental impact, and therefore complies with the requirements specified in R.C. 4906.10(A)(3), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

## **Considerations for R.C. 4906.10(A)(4)**

### **ELECTRIC GRID**

Pursuant to R.C. 4906.10(A)(4), the Board must determine that the proposed electric facilities are 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 facilities will serve the interests of electric system economy and reliability.

The purpose of this section is to evaluate the impact of integrating the proposed facility into the existing regional transmission grid. The Applicant proposes to construct a natural gas combined cycle electric generating facility, capable of producing 1105 MW. The proposed facility will interconnect through a three circuit-breaker ring bus to ATSI's Sammis-Highland 345 kV line.

### **NERC Planning Criteria**

The North American Electric Reliability Corporation (NERC) is responsible for the development and enforcement of the federal government's approved reliability standards, which are applicable to all owners, operators, and users of the bulk power system. As an owner, operator, and/or user of the bulk power system, the Applicant is subject to compliance with various NERC reliability standards, including but not limited to those related to transmission planning for contingency events.

### **PJM Interconnection**

The Applicant, submitted their generation interconnection request for the proposed facility to PJM on October 31, 2014. PJM gave the application a queue position of AA1-123. The System Impact Study was released by PJM in September 2015.<sup>18</sup>

PJM studied the interconnection as an injection into ATSI's, Highland-Sammis 345 kV transmission line. The Applicant requested a maximum facility interconnection of 1,152 MW, of which 1,105 MW would be capacity. Capacity represents the need for adequate generating resources to ensure that the demand for electricity can be met at all times. In PJM's case, that means that a utility or other electricity supplier is required to have the resources to meet its customers' demand plus a reserve amount. Suppliers can meet that requirement with generating capacity they own, with capacity purchased from others under contract, or with capacity obtained through PJM's capacity market auctions.

### **PJM Network Impacts**

PJM analyzed the bulk electric system with the facility interconnected to the bulk power system. A 2018 summer peak power flow model was used to evaluate the regional reliability impacts. The only issues revealed during the PJM analysis was overloaded circuit breakers. The results of the PJM System Impact Study for the PJM regional footprint are as follows.<sup>19</sup>

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<sup>18</sup> PJM Interconnection, LLC is the regional transmission organization charged with planning for upgrades and administering the generation queue for the regional transmission system in Ohio. Generators wanting to interconnect to the bulk electric transmission system located in the PJM control area are required to submit an interconnection application for review of system impacts. The interconnection process provides for the construction of expansions and upgrades of the PJM transmission system, as needed to maintain compliance with reliability criteria with the addition of generation in its footprint.

<sup>19</sup> "System Impact Study, Queue Number AA1-123," PJM Interconnection, accessed September 15, 2015, <http://pjm.com/planning/generation-interconnection/generation-queue-active.aspx>.

## **PJM Regional System Impacts**

### **Generator Deliverability - System Normal & Single Contingency Outage**

|   |                        |
|---|------------------------|
| <i>Plant Output: Capacity Level - 1105 MW</i> | No problems identified |
|---|------------------------|

### **Category C and D - Multiple Contingency Outages**

|   |                        |
|---|------------------------|
| <i>Plant Output: Capacity Level - 1105 MW</i> | No problems identified |
|---|------------------------|

### **Contribution to Previously Identified Overloads - Network Impacts**

PJM studied overloading that the proposed facility may have earlier projects in the PJM Queue.

### **Contribution to Previously Identified Overloads**

|   |                        |
|---|------------------------|
| <i>Plant Output: Capacity Level - 1105 MW</i> | No problems identified |
|---|------------------------|

### **Short Circuit Analysis**

The short circuit analysis study, which is part of the System Impact Study, evaluates the interrupting capabilities of circuit breakers impacted by the proposed generation addition. The results identified 18 circuit breakers that would be overloaded. The facility will be responsible for replacing these breakers at a cost of \$13.3 million.

### **Conclusion**

PJM analyzed the bulk electric system, with the facility interconnected to the transmission grid, for compliance with ATSI, NERC, and PJM reliability criteria. The PJM system studies indicated reliability violations during short circuit analysis. To correct these violations and meet the required compliance, PJM will require upgrades to the breakers.

The facility will interconnect to the regional grid through a three circuit-breaker ring bus transmission substation. This configuration is more reliable than other types and allows for isolation of bus sections and circuit breakers for maintenance without circuit disruption

The proposed facility is expected to provide reliable generation to the bulk electric transmission system and is consistent with plans for expansion of the regional power system, and will serve the interests of electric system economy and reliability. The facility will serve the public interest, convenience, and necessity by providing additional electrical generation to the regional transmission grid.

### **Recommended Findings**

Staff recommends that the Board find that the proposed 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 that the facility would serve the interests of electric system economy and reliability. Therefore, Staff recommends that the Board find that the facility complies with the requirements specified in R.C. 4906.10(A)(4), provided that any certificate issued by the Board for the proposed facilities include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

## **Considerations for R.C. 4906.10(A)(5)**

### **AIR, WATER, SOLID WASTE, AND AVIATION**

Pursuant to R.C. 4906.10(A)(5), the facility must comply with Ohio law regarding air and water pollution control, withdrawal of waters of the state, solid and hazardous wastes, and air navigation.

#### **Air**

The proposed project site is within an area classified as attainment for all National Ambient Air Quality Standards criteria air pollutants. Operational impacts on air quality would be minimized with efficient new gas turbine technology and the incorporation of air pollution controls.

The primary air pollution control devices include DLN burners in the gas turbines, SCR systems, and oxidation catalysts in the heat recovery steam generators.

The DLN burners would control the formation of NO<sub>x</sub> by pre-mixing fuel and air immediately prior to combustion. Pre-mixing inhibits formation of NO<sub>x</sub> by minimizing the flame temperature and the concentration of oxygen at the flame.

SCR is an air pollution control technology that is used to remove NO<sub>x</sub> from the flue gases that are produced during combustion of fossil fuels in turbines or boilers. SCR removes NO<sub>x</sub> through a catalyzed chemical reduction of NO<sub>x</sub> by ammonia that is introduced as a reactant in the flue gas in the presence of excess oxygen. This reaction generates nitrogen gas and water as the end products that are emitted from the stack into the atmosphere. The SCR systems would reduce emissions of NO<sub>x</sub> to 2.0 parts per million by volume (ppmv).

An oxidation catalyst system would be located within the heat recovery steam generators to control emissions of CO and volatile organic compounds. Exhaust gases from the turbines pass over a catalyst bed (a catalyst support media) where excess air would oxidize the CO and volatile organic compounds. The oxidation catalysts would reduce emissions of CO to 2.0 ppmv and volatile organic compounds to between 1.0 and 2.0 ppmv.

Emissions from the facility would be tracked using a CEMS. The CEMS would continuously extract flue gas samples near the exhaust of the heat recovery steam generators and measure flue gas parameters. The CEMS would detect a deterioration of performance before a failure of the catalyst occurs. The Applicant states that at no time will a unit operate if its respective SCR is not functioning properly. Project emissions under all operating conditions would comply with permit requirements.

The air permit-to-install application for the project was submitted to the Ohio EPA in September 2015. The permit-to-install serves as the air construction permit and the initial operating permit. The Applicant would be required to apply for a Title V operating permit within 12 months after initial startup.

Construction impacts on air quality primarily consist of relatively minor emissions from the construction equipment and from fugitive dust emissions. Construction vehicles would emit insignificant amounts of volatile organic compounds, SO<sub>2</sub>, CO, NO<sub>x</sub>, and particulate matter. These emissions are not expected to cause any significant adverse impacts to air quality. Fugitive dust rules adopted pursuant to the requirements of R.C. 3704 (air pollution control laws) are applicable

to the proposed facility. Fugitive dust would be controlled, when necessary, through BMPs, such as water sprays.

### **Water**

Construction of the proposed facility would not require the use of significant amounts of water. Operation of the proposed facility would require the use of up to 7.6 MGD. The Applicant anticipates that the water needs of the facility (including process water, fire protection, and domestic uses) will be supplied by the Buckeye Water District water treatment facility, which has a treatment facility located adjacent to the facility site, and thus the requirements under R.C. 1501.33 and 1501.34 are not applicable to this project.

The Applicant intends to submit a Notice of Intent for coverage under Ohio EPA's NPDES general permit for stormwater discharges associated with construction and industrial activities. The Applicant would submit a SWPPP to the Ohio EPA as part of the NPDES permit. This SWPPP would be developed for the project pursuant to the Ohio EPA regulations, and it would conform to the ODNR's Rainwater and Land Development Manual. Prior to operation of the facility, the Applicant would obtain a general NPDES permit for stormwater discharges associated with operation, if necessary.

No fill of wetlands or streams would occur. Therefore, Army Corps of Engineer Nationwide or Ohio EPA 401 permits would not be required.

Sanitary wastewater sources would be discharged via an on-site septic system. Buckeye Water District would accept facility wastewaters, and arrange for its discharge in accordance with applicable NPDES discharge and other requirements. Buckeye Water District would also provide discharge piping to the facility site.

### **Solid Waste**

The Applicant estimates that approximately 1,200 cubic yards of construction debris could be generated from the project. Solid waste generated from construction activities would include packing materials, office waste, scrap lumber, metals, cables, glass, cardboard containers, and other miscellaneous debris. In addition, during construction and pre-operational cleaning, some solvents and flushing materials would be used.

During operation, spent SCR catalysts would be removed and returned to a catalyst vendor for regeneration, salvage, or disposal. Solid waste that can be neither recycled nor reused would be stored in on-site containers for disposal. The Applicant would develop procedures to ensure that potentially hazardous wastes are separated from normal waste, including segregation of storage areas and proper labeling of containers.

All solid waste generated during construction and operation would be trucked off site by licensed contractors in accordance with applicable regulatory requirements and managed in licensed facilities. The Applicant would have a spill prevention, containment, and countermeasure plan in place. The Applicant's solid waste disposal plans comply with solid waste disposal requirements in R.C. 3734, and the rules and laws adopted under this chapter.

### **Aviation**

The closest airports are Columbiana County Airport (02G), Herron (7G1), and Eddie Dew Memorial Airpark (1G8), which are between 2 and 10 miles from the proposed facility. The closest



heliport is Trinity Medical Center West (80I4) approximately 16 miles away. The tallest anticipated structures associated with the facility would be two 180-foot tall stacks. The Applicant requested review by the Federal Aviation Administration (FAA). The FAA responded on September 28, 2015 and issued a Determination of No Hazard for each stack.

In accordance with R.C. 4906.10(A)(5), Staff contacted the ODOT Office of Aviation during the review of this application in order to coordinate review of potential impacts of the facility on local airports. On October 6, 2015, the ODOT Office of Aviation issued a construction/alteration permit and performed an aeronautical study number 2015-DOT-3290-OE. ODOT indicated that the proposed construction exceeds obstruction standards but will not affect the safe and efficient use of the airports nor affect the safety of persons and property on the ground. ODOT issued conditions with that permit.

All Board Staff recommendations for the requirements discussed in this section of the *Staff Report of Investigation* are included under the **Air, Water, Solid Waste, and Aviation Conditions** heading of the Recommended Conditions of Certificate section.

### **Recommended Findings**

Staff recommends that the Board find that the proposed facility complies with the requirements specified in R.C. 4906.10(A)(5), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

## **Considerations for R.C. 4906.10(A)(6)**

### **PUBLIC INTEREST, CONVENIENCE, AND NECESSITY**

Pursuant to R.C. 4906.10(A)(6), the Board must determine that the facility will serve the public interest, convenience, and necessity.

The facility would be constructed, operated, and maintained in accordance with applicable safety regulations, including Occupational Safety and Health Administration requirements, and industry standards. The facility personnel would be trained to operate the equipment in a safe and reliable manner. The Applicant would secure pertinent federal and state environmental permits, and construct and operate the facility in accordance with all applicable environmental and safety regulations.

The Applicant has committed to incorporate appropriate safety measures and design to prevent and contain any accidental spill of on-site chemicals. For example, the Applicant will use curbing and containment in the ammonia delivery area to prevent accidental release to the environment during ammonia deliveries.

#### **Public Interaction**

The Applicant held a joint public informational meeting for this project and the associated transmission line (case number 15-1717-EL-BTX) on October 20, 2015. At this meeting, attendees were provided the opportunity to speak with representatives of the Applicant in an open house format. Additionally, the Applicant has participated in meetings with local public officials and neighbors of the proposed facility. The Applicant has committed to continue engaging the public prior to, during, and after construction of the facility.

The Applicant served copies of the application on officials representing Columbiana County, Yellow Creek Township, the Columbiana Public Library, and the Wellsville Carnegie Public Library.

As of the date of this report, the Board has received one written public comment regarding the proposed facility. This comment is available in the case record. Motions to intervene in this case have been filed by ATSI and Ohio Edison; Kenneth Johnson and the Ohio Valley Jobs Alliance; the Columbiana County Development Department; and Yellow Creek Township.

The Administrative Law Judge issued an entry on March 29, 2016, scheduling a local public hearing and an adjudicatory hearing for this proceeding. The local public hearing, at which the Board will accept written or oral testimony from any person, is scheduled for June 6, 2016, at 6:00 p.m., at the Wellsville High School, 1 Bengal Boulevard, Wellsville, Ohio, 43968. The adjudicatory hearing is scheduled for June 21, 2016, at 10:00 a.m., in Hearing Room 11-D, at the offices of the PUCO, 180 East Broad Street, Columbus, Ohio 43215.

#### **Recommended Findings**

Staff recommends that the Board find that the proposed facility would serve the public interest, convenience, and necessity, and therefore complies with the requirements specified in R.C. 4906.10(A)(6), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

### **Considerations for R.C. 4906.10(A)(7)**

#### **AGRICULTURAL DISTRICTS**

Pursuant to R.C. 4906.10(A)(7), the Board must determine the facility's impact on the agricultural viability of any land in an existing agricultural district within the project area of the proposed utility facility. The agricultural district program was established under R.C. Chapter 929. Agricultural district land is exempt from sewer, water, and electrical service tax assessments. Agricultural land can be classified as an agricultural district through an application and approval process that is administered through local county auditors' offices. Eligible land must be devoted exclusively to agricultural production or be qualified for compensation under a land conservation program for the preceding three calendar years. Furthermore, eligible land must be at least 10 acres or produce a minimum average gross annual income of \$2,500.

There are no agricultural districts or agricultural activity within the boundaries of the facility. The construction laydown area is not agricultural district land, but it is currently used as a hayfield and could be returned to agricultural production upon project completion.

#### **Recommended Findings**

Staff recommends that the Board find that the impact of the proposed facility on the viability of existing agricultural land in an agricultural district has been determined, and therefore complies with the requirements specified in R.C. 4906.10(A)(7), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

### **Considerations for R.C. 4906.10(A)(8)**

#### **WATER CONSERVATION PRACTICE**

Pursuant to R.C. 4906.10(A)(8), the proposed facility must incorporate maximum feasible water conservation practices, considering available technology and the nature and economics of the various alternatives.

Staff has reviewed the Applicant's proposed water balance and water consumption for the facility. Construction of the proposed facility would not require the use of significant amounts of water. However, operation of the proposed facility would require the use of a significant amount of water. The water would be obtained through the Buckeye Water District water treatment plant (a regulated public water supplier), so requirements under R.C. 1501.33 and 1501.34 are not applicable to this project.

The proposed facility design incorporates significant water conservation measures. These measures include maximizing the cycles of concentration to reduce water intake requirements, a drift elimination system, and return of recovered boiler blowdown to the cooling tower.

#### **Recommended Findings**

Staff recommends that the Board find that the proposed facility would incorporate maximum feasible water conservation practices, and therefore complies with the requirements specified in R.C. 4906.10(A)(8).

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#### **IV. RECOMMENDED CONDITIONS OF CERTIFICATE**

Following a review of the application filed by South Field Energy, LLC, and the record compiled to date in this proceeding, Staff recommends that a number of conditions become part of any certificate issued for the proposed facility. These recommended conditions may be modified as a result of public or other input received subsequent to the issuance of this report. At this time, Staff recommends the following conditions:

##### **GENERAL CONDITIONS**

Staff recommends the following conditions to ensure conformance with the proposed plans and procedures as outlined in the case record to date, and to ensure compliance with all conditions listed in this staff report:

- (1) The facility shall be installed at the Applicant's proposed site as presented in the application and as modified and/or clarified by supplemental filings and recommendations in this *Staff Report of Investigation*.
- (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 this *Staff Report of Investigation*.
- (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 this *Staff Report of Investigation*.
- (4) 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 conduct separate preconstruction meetings for each stage of construction.
- (5) 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, including noise from the facility. 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.
- (6) At least 30 days before the preconstruction conference, the Applicant shall submit to Staff, for review to ensure compliance with this condition, one set of detailed engineering drawings of the final project design, including the facility, 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 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.

- (7) If the Applicant makes any changes to the project layout after the submission of final engineering drawings, the Applicant shall provide all such changes to Staff in hard copy and as geographically-referenced electronic data. All changes will be subject to Staff review to ensure compliance with all conditions of the certificate, prior to construction in those areas.
- (8) 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.
- (9) Prior to the commencement of construction activities that require permits or authorizations by federal or state laws and regulations, the Applicant shall obtain and comply with such permits or authorizations. 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. The Applicant shall provide a schedule of construction activities and acquisition of corresponding permits for each activity at the preconstruction conference.
- (10) 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.
- (11) As the information becomes known, the Applicant shall docket in the case record the date on which construction will begin, the date on which construction was completed, and the date on which the facility begins commercial operation.
- (12) The Applicant shall not commence any construction of the facility until it has a signed Interconnection Service Agreement with PJM Interconnection, which includes construction, operation, and maintenance of system upgrades necessary to reliably and safely integrate the proposed generating facility into the regional transmission system. The Applicant shall docket in the case record a letter stating that the Agreement has been signed or a copy of the signed Interconnection Service Agreement to Staff.

### **SOCIOECONOMIC CONDITIONS**

Staff recommends the following conditions to address the impacts discussed in the **Socioeconomic Impacts** section of the Nature of Probable Environmental Impact:

- (13) Prior to commencement of construction, the Applicant shall develop a public information program that informs affected property owners of the nature of the project, specific contact information of Applicant personnel who are familiar with the project, the proposed timeframe for project construction, and a schedule for restoration activities. The Applicant shall give

notification to affected property owners at least 30 days prior to work on the affected property.

- (14) The Applicant shall avoid, where possible, or minimize to the maximum extent practicable, any damage to field tile drainage systems and soils resulting from construction, operation, and/or maintenance of the facility in agricultural areas. The Applicant shall promptly repair damaged field tile systems to at least original conditions at the Applicant's expense. If applicable, the Applicant shall segregate and restore excavated topsoil in accordance with the Applicant's lease agreement with the landowner. The Applicant shall plow or otherwise de-compact severely compacted soils, if necessary, to restore them to original conditions, unless otherwise agreed to by the landowner.

### **ECOLOGICAL CONDITIONS**

Staff recommends the following conditions to address the impacts discussed in the **Ecological Impacts** section of the Nature of Probable Environmental Impact:

- (15) Prior to construction, the Applicant shall flag all streams and wetlands, including a minimum 15-foot buffer area, within the facility site to assure avoidance of fill and accidental equipment crossing.
- (16) The Applicant shall adhere to seasonal cutting dates of October 1 through March 31 for removal of trees, unless coordination efforts with the Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service allow a different course of action.
- (17) Should site-specific conditions warrant blasting, the Applicant shall submit a blasting plan at least 30 days prior to blasting, to Staff for review and confirmation that it complies with this condition. The Applicant shall submit the following information as part of its blasting plan:
  - (a) The name, address, and telephone number of the drilling and blasting company;
  - (b) A detailed blasting plan for dry and/or wet holes for a typical shot. The blasting plan shall address blasting times, blasting signs, warnings, access control, control of adverse effects, and blast records; and
  - (c) A plan for liability protection and complaint resolution.
- (18) Prior to the use of explosives, the Applicant or explosive contractor shall obtain all required local, state, and federal licenses/permits. The Applicant shall submit a copy of the license or permit to Staff within seven days of obtaining it from the local authority.
- (19) The blasting contractor shall utilize two blasting seismographs that measure ground vibration and air blast for each blast. One seismograph shall be placed at the nearest dwelling and the other placed at the discretion of the blasting contractor.
- (20) At least 30 days prior to the initiation of blasting operations, the Applicant must notify, in writing, all residents or owners of dwellings or other structures within 1,000 feet of the blasting site. The Applicant or explosive contractor shall offer and conduct a pre-blast survey of each dwelling or structure within 1,000 feet of each blasting site, unless waived by the



resident or property owner. The survey must be completed and submitted to Staff at least 10 days before blasting begins.

- (21) The Applicant shall complete a full detailed geotechnical exploration and evaluation to confirm that there are no issues to preclude development of the facility. The geotechnical exploration and evaluation shall include borings to provide subsurface soil properties, static water level, rock quality description, percent recovery, and depth and description of the bedrock contact and recommendations needed for the final design and construction of the facility. The Applicant must fill all boreholes, and borehole abandonment must comply with state and local regulations. The Applicant shall provide copies of all geotechnical boring logs to Staff and to the ODNR Division of Geological Survey prior to construction.

### **PUBLIC SERVICES, FACILITIES, AND SAFETY CONDITIONS**

Staff recommends the following conditions to address the requirements discussed in the **Public Services, Facilities, and Safety** section of the Nature of Probable Environmental Impact:

- (22) The Applicant shall restrict public access to the facility with appropriately placed warning signs or other necessary measures.
- (23) Prior to commencement of construction activities that require transportation permits, the Applicant shall obtain all such permits. The Applicant shall coordinate with the appropriate authority regarding any temporary or permanent road closures, lane closures, road access restrictions, and traffic control necessary for construction and operation of the proposed facility. Coordination shall include, but not be limited to, the county engineer, the Ohio Department of Transportation (ODOT), local law enforcement, and health and safety officials. The Applicant shall detail this coordination as part of a final traffic plan submitted to Staff prior to the preconstruction conference for review and confirmation that it complies with this condition.
- (24) 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 Ohio Adm.Code 4906-5-08(C)(3) (2014), of upcoming construction activities including potential for nighttime construction activities.
- (25) The Applicant shall use inert gases or compressed air for all cleaning of pipes during construction, consistent with the NFPA 56 (PS) “Standard for Fire and Explosion Prevention during Cleaning and Purging of Flammable Gas Pipeline Systems.”
- (26) At least 30 days before the preconstruction conference, the Applicant shall submit to Staff for review and confirmation that it complies with this condition an emergency response plan to be used during construction. The Applicant shall coordinate with fire, safety and emergency personnel during all stages of the project. This plan should be developed in consultation with appropriate department(s) having jurisdiction over the area.

## **AIR, WATER, SOLID WASTE, AND AVIATION CONDITIONS**

Staff recommends the following conditions to address the requirements discussed in the **Air, Water, Solid Waste, and Aviation** section of the Nature of Probable Environmental Impact:

- (27) All applicable structures, including construction equipment, shall be lit in accordance with Federal Aviation Administration (FAA) circular 70/7460-1 K Change 2, *Obstruction Marking and Lighting*; or as otherwise prescribed by the FAA. This includes all cranes and construction equipment.
- (28) Within 30 days of construction completion, the Applicant shall file the as-built transmission structure coordinates and heights (above ground level) with the ODOT Office of Aviation and the FAA.



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Summary: Staff Report of Investigation electronically filed by Mr. Matt Butler on behalf of Staff of OPSB