

# Staff Report of Investigation

Guernsey Power Station

Case No. 16-2443-EL-BGN

July 31, 2017



Power Siting  
Board

John R. Kasich, Governor | Asim Z. Haque, Chairman

**In the Matter of the Application of Guernsey Power            )**  
**Station, LLC for a Certificate of Environmental                 )**  
**Compatibility and Public Need to Construct an Electric    )** **Case No. 16-2443-EL-BGN**  
**Generation Facility in Guernsey County, Ohio.                )**

## **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 Guernsey Power Station, LLC for a Certificate of Environmental Compatibility and Public Need to Construct an Electric Generation Facility in Guernsey County, Ohio.** )  
)  
) **Case No. 16-2443-EL-BGN**  
)

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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), the staff of the Public Utilities Commission of Ohio (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 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, 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(C) 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 pursuant to Ohio Administrative Code 4906-3-06, the main public libraries of the political subdivisions in the project area.

The Staff Report presents the results of 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,

RAS

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

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## **I. POWERS AND DUTIES**

### **OHIO POWER SITING BOARD**

The authority of the Ohio Power Siting Board (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 of 125 kilovolts (kV) or more; and gas pipelines greater than 500 feet in length and more than nine inches in outside diameter, and associated facilities, designed for transporting gas at a maximum allowable operating pressure 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 or Commission) 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 Ohio Administrative Code (Ohio Adm.Code) 4906:1-01 et seq., which establish application procedures for major utility facilities and economically significant 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 applicant or Board may consider relevant.<sup>2</sup>

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

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1. R.C. 4906.04 and 4906.20.

2. R.C. 4906.06(A) and 4906.20(B)(1).

3. Ohio Adm.Code 4906-3-06(A).

official filing date of the completed application.<sup>4</sup> At the public hearing, any person may provide written or oral testimony and may be examined by the parties.<sup>5</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>6</sup> The report sets forth the nature of the investigation and contains the findings and conditions recommended by Staff.<sup>7</sup> 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 Historic Preservation Office (OHPO), and the U.S. Fish and Wildlife Service (USFWS).

The technical investigations and evaluations are conducted pursuant to Ohio Adm.Code 4906-1-01 et seq. 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>8</sup> A record of the public hearings and all evidence, including the Staff Report, may be examined by the public at anytime.<sup>9</sup>

### **Board Decision**

The Board may approve, modify and approve, or deny an application for a certificate of environmental compatibility and public need.<sup>10</sup> 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>11</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>12</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>13</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>14</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>15</sup>

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4. R.C. 4906.07(A) and Ohio Adm.Code 4906-3-08.

5. R.C. 4906.08(C).

6. R.C. 4906.07.

7. Ohio Adm.Code 4906-3-06(C).

8. R.C. 4906.07(C) and 4906.10.

9. R.C. 4906.09 and 4906.12.

10. R.C. 4906.10(A)

11. R.C. 4906.10.

12. R.C. 4906.11.

13. R.C. 4906.10(C).

14. R.C. 4903.10 and 4906.12.

15. 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**

Guernsey Power Station, LLC (Applicant) is a limited liability company formed for the purpose of owning, developing, and operating the facility. Guernsey Power Station, LLC is a joint venture between Apex Power Group, LLC and Caithness Energy, LLC.<sup>16</sup>

### **HISTORY OF THE APPLICATION**

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

On December 27, 2016, the Applicant filed a pre-application notification letter regarding the project.

On March 16, 2017, the Applicant filed the Guernsey Power Station electric generation facility application.

On May 15, 2017, the Director of Rates and Analysis, PUCO, issued a letter to the Applicant stating that the application, as supplemented with subsequent filings, had been found to comply with the requirements of Ohio Adm.Code 4906-01, et seq.

On May 25, 2017, the Administrative Law Judge issued an entry scheduling a local public hearing for this case to be held on Tuesday, August 15, 2017 at 6:00 p.m., at Meadowbrook High School, 58615 Marietta Rd., Byesville, Ohio 43723. The adjudicatory hearing will commence on Wednesday, August 23, 2017, at 10:00 a.m., 11th floor, Hearing Room 11-D, at the offices of the PUCO, 180 E. Broad St., Columbus, Ohio 43215-3793.

On July 26, 2017, the Applicant filed correspondence requesting that the project capacity be reduced to 1,100 MW as a result of PJM Interconnection, LLC (PJM) delay completing the System Impact Study (SIS) in queue position AC1-044 (550 MW). The Applicant plans to file an amendment at a later date to request an increase in capacity.

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16. *In the matter of the Application of Guernsey Power Station, LLC for a Certificate of Environmental Compatibility and Public Need for the Guernsey Power Station*, Case No. 16-2443-EL-BGN, Application at p. 1 (March 16, 2017).

## **PROJECT DESCRIPTION**

The Applicant proposes to construct, own, and operate a natural gas-fired combined-cycle power plant with a capacity of 1,650 MW in Valley Township, Guernsey County, Ohio. The proposed facility would interconnect through a 765 kV switching station, configured as a breaker and half bus arrangement to American Electric Power's (AEP) Kammer-Vassell 765 kV Transmission Line.

During Staff's review, the Applicant requested the project's total capacity be reduced to an output of 1,100 MW. The capacity reduction was the result of a PJM delay of completing the SIS for the full 1,650 MW.

### **Project Site**

The proposed location for the facility consists of a 118-acre parcel of land located in Guernsey County along the east side of Puritan Lane and south of Seneca Lane. The site is located approximately 0.5 mile to the east of Marietta Road (State Route 821) and is generally bounded by Seneca Lane to the north and Wills Creek to the South, a private railroad spur to the west, and I-77 to the east.

### **Construction Laydown Areas**

The Applicant intends to deliver construction materials directly to the construction project vicinity. The Applicant would use about 9.8 acres in the northwestern corner of the facility site and another 15-acre parcel to the north of Seneca Lane as temporary construction laydown/staging areas for material and equipment storage, construction trailers, and parking. The Applicant may install lighting in its temporary construction parking area.

### **Generating Equipment**

The proposed facility would be comprised of combined-cycle, natural gas-fired generator equipment capable of 1,650 MW of net output. The proposed facility is designed as a series of single shaft combine cycle power trains. Each power train would be a 1x1x1 configuration, where the single shaft connects the combustion turbine and steam turbine generator. The facility would utilize three separate power-generating trains.

Each generator train would be configured with a combustion turbine, heat recovery steam generator (HRSG), steam turbine generator, and an air-cooled condenser. The Applicant is considering the General Electric (GE) 7HA.02 model. The facility would be capable of year-round operation but actual hours would depend upon energy needs in the region and would incorporate downtime for planned and unplanned maintenance events. Overall, the average heat rate for the combined-cycle power plant would be approximately 6,900 British thermal units/kilowatt-hour (Btu/kWh).<sup>17</sup> Details of the major equipment required at this proposed facility are provided below.

#### *Combustion Turbine*

The combustion turbines would consist of three GE 7HA.02 series natural gas turbines. The combustion turbines would use pipeline natural gas as the exclusive fuel. Nitrogen oxide (NOx) emissions from the combustion turbines would be minimized through the use of dry low NOx (DLN) burners. The combustion turbines would include evaporative coolers as inlet air cooling systems,

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17. Heat rate is a measure of the efficiency of electric power generation.

which use water to increase the density of the turbine inlet air and increase performance on hot summer days.

#### *Heat Recovery Steam Generator*

Three HRSG would be used to capture the exhaust gas heat from the combustion turbines. Each HRSG would be equipped with duct burners to provide additional peaking generation capacity. The HRSG would also incorporate selective catalytic reduction (SCR) and oxidation catalysts systems as best available control technology (BACT) for air pollution control.

#### *Combustion/Steam Turbine Generator*

Three combustion/steam turbine generators (CSTG) capable of generating 550 MW at 59°F would be housed in a building within the proposed facility compound.

#### *Air Cooled Condenser*

An air-cooled condenser would be used to condense the exhaust steam from the STG and return the condensate to the HRSGs in a closed loop system. Cooling would be achieved by moving air over the condenser tubes by utilizing a bank of fans.

#### *Transformers*

Each CSTG would be connected electrically to a transformer that would step up generator output from 23 kV to 230 kV. Each step up transformer would be connected electrically to four autotransformers that would increase the voltage from 230 kV to 765 kV.

#### *Auxiliary Boiler*

An auxiliary steam boiler, rated at 184.8 million Btu would be used as needed to keep the HRSG warm during periods of facility shutdown and to provide steam to the CSTG during startup.

#### *Emergency Diesel Generators*

Two diesel engine driven generators capable of producing 1,500 kilowatts of electricity would be provided and designed to shut down the proposed facility in the event of a forced outage. The generators would provide power to essential services necessary to protect the equipment. Ultra-low sulfur diesel would be used as fuel, and would be stored in two 300-gallon double containment tanks.

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

The Applicant proposes the following air pollution control technology. In order to minimize emissions of NO<sub>x</sub>, the combustion turbines would be equipped with DLN burners. SCR systems installed and operated in the HRSG exhausts would further reduce NO<sub>x</sub> concentrations during 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 BACT levels for control of carbon monoxide (CO). This would also minimize volatile organic compounds (VOC) pollution.

Particulate matter (PM/PM<sub>10</sub>/PM<sub>2.5</sub>) and sulfur dioxide (SO<sub>2</sub>) emissions would be controlled through the use of pipeline quality natural gas fuel.

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 and potable water would be supplied to the site from the Village of Byesville water treatment plant at a flow rate of up to 570,000 gallons per day. The water would be stored on site in a 1.8 million gallon service water storage tank.

The raw water and potable water from the Village of Byesville would be treated. Some of the water would receive demineralization-polishing treatment for use in the evaporative cooler and makeup water to the HRSG and steam turbine. Demineralized water would be stored in a 600,000 gallon demineralized water storage tank.

The wastewater discharge would be to the Village of Byesville's wastewater treatment plant and would consist of evaporative cooler blowdown, HRSG blowdown, equipment drains, reverse osmosis rejection water, and sanitary wastewater.

### **Electrical System**

The electric power generated by the combustion and steam turbine generators would be stepped up from the native turbine voltage of 23 kV to 230 kV with a generator step-up transformer for each unit. The lines from each step-up transformer would connect in the facility switchyard. At the switchyard, four autotransformers would be used to increase the voltage to 765 kV, and interconnect to a common electric line. The common 765 kV electric transmission line would then connect to a new switching substation and the bulk transmission system. In order to connect, the Applicant would need a future electric transmission line interconnection/tap. The 765 kV electric transmission line, substation, and the tap would be filed separately with the Board at a later date.

Auxiliary transformers would also provide power to the facility, as needed, back fed from the electric grid.

### **Gas Supply**

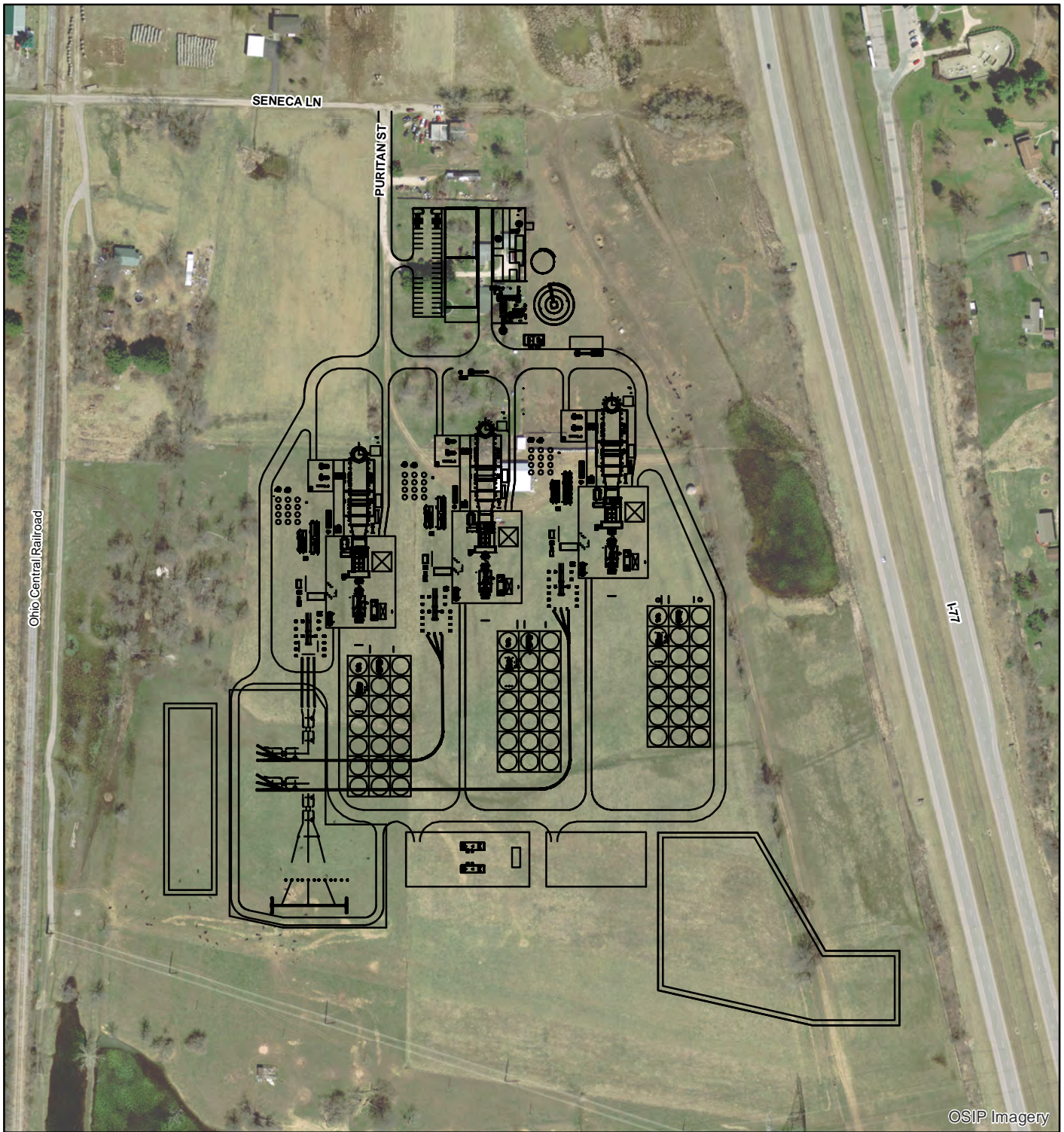
The procurement of adequate natural gas supplies and pipeline capacity is necessary for the successful operation of the facility. The Applicant intends to enter a contract to provide firm natural gas service to the project. The Applicant plans to construct a natural gas pipeline that would connect the facility to the Tallgrass Energy Partners Rockies Express Pipeline.

The facility would require approximately 262 million cubic feet (MMcf) of natural gas per day, and the Rockies Express Pipeline can deliver approximately 4.4 billion cubic feet per day.

A preheating system, fuel gas filter, and liquids removal system would be installed to assure appropriate gas quality on site.

### **Project Timeline**

The Applicant proposes to commence construction in December 2017 and begin commercial operation by October 31, 2020.



OSIP Imagery



0 150 300  
Feet

1:3,500

NAD 83 SP Ohio South (Feet)

Proposed  
Facility Layout

## Overview Map

16-2443-EL-BGN

Guernsey Power Station  
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 certified application and supplemental materials.*

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

In the Matter of the Application of Guernsey Power Station, LLC for a Certificate of Environmental Compatibility and Public Need to Construct an Electric Generation Facility in Guernsey County, Ohio, 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**

Pursuant to R.C. 4906.10(A)(1), the Board must determine the basis of the need for the facility only if the facility is an electric transmission line or gas pipeline. Staff has found this inapplicable to the Applicant.

##### **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, as the facility is neither an electric transmission line nor a gas pipeline.



## **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. Staff has found the following with regard to the nature of the probable environmental impact:

#### **Socioeconomic Impacts**

##### *Demographics*

The proposed facility is located in Guernsey County. In 2010, the population of Guernsey County was 40,091, and the population density was 76.8 per square mile.<sup>18</sup> The 2010 population of Ohio was 11,536,725, and the population density was 282.3 per square mile. Further, the population of Guernsey County is expected to remain essentially unchanged.

##### *Land Use*

The Applicant proposes to construct the facility on a 118-acre parcel. The proposed facility footprint would occupy 50 acres, while approximately 15 acres would be utilized for construction laydown, staging, parking, and access. Approximately 9.8 acres in the northwestern corner of the 50-acre facility site would be utilized for construction laydown and construction parking.

Of the land uses within 1 mile of the facility site, approximately 37 percent of the area is agricultural, 45 percent is forested/open space, 9 percent is residential parcels, 7 percent is industrial, and 2 percent consists of commercial and institutional land use.

Staff recommends that the Applicant limit the hours of construction and have a complaint resolution plan in place to address potential construction and operational related concerns from nearby residents.

##### *Regional Planning*

The project site and laydown area are located within Valley Township, near the village of Byesville. Neither Valley Township nor the Village of Byesville have specific zoning designations for intended land use.<sup>19</sup> However, the proposed project is consistent with regional economic development planning as included in the *Guernsey County Comprehensive Strategic Plan* (Strategic Plan), including the goals of maintenance of a favorable business climate, establishment of development sites, and maintenance of a diversified business and industrial base. Specifically, the Applicant states that the Strategic Plan notes that increased energy activity and an expanding industrial base are actions that could reverse declining population trends in the region.<sup>20</sup> The Guernsey County Planning commission prepared the Guernsey County Comprehensive Strategic Plan and this type of facility aligns with the Strategic Plan.

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18. United States Census Bureau, "State and County Quick Facts: Guernsey County, OH," accessed July 6, 2017, <https://www.census.gov/quickfacts/fact/table/guernseycountyohio,US/PST045216>.

19. *Application* at p. 123.

20. *Ibid.*, pp. 121-123.

### *Residential Impacts*

The Applicant states that three residential structures and one large storage facility exist within 250 feet of the facility footprint. Two of these residences and the large storage facility will be demolished. Two additional residential structures are located just outside of 250 feet of the facility, one of which will be demolished. Eleven residences, ranging from approximately 280 feet to 950 feet away, are located within 1,000 feet of facility. There are residences located to the east of the facility and on the opposite side of I-77. Structures to the west of I-77 are located beyond the existing railroad line, some on higher elevations overlooking the site. Residents within the project area would experience an increase in truck traffic, workers and deliveries, and dust and noise while the facility is under construction. These impacts would be temporary in nature during construction of the facility. However, operational noise impacts would be experienced by residents within the vicinity of the facility. Operational noise impacts are further discussed in the Public Services, Facilities, and Safety section of this report.

Once the facility is completed, approximately 25 workers at the plant would perform operation and maintenance functions. This would allow the area around the facility used for laydown and parking to be seeded and restored

### *Recreational Impacts*

Six parks, recreation areas, or golf courses are located within 5 miles of the facility site.<sup>21</sup> The nearest recreational feature is Jackson Park, approximately 1.25 miles north of the site. The 76-acre Dan and Margaret James Wildlife Area, located approximately 2.6 miles northeast of the facility site, includes opportunities for hunting, trapping, and bird watching. Another local park named State Park, located approximately 2 miles north of the facility site, includes playing fields and a basketball court. Approximately 2 miles west of the facility site is the Indian Lakes Recreation Area Upper Lake and Lower Lake, which support recreational fishing activities. The Cambridge Country Club, which includes a private 18-hole golf course and other recreational facilities on a 150-acre property, is located approximately 2.4 miles northwest of the facility site. Robins Ridge Golf Course, an 18-hole public course, is located approximately 5 miles east of the facility site.

None of the recreational areas identified within the 5-mile radius are expected to be negatively impacted by the proposed facility, and recreational land use is not expected to be altered as a result of the construction or operation of the proposed facility.

### *Cultural Resources*

The Applicant enlisted a consultant to complete a cultural resources management investigation for the project. The investigation included literature review, a Phase I archaeological survey, and a historic structures report.<sup>22</sup> Additional Phase II fieldwork was performed for an approximately 2.5-acre area near the southern portion of the project area, in order to better define the parameters of the site boundaries and contents.

The cultural resources literature review of the project area identified several features that were potentially within the viewshed of the project facility, including a cemetery, historic structure and

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21. Ibid., pp. 127-128 and pp. 08-11A to 08-11H.

22. Ibid., pp. 126-127.

four archaeological sites. The Applicant states that views from these areas are anticipated to be limited by existing vegetation and topography.<sup>23</sup>

While portions of the proposed facility, specifically the stacks, would be visible from certain historic properties, the proposed facility is not likely to affect these properties adversely, due to their distance from the facility and the presence of existing communications and utility infrastructure and other modern and industrial features in the area.

Further assessment conducted during the Applicant's field investigations found several areas that would warrant additional study if impacted, but these areas did not overlap with the facility footprint. The Applicant focused additional testing on a 2.5-acre area near the Rockies Express Pipeline, which overlaps with the facility footprint. As a result of this additional testing, the Applicant's consultant concluded that this site did not contain significant information that would make the site eligible for the National Register of Historic Places, and recommended that no further cultural resource management work would be necessary for the site. As of the writing of this report, the OHPO was reviewing the findings and recommendations provided in the Applicant's survey results and recommendations.

### *Aesthetics*

The facility site would be converted to industrial use. The tallest structures at the facility site would be the three 180-foot tall HRSG stacks. The auxiliary boiler stack will be no taller than 55 feet, and other supporting equipment will not be taller than 25 feet. Facility lighting would be designed to reduce impact to the extent feasible, with downward facing fixtures and appropriate fixture placement. The perimeter of the facility will be fenced.

The facility has been sited adjacent to a major highway, with existing above ground transmission infrastructure present. Therefore, while the site is agricultural, it is not without existing infrastructure in the background.

No significant permanent visual impacts would occur to the majority of residences in the area due to the area being largely shielded by the surrounding topography and vegetation. However, some residences will experience visual impacts from this facility, as they presently overlook the site from a higher elevation, or are immediately adjacent to the site. Potential impacts to these adjacent residences would be alleviated and addressed by adherence to landscaping and lighting plans. Impacts associated with construction activities would be temporary in nature.

### *Economics*

The Applicant estimates the total capital and intangible costs for the project at \$1.45 billion.<sup>24</sup> The estimated fixed and variable annual operation and maintenance expense for the facilities partial year in operation are \$8.75 million.<sup>25</sup>

The Applicant enlisted Economic Development Research Group Inc. (EDR Group) to analyze both the direct and indirect economic impacts of building and operating the planned facility. EDR

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23. Ibid., p. 126.

24. Ibid., p. 27.

25. Ibid., p. 28.

Group estimated and evaluated economic impacts associated with the proposed facility based on a proprietary economic impact model called IMPLAN.<sup>26</sup>

Listed below are some of the direct and indirect economic benefits Guernsey County, the surrounding 18 counties, and the state of Ohio would experience during the construction and operational phases of the project.

- The 33-month construction period from January 2018 to September 2020 would generate \$354 million in construction labor in Guernsey County and the surrounding counties, plus an additional \$96 million in other regions in Ohio.<sup>27</sup>
- During construction, the facility would employ, on a varying monthly basis, approximately 450 to 650 jobs in Guernsey County and surrounding counties.<sup>28</sup>
- During operation and maintenance, the facility would employ approximately 25 employees.<sup>29</sup>
- The facility would generate an estimated \$915,700 in annual tax revenue in eastern Ohio, and tax revenue impacts statewide could total \$1,131,700.<sup>30</sup>

#### *Delays*

According to the Applicant, it is imperative that the facility becomes operational by third quarter 2020 in order to meet the anticipated summer peak load demand. The Applicant states that delays in permitting the facility could jeopardize economic development and the Applicant's ability to participate in the 2021/2022 PJM Reliability Pricing Model Base Residual Auction and the three incremental auctions for the 2020/2021 delivery year. Delays of this nature would result in significant costs to the Applicant.<sup>31</sup>

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*

Guernsey County is located within the unglaciated Allegheny Plateau Region. Sedimentary rocks that outcrop in the county belong to the Pennsylvanian System. Bedrock and exposed strata consist of sandstone, shale, coal, and limestone. The formations found in Guernsey County are part of the Pottsville, Conemaugh, Allegheny, and Lower Monongahela.

In the project area, rocks of Pennsylvanian age belong to the Allegheny Formation. The Puritan Coal Company (GY-06) extracted the Upper Freeport (#7) coal by vertical shaft method at an

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26. Economic Development Research Group Inc., "Economic Assessment of the Proposed Natural Gas-Fired Guernsey Power Station in Guernsey County, Ohio," February 2017, p. 11.

27. Ibid., p. 31.

28. Ibid.

29. Ibid.

30. Ibid., p. 20.

31. Ibid., p. 30

elevation of 700 feet above sea level. This coal was mined in the early 1900s, and mining operations were abandoned in 1921.

Guernsey County was not covered by Illinoian and Wisconsinan glaciers in its history, which terminated about 50 miles west and north of the county. There are no glacial outwash deposits in the Guernsey County, due to the fact that ancient major streams that were channels for glacial meltwater did not extend into the county. However, glaciers did form lakes in stream valleys by damming up streams that drained Guernsey County. Lacustrine deposits formed in these valleys. The project area appears to be free from the effects of glaciation and glacially caused depositions.

The Applicant has noted that the closest seismic event near the project site occurred in 2016 at a location approximately 4.5 miles north of Barnesville, Ohio in Guernsey County. The seismic event measured at a magnitude of 2.3 on August 3, 2016. There were no reports of any damages. This location is approximately 17 miles northeast of the proposed facility. No other seismic activity has been recorded in Guernsey County.

The geology in the project area does not present any conditions or features that would prohibit the design and construction of this project. The Applicant is aware of the abandoned underground coalmine that lies greater than 100 feet beneath the footprint of the proposed project. Due to the depth of the mine, the risk of surface effects from future mine subsidence is considered negligible. However, the Applicant has indicated that it may grout the open mine voids in order to ensure the structural integrity of the subsurface beneath the facility. Choosing that approach would require coordination with ODOT, because grouting the section of the mine under the proposed facility potentially could impact the integrity of the mine structure in other areas. I-77 runs north and south parallel to the proposed facility and crosses over the same abandoned underground coalmine.

#### *Soils and Soil Suitability*

The Applicant has noted the various soil units mapped in Guernsey County according to the *Soil Survey of Guernsey County, Ohio*. Of particular note are the detailed mapped soil units within each soil association, general size within the project area, and position on the landform of the mapped unit. The detailed information about the mapped soil units provides information helpful in designing the layout of the project. Key indicators include location as upland or side slope, suitability for building, prone to landslides, shrink-swell potential, frost action, and low strength for a particular mapped soil unit.

The two most prominently mapped soil units in the project area are the Mentor silt loam (MeB), 2 to 8 percent slopes, and the Glenford silt loam (GnA), 0 to 3 percent slopes. Additionally, the Mentor silt loam, 8 to 15 percent slopes along the eastern edge of the project area is the lesser-mapped soil unit in the project area. Overall, the terrain in the project area is flat lying.

The Applicant has conducted a geotechnical drilling investigation in order to obtain further site-specific detailed information and engineering properties of the soils for construction design purposes. The Applicant finds the mapped soil units in the project area suitable for construction. Staff did not find any issues regarding these soil types that would prevent or restrict the construction of this facility

### *Surface Waters*

The project area contains one perennial stream, Wills Creek. No in water work is proposed and no impacts to this stream are anticipated. Construction disturbance would be approximately 650 feet from Wills Creek at the nearest point.

Twenty wetlands have been delineated in the project area. No category 3 wetlands were delineated in the project area. No fill or other construction related disturbance is proposed within wetlands. Staff notes that several wetlands are located in laydown areas where construction vehicle traffic has the potential to accidentally impacts wetlands. Staff recommends that the Applicant demarcate wetland areas using brightly colored snow fence and implement best management practices as applicable. Specifics on how wetlands would be further protected using erosion and sedimentation controls would be outlined in the Applicant's Stormwater Pollution Prevention Plan (SWPPP).

Approximately 8.5 acres of the proposed temporary laydown area overlaps with the 100-year floodplain. Approximately 0.5 acre of the proposed facility boundary overlaps the 100-year floodplain. The only feature of the project proposed within the floodplain area would be a stormwater retention pond. Staff recommends that the retention pond be designed such that it would not be overtopped by water during a 100-year flood event. Staff also recommends that the Applicant coordinate with the local floodplain administrator to obtain any required floodplain development permits.

### *Vegetation*

The proposed facility is located primarily within hay fields and pasture. Of the 133 acres comprising the project site, approximately 1 acre of tree clearing is proposed.

For both construction and future maintenance, Staff recommends that the Applicant limit, to the greatest extent possible, the use of herbicides in proximity to surface waters, including wetlands, along the right-of-way. If herbicide use is necessary, individual treatment of tall-growing woody plant species is preferred. General, widespread use of herbicides during initial clearing or future maintenance should only be used where no other options exist. Staff recommends that the Applicant submit a plan to Staff describing the planned herbicide use for all areas in or near any surface waters during initial project construction and/or future maintenance.

### *Threatened and Endangered Species*

The Applicant requested information from the ODNR and the USFWS regarding state and federal listed 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.

| BIRDS            |                       |                |              |  |
|------------------|-----------------------|----------------|--------------|--|
| Common Name      | Scientific Name       | Federal Status | State Status | Presence in Project Area   |
| Northern harrier | <i>Circus cyaneus</i> | N/A            | Endangered   | Habitat includes large marshes and grasslands. Sufficient habitat not present within project area. |

| MAMMALS                 |                               |                |                    |  |
|-------------------------|-------------------------------|----------------|--------------------|--|
| Common Name             | Scientific Name               | Federal Status | State Status       | Presence in Project Area   |
| Indiana bat             | <i>Myotis sodalis</i>         | Endangered     | Endangered         | Habitat includes trees 3 inches or greater in diameter within project area.            |
| northern long-eared bat | <i>Myotis septentrionalis</i> | Threatened     | Species of Concern | Habitat includes trees 3 inches or greater in diameter within project area.            |
| black bear              | <i>Ursus americanus</i>       | N/A            | Endangered         | Due to the mobility of this species, the project is not likely to impact this species. |

Due to a lack of suitable habitat and no proposed in-water work, impacts to federal and state listed aquatic, reptile, and amphibian species are not anticipated.

Potentially suitable habitat for the northern harrier is present within the project area. In order to avoid impacts to this species the Staff recommends that construction in areas of potential habitat be avoided during the species' nesting period of May 15 through August 1, unless coordination with the ODNR allows a different course of action.

To avoid potential take of both Indiana and northern long-eared bats, suitable habitat and surrounding trees shall be saved wherever possible. If tree removal is unavoidable, Staff recommends the Applicant adhere to seasonal tree cutting dates of October 1 through March 31 for all trees over 3 inches in diameter, unless coordination with the ODNR and the USFWS allows a different course of action.

All Staff recommendations for the requirements discussed in this section of the *Staff Report 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 during construction would be short-term increases in traffic on routes leading to the proposed facility due to deliveries of equipment and materials. The use of a construction laydown area would minimize construction traffic on public roadways. Workers arriving and departing during construction would also increase traffic. Some traffic management during the construction phase may be necessary in the immediate vicinity of the project area to ensure safe and efficient maintenance of existing traffic patterns and usages. The Applicant has committed to coordinating with local officials to ensure that shift times and travel routes would be optimized to the extent possible.

The proposed facility would have new employment of approximately 25 full-time workers during operation and would not place major demands on local infrastructure. Workers would commute to the project area on a daily basis. Potential emergency service requirements would be coordinated

with local officials. Local emergency response personnel would be trained by the appropriate authorities to be familiar with the facility's emergency response system.

### *Roads and Bridges*

The Applicant's preliminary traffic management plan considers delivery of major components and other materials for the construction phase of the proposed facility. Final transportation to the site would be via road or from major highways. The traffic management plan would be finalized following the selection of a construction contractor, as well as finalized calculations of the load and dimensional requirements for equipment transportation. Equipment deliveries to the site would be primarily by truck and would be planned to minimize impact to local traffic patterns.

Rail transportation for larger equipment delivery may be utilized. A private rail spur, formerly owned by Cleveland and Marietta Railroad/Pennsylvania Railroad extends west of the proposed facility. If the use of rail delivery is determined to be feasible, the Applicant would provide additional information to Staff.

Road access to the site would be achieved by Seneca Lane, which is connected to the Interstate Highway system via state routes 313 and 821, and interstates 70 and 77. No upgrades to local roads and bridges are anticipated for the transportation of construction vehicles and facility equipment. All road use agreements would be made between the Applicant and Guernsey County and township officials.

Staff recommends a requirement for the Applicant to develop a final traffic management plan that would include a road use 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 in place.

### *Noise*

Noise impacts from construction activities would include site clearing and grading, placement of major structural concrete foundations, erection of structural steel, installation of mechanical and electrical equipment, and commissioning and testing of equipment. Many of the construction activities would generate significant noise levels during the final 4 to 6 months of construction. However, the adverse impact of construction noise would be temporary and intermittent, would occur away from most residential structures, and would be limited to daytime working hours. The Applicant would use equipment mitigation practices such as maintaining engines and mufflers in good operating order and according to manufacturers' specifications, personal protective equipment such as hearing protection devices, and limitations on duration of noise exposure in high noise areas in order to reduce noise impacts.

The Applicant conducted a background ambient noise level study in order to understand the existing noise levels near the proposed facility. The study included measurements at five locations on December 13 and 14, 2016. The results of that study showed that for measurement location 1, the equivalent continuous noise level (Leq) for the two-day monitoring period was 48 decibel A-weighting (dBA) for daytime hours and 37 dBA for nighttime hours. For measurement location 2, the Leq for the two-day monitoring period was 57 dBA for daytime hours and 46 dBA for nighttime hours. For measurement location 3, the Leq for the two-day monitoring period was 46 dBA for daytime hours and 35 dBA for nighttime hours. For measurement location 4, the Leq for



the two-day monitoring period was 49 dBA for daytime hours and 36 dBA for nighttime hours. For measurement location 5, the Leq for the two-day monitoring period was 63 dBA for daytime hours and 32 dBA for nighttime hours.

The Applicant estimated noise levels from the operation of the proposed facility by using the Cadna-A noise model software. The project would use noise reduction mitigation such as enclosing noisy equipment inside buildings and equipment specific noise reduction mitigation. Noise levels during operation would range from 38-54 dBA Leq at the five measurement locations. Ambient nighttime noise levels range from 32-46 dBA Leq. Approximately seven residences closest to the facility are modeled to receive operational noise impacts of 0-6 dBA daytime and 10-17 dBA nighttime.

The model results showed that sound pressure levels at closest residence would be approximately 53 dBA. The closest monitoring location to the closest residence is monitoring location 1 and the ambient noise level was measured to be 48 dBA (day) and 37 dBA (night).

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.

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 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 considered potential facility locations in Indiana, Maryland, Pennsylvania, Ohio, and Virginia before focusing on southeast Ohio and southwest Pennsylvania. The Applicant identified the unincorporated Valley Township in Guernsey County as its preferred region. Despite Valley Township not having zoning and land use ordinances, the Applicant met with numerous community leaders and determined that the project would have the support of community leaders.

The Applicant evaluated key factors such as capacity needs, transmission constraints, pricing and other economic factors, and the complexity and anticipated timeline associated with applicable regulatory processes. The Applicant also prioritized qualities such as adequate space for facility layout, compatible land characteristics and use, on-site natural gas interconnection, natural gas supply alternatives, on-site electrical interconnection, adequate water supply and wastewater discharge, strong transportation network, and lack of significant environmental constraints.

Once the site was selected, the Applicant developed a constraint map to inform the design of the facility layout. The site was designed to avoid impacts to wetlands and take advantage of the location of existing infrastructure. The Applicant's site selection and design process led to the selection of a site that minimizes impacts of the proposed facility.

#### **Minimizing Impacts**

The Applicant has sited the proposed facility to minimize potential impacts. With the exception of some residential impacts during construction, nighttime noise impacts to the closest seven residences, the proposed facility is compatible with, and would not permanently impact surrounding land uses.

The facility would minimize impacts to ecological resources through avoidance of wildlife habitat during breeding seasons, and continued coordination with the ODNR and the USFWS. Additionally, the proposed facility location completely avoids wetland and stream impacts.

The facility would have direct and indirect positive impacts on the local economy. Positive impacts would include purchasing of construction material from local vendors and the use of goods and services by facility personnel. In addition, the proposed facility would generate revenue from construction spending, permanent employment and state and local taxes.

#### **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, the direct and indirect positive economic benefits, and 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 1,650 MW. The proposed facility would interconnect through a 765 kV switching station, configured as a breaker and half bus arrangement, to AEP's Kammer-Vassell 765 kV Transmission Line.

During Staff's review, the Applicant requested that the total capacity be approved under this application be reduced from 1,650 MW to 1,100 MW. The capacity reduction was the result of PJM's delay in completing the SIS in queue position AC1-044, which considers the additional 550 MW.<sup>32, 33</sup>

### **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 would be 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 its initial 1,100 MW generation interconnection request for the proposed facility to PJM on March 31, 2016. PJM gave the application a queue position of AB2-067. The SIS was released by PJM in June 2017.<sup>34</sup> The Applicant's other generation interconnection request for 550 MW was submitted to PJM on March 31, 2016. PJM gave the application a queue position of AC1-044. As of August 31, 2016, the SIS has not been released.<sup>35</sup>

PJM studied the interconnection as an injection into AEP's Kammer-Vassell 765 kV Transmission Line. The Applicant requested a maximum facility interconnection of 1,100 MW, of which all 1,100 MW would be capacity. Capacity represents the need for adequate generating resources to

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32. Correspondence of Guernsey Power Station, LLC, Case No. 16-2443-EL-BGN, July 26, 2017.

33. PJM Interconnection, LLC, "System Impact Study, Queue Number AC1-044," accessed July 17, 2017, <http://pjm.com/planning/generation-interconnection/generation-queue-active.aspx>.

34. 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.

35. PJM Interconnection, LLC, "System Impact Study, Queue Number AC1-044," accessed July 17, 2017, <http://pjm.com/planning/generation-interconnection/generation-queue-active.aspx>.

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 would be 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 proposed facility interconnected to the bulk power system via AEP's Kammer-Vassell 765 kV Transmission Line. A 2020 summer peak power flow model was used to evaluate the regional reliability impacts. The below chart displays the results of the PJM SIS for the PJM regional footprint.<sup>36</sup>

| <b>PJM REGIONAL SYSTEM IMPACTS</b>  |                        |
|---|------------------------|
| <b>Generator Deliverability - System Normal and Single Contingency Outage</b> |                        |
| <i>Plant Output: Capacity Level – 1,100 MW</i>                                | No problems identified |
| <b>Category C and D - Multiple Contingency Outages</b>                        |                        |
| <i>Plant Output: Capacity Level – 1,100 MW</i>                                | No problems identified |

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

PJM studied overloading where the proposed facility may affect earlier projects in the PJM queue.

| <b>CONTRIBUTION TO PREVIOUSLY IDENTIFIED OVERLOADS</b> |                        |
|--|------------------------|
| <i>Plant Output: Capacity Level – 1,100 MW</i>         | No problems identified |

### **Potential Congestion due to Local Energy Deliverability- Energy Delivery Impacts**

PJM studied the delivery of the energy portion. Network upgrades under this section will allow for the delivery of energy with operational restrictions. The upgrades are at the discretion of the Applicant.

| <b>POTENTIAL CONGESTION DUE TO LOCAL ENERGY DELIVERABILITY</b> |                        |
|--|------------------------|
| <i>Plant Output: Capacity Level – 1,100 MW</i>                 | No problems identified |

### **Short Circuit Analysis**

The short circuit analysis study, which is part of the SIS, evaluates the interrupting capabilities of circuit breakers impacted by the proposed generation addition. The results identified no circuit break problems.

36. PJM Interconnection, LLC, "System Impact Study, Queue Number AB2-067," accessed July 17, 2017, <http://pjm.com/planning/generation-interconnection/generation-queue-active.aspx>.

## **Conclusion**

PJM analyzed the bulk electric system, with the facility interconnected to the transmission grid, for compliance with AEP, NERC, and PJM reliability criteria. The PJM system studies indicated no reliability violations while injecting 1,100 MW of capacity into the electric grid.

The facility would interconnect to the regional grid through a transmission substation, configured as a breaker and half bus arrangement. This configuration is highly reliable and allows for maintenance without disruption to service.

The Applicant stated they plan to reduce the output of the facility from 1,650 MW to 1,100 MW. The Applicant plans to increase the facility's output in a future filing with the Board.<sup>37</sup>

If additional capacity above 1,100 MW is anticipated, the Applicant shall submit an amendment to the Board requesting an increase in capacity. The amendment shall include the PJM System Impact Study of the proposed increase in capacity.

The facility would serve the public interest, convenience, and necessity by providing additional electrical generation to the regional transmission grid, would be consistent with plans for expansion of the regional power system, and would serve the interests of electric system economy and reliability.

## **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.

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37. "Correspondence of Guernsey Power Station, LLC," Case No. 16-2443-EL-BGN, July 26, 2017.

## **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 through the use of efficient new gas turbine technology, and incorporating air pollution controls.

The turbines would use natural gas, thereby ensuring low emission rates throughout its operation. The combustion of natural gas produces NO<sub>x</sub> and carbon dioxide (CO<sub>2</sub>), but in lower quantities than burning other fossil fuels, such as coal or oil. The combustion of natural gas would also minimize particulate matter and SO<sub>2</sub> emissions.

Air pollution controls are proposed for the facility to minimize impacts to air quality. The primary air pollution control devices include DLN burners in the gas turbines, SCR systems, and oxidation catalysts in the HRSG.

The proposed combustion turbine and duct burner utilize DLN burners. 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 used to remove nitrogen oxides from the flue gases that are produced during combustion of fossil fuels in turbines or boilers. SCR removes nitrogen oxides through a catalyzed chemical reduction of nitrogen oxides 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 nitrogen oxides to 2 parts per million by volume.

An oxidation catalyst system would be located within the HRSG to control emissions of CO and VOC. Exhaust gases from the turbines pass over a catalyst bed, where excess air would oxidize the CO and VOC. The oxidation catalysts would reduce emissions of CO to 2 parts per million by volume or less and VOC to between 1 and 2 parts per million by volume. Several non-criteria pollutants would be emitted, including sulfuric acid mist, ammonia, and formaldehyde, below levels that would conform to Ohio EPA regulations.

Emissions from the facility would be tracked using a CEMS. The CEMS would continuously extract flue gas samples near the exhaust of the HRSG and measure flue gas parameters. The CEMS would detect a deterioration of performance before a failure of the catalyst would occur. The facility would not be permitted to operate if its SCR system is not functioning properly.

The Applicant submitted an air permit-to-install application for the project to the Ohio EPA on April 13, 2017. The Ohio EPA provided the dispersion modeling data. In the Application, dispersion modeling details were provided for the facility, in order to demonstrate compliance with air quality standards. 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 air operating permit

within 12 months after initial startup. Additionally, the Applicant would need to submit a Title IV Acid Rain Program permit application for emissions of SO<sub>2</sub> and NO<sub>x</sub>. The Title IV permit must be submitted to the Ohio EPA at least 24 months prior to beginning operation.

Construction impacts on air quality primarily would consist of relatively minor emissions from construction equipment and from fugitive dust emissions. Construction vehicles would emit insignificant amounts of VOC, SO<sub>2</sub>, CO, NO<sub>x</sub>, and particulate matter. These emissions would not be expected to cause any significant adverse impacts to air quality. Fugitive dust rules adopted pursuant to the requirements of R.C. Chapter 3704 (air pollution control laws) are applicable to the proposed facility. The Applicant has committed to controlling fugitive dust, where necessary, through best management practices.

### **Water**

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, approximately 441,000 gallons per day on average. Water would be obtained through the Village of Byesville Water Department, 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 the Ohio EPA National Pollutant Discharge Elimination System (NPDES) general permit for stormwater discharges associated with construction and industrial activities. The Applicant would develop a SWPPP for the project pursuant to Ohio EPA regulations, the ODNR Rainwater and Land Development Manual, and associated requirements of Guernsey County. Prior to operation of the facility, the Applicant would obtain a general NPDES permit for stormwater discharges associated with operation, if necessary.

Stormwater flows from the developed site would be controlled through the use of a retention pond and other best management practices that would be identified in the SWPPP. The preliminary design reflects discharge of clean stormwater runoff from the stormwater collection pond into Wills Creek. If the outfall structure requires placement in any jurisdictional portion of Wills Creek, authorization from U.S. Army Corps of Engineers would also be obtained.

The laydown area, eastern, southern, and northeastern portions of the site are within the 100-year floodplain of Wills Creek. Additionally, the only portion of the 100-year floodplain of Wills Creek that overlaps the facility site is the southeastern corner including a stormwater retention pond. The Applicant would grade the facility site to be well above the base flood elevation level and would design appropriate flood protection for stored material in the Laydown area. The Applicant has discussed the project with the local country engineer who is the local floodplain administrator who indicated that no additional floodplain permit is required for construction of this project. Staff recommends that the Applicant shall provide a copy of any floodplain permit required for construction of this project or a copy of correspondence with the floodplain administrator showing that no permit is required to Staff within seven days of issuance or receipt by the Applicant.

Sanitary and process wastewater sources would be discharged directly to the Village of Byesville wastewater collection system and publicly owned treatment works (POTW). This POTW discharges to Wills Creek in accordance with its own NPDES requirements. The facility would



discharge to the POTW in accordance with the Ohio EPA industrial pretreatment program regulations and limits developed by the Ohio EPA and the Village.

### **Solid Waste**

The Applicant estimates that approximately 2,000 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 would be separated from normal waste, including segregation of storage areas and proper labeling of containers.

All solid waste generated during both 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 spill prevention and control practices in place. The Applicant's solid waste disposal plans comply with solid waste disposal requirements in R.C. Chapter 3734, and the rules and laws adopted under this chapter.

### **Aviation**

According to the Federal Aviation Administration (FAA), the closest airports are Cambridge Municipal (CDI), Noble County (I10), Barnesville-Bradfield (6G5), Zanesville Municipal (ZZV), and Tri-City (80G) which are located between 2 and 20 miles from the proposed facility. The closest public use heliport is Salt Fork Lodge (08G) approximately 10 miles away. The Applicant states that on March 14, 2017, a notification was submitted to the FAA, and the Applicant expects to receive a Determination of No Hazard for the three proposed HRSR stacks.

In accordance with R.C. 4561.32, Staff contacted the ODOT Office of Aviation during review of this application in order to coordinate review of potential impacts of the facility on local airports. As of the date of this filing, no such concerns have been identified.

All Staff recommendations for the requirements discussed in this section can be found under the **Air, Water, Solid Waste, and Aviation Conditions** heading of the Recommended Conditions of Certificate.

### **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.

#### **Public Safety**

The Applicant would limit public access to the facility by installing a security fence around the project site with card-activated gates and access controlled by the operator. The facility would be configured to meet all appropriate NERC standards for physical security and cyber security.

The project 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 extensively 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.

#### **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. The Applicant intends to comply with these gas pipeline safety regulations.

#### **Fire Protection System**

A complete fire protection/detection system would be provided for the facility. The system would include a sprinkler system, a deluge system, a carbon dioxide monitoring system, fire hose stations, hydrants, portable fire extinguishers, and detection and control systems. The fire protection system would be designed and installed in accordance with local fire department, 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 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. Staff recommends that this coordination be incorporated into an emergency response plan that would address different potential emergencies, levels of response, and resources (such as equipment or personnel).

#### **Gas Supply**

The facility would be fueled with natural gas supplies from the nearby Rockies Express Pipeline. That existing pipeline can deliver approximately 4,480 MMcf per day. The facility would require up to 262 MMcf per day. The natural gas transmission pipeline that would connect the Rockies

Express Pipeline to the facility would be approximately 250 feet in length and may be subject to Federal Energy Regulatory Commission approval.

Although pipeline gas is very clean, minor impurities need to be removed prior to entering combustion turbines. The Applicant intends to install a fuel gas heating system and liquids removal system to improve overall plant efficiency.

The Applicant would contract for firm long-term gas transportation service to the facility. The transportation service would be a long-term year round service to ensure uninterrupted supply of gas to the project.

Due to the magnitude of the capital investment required to construct the facility, the Applicant would take the appropriate measures, as described in the paragraphs above, to ensure the proper operation of the facility. The procurement of adequate natural gas supplies and pipeline capacity are necessary components for the successful operation of the facility.

### **Public Interaction**

The Applicant hosted a public informational open house for this project on January 25, 2017. Attendees were provided the opportunity to speak with representatives of the Applicant about the proposed project and to provide feedback. According to the Applicant, approximately 50 individuals attended the meeting. Several attendees inquired about construction jobs and the project schedule. One attendee expressed concerns regarding facility noise and lighting.

The Applicant served copies of the complete application on officials representing Guernsey County and Valley Township. The Applicant also sent a copy of the complete application to the Guernsey County District Public Library. Additionally, copies of the complete application are available for public inspection at the offices of the PUCO and online at <http://opsb.ohio.gov>. The Applicant maintains a project website at <http://guernseypowerstation.com>.

During the construction of the project, the Applicant has committed to having a manager on site to respond to local issues. The Applicant would implement the complaint resolution program included in Appendix F of the application during construction and would update the complaint resolution program once the project becomes operational. Staff recommends that the Applicant be required to provide Staff with a copy of the operational-period complaint resolution plan at least 30 days before the facility becomes operational.

The Applicant has committed to notifying affected parties at least seven days prior to the start of any construction activities. However, Staff recommends a condition requiring the Applicant to provide at least 30 days notice prior to the start of any construction activities.

The Administrative Law Judge issued an entry on May 25, 2017 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 August 15, 2017 at 6:00 p.m., at Meadowbrook High School, 58615 Marietta Rd., Byesville, Ohio 43723. The adjudicatory hearing is scheduled for Aug. 23, 2017 at 10:00 a.m., at the offices of the PUCO, 11th floor, Hearing Room 11-D, 180 E. Broad St., Columbus, Ohio 43215.

As of the filing of this Staff Report, the Board has received one public comment. No motions to intervene have been filed in this case.

### **Liability Insurance Plans**

The Applicant would carry liability insurance to cover potential claims. During the facility's construction and operation phases, general commercial liability insurance and automobile liability insurance would be utilized.<sup>38</sup>

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

### **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.

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<sup>38</sup>. *Application* at p. 34.

## **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 facility. The agricultural district program was established under R.C. Chapter 929. Agricultural district land is exempt from sewer, water, or 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.

No agricultural district lands were identified in the study area. No agricultural district land would be disturbed in association with the construction of the proposed facility. No impacts to field operations, irrigation, or field drainage systems associated with agricultural district lands would occur as a result of the construction, operation, or maintenance of the proposed facility.

The Applicant has stated that the risk of damage to tile systems on adjacent properties is minimal due to the characteristics of the site. The presence of I-77 immediately to the east, utility infrastructure and Wills Creek to the south, an existing rail line to the west, and Seneca Lane to the north are significant existing divides between any drainage systems on the facility site and adjacent off-site properties. Any unforeseen drain tile issues would be remedied through the Applicant's complaint resolution process.

### **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 report 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. While 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 a significant amount of water, approximately 441,000 gallons per day on average.

The proposed facility would use water obtained through the Village of Byesville water treatment plant for process water, fire protection, and sanitary uses. Therefore, the requirements under R.C. 1501.33 and 1501.34 are not applicable to this project.

The proposed facility design incorporates significant water conservation measures. The facility would use air-cooling, rather than a conventional wet cooling system, which would reduce water intake requirements by up to 95 percent when compared to conventional wet cooling technology. The facility would also incorporate recirculation of process water in order to maximize water conservation.

#### **Recommended Findings**

The 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 (A)(8). Further, the Staff recommends that any certificate issued by the Board for the certification of the proposed facility include the conditions specified in the section of this report entitled Recommended Conditions of Certificate.

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

Following a review of the application filed by Guernsey Power Station, 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, replies to data requests and the recommendations in this *Staff Report of Investigation*.
- (2) 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.
- (3) 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.
- (4) 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.
- (5) 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.



- (6) Prior to the commencement of construction activities in areas 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.
- (7) The Applicant shall not operate the facility above 1,100 MW. If additional capacity above 1,100 MW is anticipated, the Applicant shall submit an amendment to the Board requesting an increase in capacity. The amendment shall include the PJM System Impact Study of the proposed increase in capacity.
- (8) 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.
- (9) 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.
- (10) 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 integrate the proposed generating facility into the regional transmission system reliably and safely. 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.
- (11) At least 30 days prior to the preconstruction conference, the Applicant shall provide to Staff a copy of its public information program that informs affected property owners and tenants 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 property owners and tenants at least 30 days prior to construction.
- (12) At least 30 days prior to the facility becoming operational, the Applicant shall provide to Staff a copy of the complaint resolution procedure to address potential public grievances resulting from facility operation, including noise from the facility. The resolution procedure must describe how the public can contact the Applicant and how the Applicant will work to mitigate or resolve any issues with those who submit either a formal or informal complaint. The Applicant must immediately forward all complaints to Staff.

### **SOCIOECONOMIC CONDITIONS**

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

- (13) Prior to commencement of any construction, the Applicant shall prepare a landscape and lighting plan that addresses the aesthetic and lighting impacts of the facility on neighboring residences, including minimum berm heights and lighting locations. The Applicant shall

consult with adjacent property owners in the development of this plan and provide the plan to Staff for review and confirmation that it complies with this condition.

- (14) Prior to the commencement of construction, the Applicant shall finalize coordination of the assessment of potential effects of the proposed facility on cultural resources, if any, with Staff and the Ohio Historic Preservation Office (OHPO). If the resulting coordination discloses a find of cultural or archaeological significance, or a site that could be eligible for inclusion in the National Register of Historic Places, then the Applicant shall submit a modification or mitigation plan to Staff. Any such mitigation effort, if needed, shall be developed in coordination with the OHPO and submitted to Staff for review.

### **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) The Applicant shall adhere to seasonal cutting dates of October 1 to March 31 for the removal of trees three inches and greater in diameter to avoid impacts to Indiana bats and Northern long-eared bats, unless coordination with the Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service (USFWS) allows a different course of action.
- (16) The Applicant shall contact Staff, the ODNR, and the USFWS, within 24 hours if state or federal species are encountered during construction activities. Construction activities that could adversely impact the identified plants or animals shall be halted until an appropriate course of action has been agreed upon by the Applicant, Staff, and the ODNR in coordination with the USFWS. Nothing in this condition shall preclude agencies having jurisdiction over the construction activities with respect to wildlife from exercising their legal authority over the facility consistent with law.
- (17) Construction in Northern harrier preferred nesting habitat types shall be avoided during the species' nesting period of May 15 through August 1, unless coordination with the ODNR allows a different course of action.
- (18) The stormwater retention pond proposed within the 100-year floodplain shall be designed such that it would not be overtopped by water during a 100-year flood event.
- (19) During construction and maintenance, the Applicant shall limit, to the greatest extent possible, the use of herbicides in proximity to surface waters. Individual treatment of tall-growing woody plant species is preferred, while general, widespread use of herbicides during initial clearing or maintenance should only be used where no other options exist, and with prior approval from the Ohio Environmental Protection Agency. Prior to commencement of construction, the Applicant shall submit a plan to Staff for review and confirmation that it complies with this condition, describing the planned herbicide use for all areas in or near any surface waters during initial project construction and/or maintenance.

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

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

- (20) The Applicant shall provide a copy of any floodplain permit required for construction of this project, or a copy of correspondence with the floodplain administrator showing that no permit is required, to Staff within seven days of issuance or receipt by the Applicant.

## **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:

- (21) 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, 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 by Staff that it complies with this condition.
- (22) The Applicant shall repair damage to government-maintained (public) roads and bridges caused by construction or maintenance activity. Any damaged public roads and bridges shall be repaired promptly to their previous conditions by the Applicant under the guidance of the appropriate regulatory agency. Any temporary improvements shall be removed unless the county engineer request that they remain. The Applicant shall provide financial assurance to the counties that it will restore the public roads it uses to their conditions prior to construction or maintenance. The Applicant shall develop a transportation management plan and enter into a road use agreement with the county engineer prior to construction and subject to Staff review and confirmation that it complies with this condition. The road use agreement shall contain provisions for the following:
  - (a) A preconstruction survey of the conditions of the roads.
  - (b) A post-construction survey of the condition of the roads.
  - (c) An objective standard of repair that obligates the Applicant to restore the roads to the same or better condition as they were prior to construction.
  - (d) A timetable for posting of the construction road and bridge bond prior to the use or transport of heavy equipment on public roads or bridges.
- (23) 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), of upcoming construction activities including potential for nighttime construction activities.

- (24) 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. This plan should be developed in consultation with the fire department(s) having jurisdiction over the area. The Applicant shall coordinate with fire, safety, and emergency personnel during all stages of the project.
- (25) After commencement of commercial operation, the Applicant shall conduct further review of the impact and possible mitigation of all project noise complaints. Mitigation shall be required if the project contribution at the exterior of any non-participating residence within 1 mile of the project boundary exceeds the validly measured ambient equivalent continuous noise level ( $L_{EQ}$ ) plus five decibel A-weighting (dBA) at the location of the complaint and during the same time of day or night as that identified in the complaint. Mitigation, if required, shall consist of either reducing the impact so that the project contribution does not exceed the validly measured ambient  $L_{EQ}$  plus five dBA, or other means of mitigation reviewed by Staff for confirmation that it complies with this condition.



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