Staff Report of Investigation

Rolling Hills Generating Station
Combined Cycle Conversion Project
Vinton County

Case Number
12-1669-EL-BGA

January 14, 2013

Ohio | Power Siting Board

John Kasich, Governor **Todd Snitchler,** Chairman

In the Matter of the Application by Rolling Hills Generating, LLC	**)**	
for an Amendment of a Certificate of Environmental Compatibility	**)**	**Case Number**
and Public Need for the Rolling Hills Generating Station,	**)**	**12-1669-EL-BGA**
Combined-Cycle Conversion Project, Vinton County	**)**	

Staff Report of Investigation

Submitted to the
OHIO POWER SITING BOARD

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BEFORE THE POWER SITING BOARD OF THE STATE OF OHIO

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Members of the Board:

Todd Snitchler, Chairman, PUCO
Christiane Schmenk, Director, ODSA
Dr. Ted Wymyslo, Director, ODH
David Daniels, Director, ODA
Scott Nally, Director, Ohio EPA
James Zehringer, Director, ODNR
Jeffrey J. Lechak, P.E., Public Member
Louis Blessing, Jr., State Representative
Sandra Williams, State Representative
Tom Sawyer, State Senator
Shannon Jones, State Senator

To the Honorable Power Siting Board:

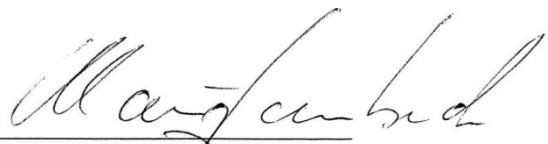
In accordance with provisions of the Ohio Revised Code (ORC) Section 4906.07(C), and the Commission's rules, the Staff has completed its investigation in the above matter and submits its findings and recommendations in this staff report for consideration by the Ohio Power Siting Board (Board).

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

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

The staff report presents the results of the Staff's investigation conducted in accordance with ORC 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,



Klaus Lambeck, Chief
Facilities, Siting, & Environmental Analysis Division

ACRONYMS

BACT	best available control technology
CEMS	continuous emissions monitoring system
CO	carbon monoxide
dBA	decibels (A-weighted)
DLN	dry low NO_x
HRSG	Heat Recovery Steam Generator
kV	kilovolts
MG	million gallon
MGD	million gallon per day
MMBtu	million British thermal units
MW	megawatts
NO_x	nitrogen oxide(s)
OAC	Ohio Administrative Code
ODA	Ohio Department of Agriculture
ODD	Ohio Development Services Agency
ODH	Ohio Department of Health
ODNR	Ohio Department of Natural Resources
ODOT	Ohio Department of Transportation
Ohio EPA	Ohio Environmental Protection Agency
OPSB	Ohio Power Siting Board
ORC	Ohio Revised Code
PTI	Permit to Install
PUCO	Public Utilities Commission of Ohio
SCR	selective catalytic reduction
SO_2	sulfur dioxide
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compounds

I. POWERS AND DUTIES

OHIO POWER SITING BOARD

The Ohio Power Siting Board (Board or OPSB) was created in 1972, by amended Substitute House Bill 694. The Board is a separate entity within the Public Utilities Commission of Ohio (PUCO). The authority of the Board is outlined in Ohio Revised Code (ORC) Chapter 4906.

The Board is authorized to issue certificates of environmental compatibility and public need for the construction, operation, and maintenance of major utility facilities as defined in ORC Section 4906.01. Included within this definition are: electric generating plants and associated facilities designed for, or capable of, operation at 50 megawatts (MW) or more; electric transmission lines and associated facilities of a design capacity greater than or equal to 125 kilovolts (kV); and gas and natural gas transmission lines and associated facilities designed for, or capable of, transporting gas or natural gas at pressures in excess of 125 pounds per square inch. In addition, per ORC Section 4906.20, the Board authority applies to economically significant wind farms, defined in ORC 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 five MW or greater but less than 50 MW.

Membership of the Board is specified in ORC Section 4906.02(A). The voting members include: the Chairman of the PUCO who serves as Chairman of the Board; the directors of the Ohio Environmental Protection Agency (Ohio EPA), the Ohio Department of Health (ODH), the Ohio Department of Development (ODD), the Ohio Department of Agriculture (ODA), 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 OPSB has promulgated rules and regulations, found in Chapter 4906 of the Ohio Administrative Code (OAC), which establish procedures for the amendment of certificates for major utility facilities and wind farms.

Amendment Procedures

Any person that wishes to revise its certificate to construct a major utility facility or economically significant wind farm in Ohio must first submit to the OPSB an application to amend its certificate of environmental compatibility and public need.[1] The application must include a description of the facility and its location, 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 OPSB may consider relevant.[2]

If the Board, its executive director, or the administrative law judge determines that the proposed change in the certified facility would result in any significant adverse environmental impact or a substantial change in the location of all or a portion of such certified facility other than as

[1] ORC 4906.04 and 4906.20
[2] ORC 4906.10(A)(1) and 4906.20(B)(1)

provided in the alternates set forth in the application, then a hearing shall be held on the amendment application in the same manner as a hearing is held on a certificate application. At the hearing, any person may provide written or oral testimony and may be examined by the parties.[3] Parties include the Applicant as well as any person who has been granted a motion of leave for intervention.[4]

Staff Investigation and Report

The Chairman will also cause each amendment application to be investigated and a report published prior to the hearing. The report sets forth the nature of the investigation and contains the findings and conditions recommended by Staff. The Board's Staff, which consists of career professionals drawn from the Staff of the PUCO and other member agencies of the OPSB, coordinates its investigation among the agencies represented on the Board and with other interested agencies such as the Ohio Department of Transportation (ODOT), the Ohio Historical Society, and the U.S. Fish and Wildlife Service (USFWS).

The technical investigations and evaluations are conducted under guidance of the OPSB rules and regulations in OAC Chapter 4906. The recommended findings resulting from the Staff's investigation are described in the staff report pursuant to ORC Section 4906.07(C). The report does not represent the views or opinions of the OPSB 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 and is served upon all parties to the proceeding and is made available to any person upon request.[5] A record of the hearings and all evidence, including the staff report, may be examined by the public at anytime.[6]

Board Decision

The OPSB may approve, modify and approve, or deny an application for amendment of a certificate of environmental compatibility and public need. If the OPSB approves, or modifies and approves an amendment application, it will issue an amended certificate subject to conditions. The certificate is also conditioned upon the facility being in compliance with standards and rules adopted under the ORC.[7]

Upon rendering its decision, the OPSB must issue an opinion stating its reasons for approving, modifying and approving, or denying an application for the amendment of a certificate of environmental compatibility and public need.[8] A copy of the OPSB's decision and its opinion is memorialized upon the record and must be served upon all parties to the proceeding.[9] Any party to the proceeding that believes its issues were not adequately addressed by the OPSB may submit within 30 days an application for rehearing.[10] An entry on rehearing will be issued by the OPSB within 30 days thereafter, and may be appealed within 60 days to the Supreme Court of Ohio.[11]

[3] ORC 4906.07
[4] ORC 4906.08(A)
[5] ORC 4906.07(C) and 4906.10
[6] ORC 4906.09 and 4906.12
[7] ORC 4906.10(A) and (B)
[8] ORC 4906.11
[9] ORC 4906.10(C)
[10] ORC 4903.10 and 4906.12
[11] ORC 4903.11, 4903.12, and 4906.12

CRITERIA

The recommendations and conditions in this *Staff Report of Investigation* were developed pursuant to the criteria set forth in ORC Section 4906.07(C), which requires, in part, that the staff report shall contain recommended findings with regard to ORC Section 4906.10(A).

Section 4906.10(A) of the ORC 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 or natural gas transmission line;
>
> (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 generation 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 ODOT 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) through (A)(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.
>
> (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.

II. AMENDMENT APPLICATION

APPLICANT

Rolling Hills Generating, LLC (Applicant) is a private equity investment owned by TPF II, L.P. (TPF II) which is a private equity fund focused on investments in the power and energy sectors in North America. TPF II is the follow-on fund[12] to the Tenaska Power Fund, L.P., closed in 2005. Since its initial closing in 2007, TPF II has completed many investments, including four gas-fired power generation facilities with a combined generating capacity of 2,900 MW and the formation of Voyager Midstream, LLC for investments in natural gas facilities.

TPF II is managed by Tenaska Capital Management, LLC (TCM), an affiliate of Tenaska Energy, Inc. headquartered in Omaha, Nebraska. Formed in 2002, TCM manages private equity funds and has approximately $4 billion in assets, which include power generating plants as well as natural gas storage and midstream assets. TCM has over 100 investors in the U.S.A. and worldwide.

HISTORY OF THE AMENDMENT APPLICATION

Prior to formally submitting its amendment application, the Applicant consulted with the Staff and representatives of the Board, including the Ohio Environmental Protection Agency (Ohio EPA), regarding application procedures.

On March 29, 2012, the Applicant held a public information meeting regarding the proposed plant conversion to a combined-cycle peaking natural gas-fueled generating station.

On June 1, 2012, the Applicant filed the Rolling Hills Generating Station Project amendment application.

On July 19, 2012, the Applicant filed the proofs of publication for the project.

On July 25, 2012, the Applicant filed a motion for waiver regarding publication requirements.

On October 11, 2012, the Applicant filed a set of updates and revisions to its amendment application.

On November 21, 2012, the Applicant filed additional updates to its amendment application.

This summary of the history of the application does not include every filing in case number 12-1669-EL-BGA. The docketing record for this case, which lists all documents filed to date, can be found in the Appendix to this report and online at http://dis.puc.state.oh.us.

[12] Companies often require several rounds of funding. If a private equity firm has invested in a particular company in the past, and then provides additional funding at a later stage, then the latter is known as a follow-on fund.

PROJECT DESCRIPTION

Rolling Hills Generating Station (RHGS), located in Wilkesville Township, Vinton County, Ohio, was originally certificated by the OPSB on June 18, 2001 and became commercially operational between March and May 2003. Since then, the RHGS has functioned as a natural gas peaking facility capable of producing 800 megawatts of electricity in simple-cycle mode.

Rolling Hills Generating, LLC proposes amending their Certificate of Environmental Compatibility and Public Need issued in case number 00-1616-EL-BGN to convert the existing facility to a combined-cycle combustion turbine facility. The Applicant would convert four of the five existing simple-cycle turbines into two combined-cycle power blocks, leaving one of the original units in simple-cycle operation. In the process of converting this facility, the Applicant proposes constructing two parallel 16-mile water lines, one 30-inch diameter for water intake, and one 16-inch diameter for wastewater discharge between the facility and the Ohio River. The proposed conversion is estimated to cost $865 million and would result in a combined-cycle natural gas-fueled generating facility with a capacity of 1,414 MW. The Applicant proposes to commence construction in the first quarter of 2014 and begin commercial operation in the summer of 2016. The project area and proposed facilities are shown in the figures on the following pages of this report.

Generating Equipment

Conversion of the RHGS would use all five of the existing Siemens 501FD2 natural gas-fired combustion turbine generators. One combustion turbine would remain in simple-cycle configuration with a nominal output of 172 MW. Four of the five combustion turbines would be coupled to Heat Recovery Steam Generators (HRSGs)[13] and each would be equipped with 550 million British thermal units per hour (MMBtu/hour) duct burners. Each pair of gas combustion turbines would be combined with HRSGs and a steam turbine generator set to create 2x1 power blocks, each with a nominal output of approximately 621 MW. The net output of the converted facility is estimated to be 1,414 MW. Table 02-1 in the application summarizes the expected output and heat rate for the facility.

Additional auxiliary equipment associated with the facility conversion includes a warehouse building, a water treatment building, cooling towers, and two new step-up transformers.

Air Emission Control and Monitoring Equipment

In order to minimize emissions of nitrogen oxides (NO_x), the RHGS combustion turbines currently have dry low NO_x (DLN) burners and limited water injection. Selective catalytic reduction (SCR) systems would be installed in the HRSG exhausts to further reduce NO_x concentrations.

The Applicant would use good combustion practices to maintain emissions to best available control technology (BACT) levels for control of carbon monoxide (CO). This would also minimize volatile organic compounds (VOC) pollution. Particulate matter (PM / PM_{10} / $PM_{2.5}$) and sulfur dioxide (SO_2) emissions would be controlled through the use of low-sulfur natural gas fuel. A continuous emission monitoring system (CEMS) would be installed within each HRSG exhaust stack to maintain compliance with the Ohio EPA's air permit requirements.

[13] HRSG is a heat exchanger that recovers heat from a hot gas stream and produces steam

Water Supply, Treatment, Storage, and Discharge

Raw water would be supplied to the RHGS site from the Ohio River at a flow rate of up to 12.1 million gallons per day (MGD). The Applicant proposes to construct, own, operate, and maintain a 16-mile (30-inch diameter) water supply pipeline. The water would be stored on site in a 0.35 million gallons (MG) raw water storage tank and in the existing 0.7 MG service water/fire protection tank. A new 2.8 MG service water/fire protection tank would also be installed.

The raw water from the Ohio River and potable water from Leading Creek Conservancy would be filtered (where necessary) and then treated further by reverse osmosis and demineralization polishing. A water treatment building would be located on site as well. Demineralized water will be stored in the two existing 0.2 MG demineralized water storage tanks and a new 0.5 MG tank.

The majority of water discharge back to the river would consist of cooling tower blowdown. In addition it would also include service water and water treatment wastewater. The Applicant proposes to construct, own, operate, and maintain a 16-mile (16-inch diameter) water discharge pipeline. The location of this pipeline would likely be within the same easement as the water supply pipeline as described above. Sanitary wastewaters would continue to be treated on-site with an existing septic system.

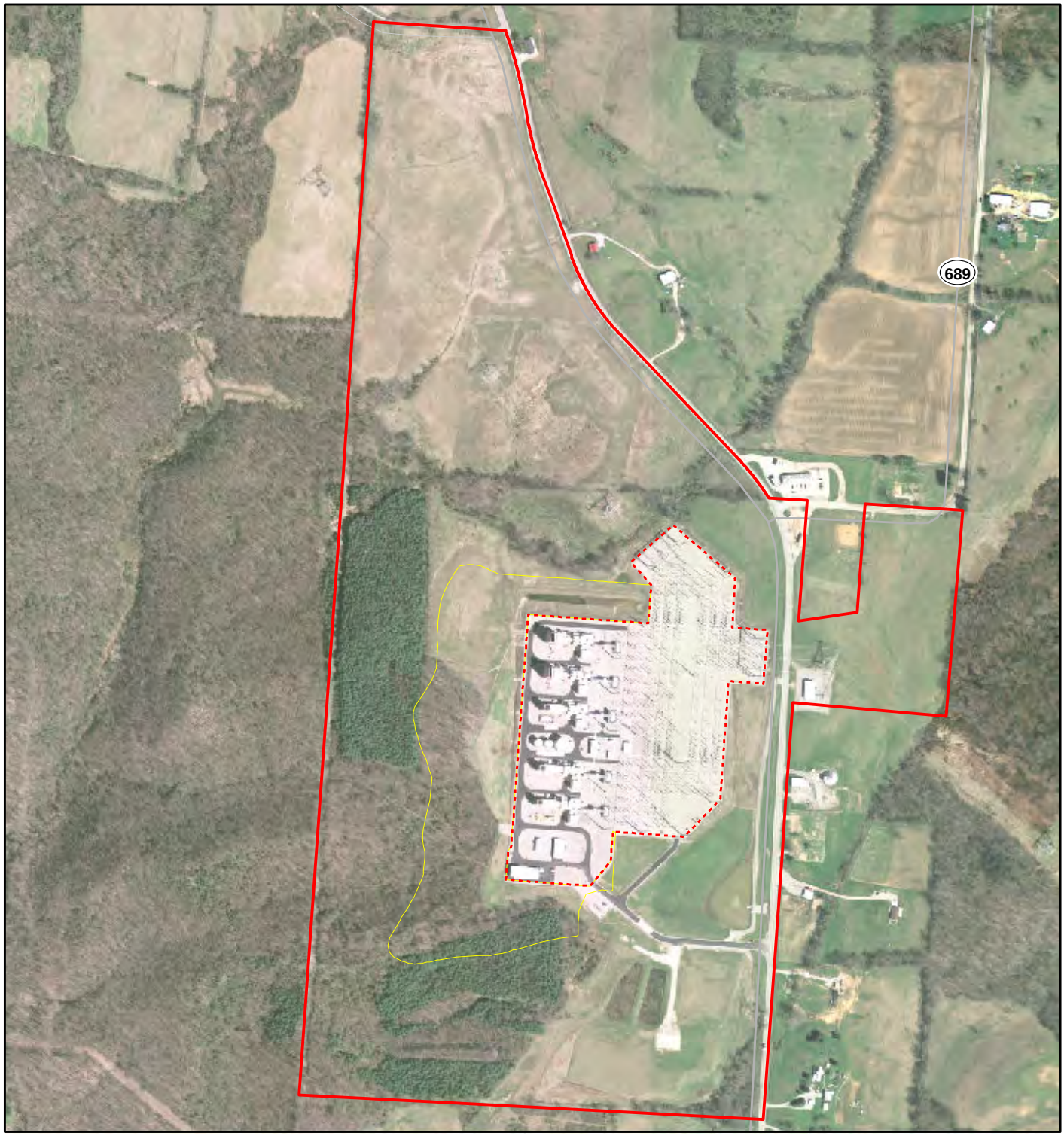
As part of the water supply and wastewater discharge pipelines, a water intake structure would be located within the Ohio River, while an outfall structure would be located along or within the Ohio River. The exact locations of these structures have not been determined and would depend upon further analysis and regulatory agency approvals and permits. Prior to constructing the pipelines and pertinent intake and outfall structures, the Applicant would obtain easements and regulatory agency authorizations.

Cooling Towers

The facility would use two 550-foot long multi-cell, mechanical draft cooling towers for steam condensing and other plant auxiliary cooling load heat rejection needs. The majority of water consumption would be for makeup water to the cooling tower. The cooling tower provides heat rejection through evaporation of the circulating cooling water, and requires this evaporated water along with cooling tower drift to be replaced via make-up water. In addition, a portion of the circulating water is blown down and discharged as wastewater, and would require replacement via make-up water. The combustion turbines currently include inlet air fogging systems, which utilize water to increase the density of the turbine inlet air and increase performance on hot summer days.

Switchyard Modifications

The power generated by the new steam turbines would be stepped up from the native voltage of the steam turbine to 765 kV with generator step-up transformers. The electricity would then be interconnected to new positions in the existing AEP Flatlick Station switchyard. An additional set of switchgear and a breaker would be installed to expand the switchyard to a five breaker ring. Modifications to the switchyard would be performed concurrently with this Rolling Hills Conversion Project in order to interconnect the new generating equipment to the PJM grid. To allow for these construction activities an extended outage for the entire RHGS would be required. This outage would be coordinated with PJM.



Vinton County

NORTH

0 400 800

Scale in Feet

1:7,500

NAD 83 SP Ohio South (Feet)

Site Boundary

Existing Fenceline

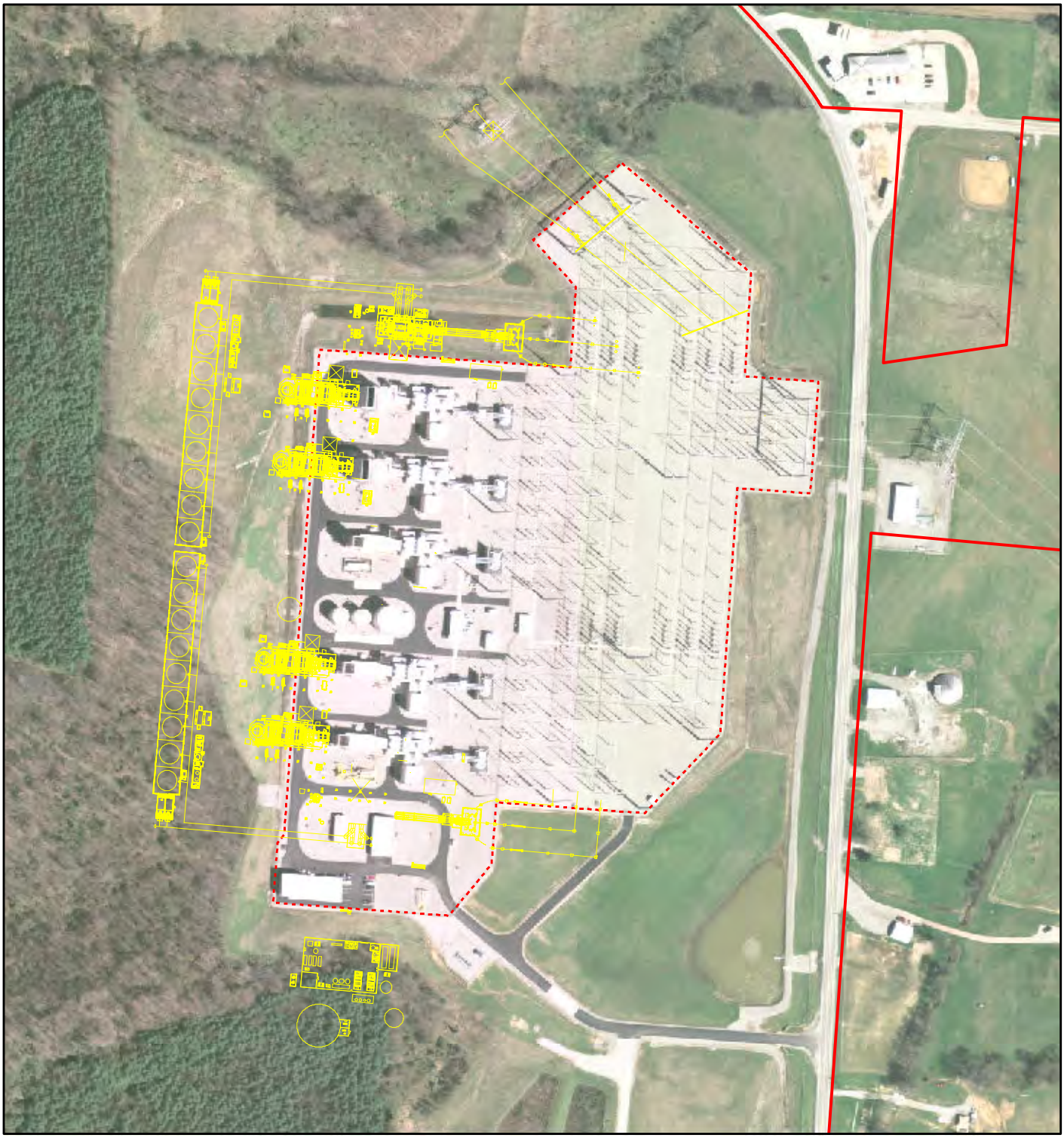
Expansion Area

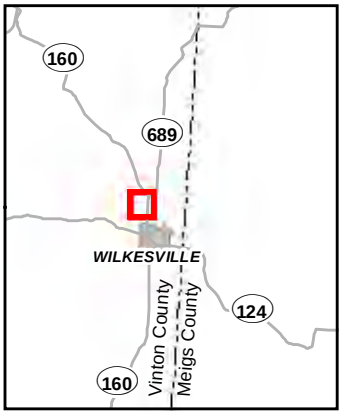
Existing Facility

12-1669-EL-BGA

Rolling Hills Combined-Cycle Conversion

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.





NORTH

0 150 300

Scale in Feet

1:3,600

NAD 83 SP Ohio South (Feet)

New Facility

Site Boundary

Existing Fenceline

New Facility

12-1669-EL-BGA

Rolling Hills Combined-Cycle Conversion

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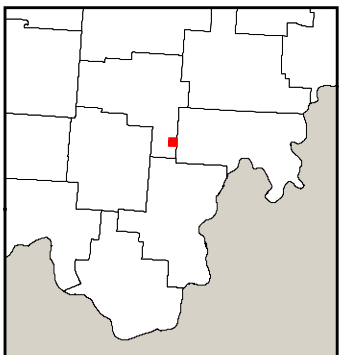

Vinton County

NORTH

Not to Scale

This artist's rendering is presented solely for the purpose of providing a visual representation of the project in the staff report, and is not intended to modify the project as presented by the Applicant in its certified application and supplemental materials.

Rendering of New Facility

12-1669-EL-BGA

Rolling Hills Combined-Cycle Conversion

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III. CONSIDERATIONS AND RECOMMENDED FINDINGS

In the matter of the application of Rolling Hills Generating, LLC, the following considerations and recommended findings are submitted pursuant to ORC Section 4906.07(C) and ORC Section 4906.10(A).

Considerations for ORC Section 4906.10(A)(1)

BASIS OF NEED

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

Recommended Findings

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

Considerations for ORC Section 4906.10(A)(2)

NATURE OF PROBABLE ENVIRONMENTAL IMPACT

Pursuant to ORC Section 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 project is located in the existing RHGS, which encompasses approximately 182 acres and is located north of the village of Wilkesville, Ohio. The project area is sparsely populated and the areas surrounding the site are mostly small, unincorporated communities, with the closest population center being the village of Wilkesville. According to the U.S. Census Bureau, the American Community Survey (ACS) population estimate for the village of Wilkesville was approximately 139 in 2011, an 8 percent decrease over the 2000 census, and the estimated population of Wilkesville Township in 2011 was approximately 760, a 14.4 percent decrease over the population in 2000.

The ACS estimate of Vinton County's population in 2011 was approximately 13,457. The County's population is projected to increase by 14.9 percent between 2000 and 2020. The proposed conversion of the existing RHGS facility is unlikely to limit future growth or have a noticeable impact on the demographics of the region.

Land Use

The land use in the project area is predominantly forested and agricultural with some residential land to the south. Because the project is expanding on the existing property it is not expected to have a significant adverse impact on existing land use outside the project site. The land use within the project site would remain industrial.

Two recreational areas are within one mile of the project area: a park located within the village of Wilkesville approximately 1,500 feet southeast of the facility and a baseball field across State Route 160 from the existing facility. Because the project is expanding on the existing property it is not expected to have any significant impact on the park in the village of Wilkesville. The Applicant plans to use the baseball field as a laydown yard for storing equipment and staging materials. The field has not been maintained and has been characterized by the Applicant as abandoned. The Applicant proposes to restore the property in the same manner as the other proposed laydown yards, unless the village of Wilkesville proposes something different during the easement negotiations. Changing the land use of the baseball field would be acceptable if the Applicant is able to come to an easement agreement with the village of Wilkesville.

Cultural and Archeological Resources

The Applicant conducted a literature review, including a cultural records check, for the area within a five-mile radius of the project. There are two historic properties listed in the National Register of Historic Places (NRHP) and 72 Ohio Historical Inventory (OHI) sites within the five-mile radius of the facility expansion area. The closest NRHP site to the expansion area is approximately three miles away. Of the 72 OHI sites, 37 are within one mile of the facility expansion area. Five of the identified OHI sites are directly adjacent to the facility property

boundary. While the Applicant asserts that the expansion of the facility is similar in nature to the existing facility and therefore there would be no adverse impacts to identified OHI and NRHP sites, Staff would require that any buildings in the study area that appear to be over 50 years old be documented and evaluated for NRHP eligibility.

Thirteen archaeological sites were identified in the Phase I archaeological survey conducted for the Rolling Hills Generating Station in 2000. One of the 13 sites identified was a late nineteenth to late twentieth century homestead that required a Phase II archaeological investigation. It was determined that the homestead was not eligible for the NRHP. While the majority of the project site has been studied thoroughly, Staff would require a preliminary archaeological survey for the expansion area of the facility.

Aesthetics

The proposed expansion would result in the introduction of new features into the visual landscape including structures to house the new steam turbines, two new cooling towers, and four new exhaust stacks. While the new equipment would be similar in appearance to the existing equipment, some new structures would be 51 feet taller than any existing structures on the site. The tallest structure currently on site is 90 feet tall. The new taller structures would represent a new incremental aesthetic impact to the area. However, this new aesthetic impact would not change the character of the area and the facility would remain visually similar to the existing facility.

Economics

There are direct, indirect, and induced economic benefits to the region during construction and operation of the project, including purchases of construction materials from local vendors and the use of goods and services by facility personnel. The proposed facility expansion would generate revenue from construction spending, permanent employment, and local/state taxes. The facility currently provides approximately $1 million per year in support for local school districts through a Payment in Lieu of Taxes program. The expansion of the facility may result in an increase to these local benefits.

An additional estimated 25 full-time jobs would be created as a result of the expansion. Furthermore, during peak construction approximately 410 workers would be required. Construction is expected to last for 30 months.

The proposed on-line dates are planned to meet the summer peak demand beginning in June, 2016. Any delays could compromise the ability for the facility to meet the on-line date causing a lack of availability for summer peak duty.

All OPSB Staff recommendations for the requirements discussed in this section can be found under the **Socioeconomic Conditions** heading of the Recommended Conditions of Certificate.

Ecological Impacts

Surface Waters

The proposed facility would impact approximately 200 linear feet of an intermittent stream, 0.025 acres of wetlands, an existing storm water conveyance channel, and a storm water retention basin. The proposed facility is not located within a Federal Emergency Management

Agency (FEMA) flood zone. Therefore, the susceptibility of the proposed facility to flooding is considered to be low.

Threatened and Endangered Species

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

BIRDS				
Common Name	**Scientific Name**	**Federal Status**	**State Status**	**Presence in Project Area**
bald eagle	*Haliaeetus leucocephalus*	BGEPA & MBTA[14]	N/A	Known range, no records in ODNR Biodiversity Database near project.
REPTILES & AMPHIBIANS				
Common Name	**Scientific Name**	**Federal Status**	**State Status**	**Presence in Project Area**
timber rattlesnake	*Crotalus horridus horridus*	Species of Concern	Endangered	Known range, not likely present due to lack of habitat
Eastern hellbender	*Cryptobranchus a. alleganiensis*	Species of Concern	Endangered	Known range, not likely present due to lack of habitat
MAMMALS				
Common Name	**Scientific Name**	**Federal Status**	**State Status**	**Presence in Project Area**
Indiana bat	*Myotis sodalis*	Endangered	Endangered	Known range, suitable habitat is present in project area.
black bear	*Ursus americanus*	N/A	Endangered	Known range, not likely to impact due to mobility of species.
bobcat	*Lynx rufus*	N/A	Endangered	Known range, not likely to impact due to mobility of species.
FISH				
Common Name	**Scientific Name**	**Federal Status**	**State Status**	**Presence in Project Area**
Ohio lamprey	*Ichthyomyzon bdellium*	N/A	Endangered	Known range, not likely present due to lack of perennial streams in project area
FRESH WATER MUSSELS				
Common Name	**Scientific Name**	**Federal Status**	**State Status**	**Presence in Project Area**
little spectaclecase	*Villosa lienosa*		Endangered	Known range, not likely present due to lack of perennial streams in project area

[14] Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act

INSECTS				
Common Name	**Scientific Name**	**Federal Status**	**State Status**	**Presence in Project Area**
American burying beetle	*Nicrophorus americanus*	Endangered	Endangered	Known range, not likely present due to lack of habitat
blue corporal	*Ladona deplanata*	N/A	Endangered	Known range, no habitat present within project area

Most of these species are not expected to be negatively impacted by the proposed facility. However, the loss of suitable habitat may negatively impact the Indiana bat. The Indiana bat has a historical range that includes the project area. As a tree-roosting species during the non-winter months, the Indiana bat, if present at the site, could be negatively impacted as a result of the tree clearing associated with construction and maintenance of the project. The proposed facility would require the removal of approximately 13 acres of uneven aged wooded areas located on the north, south, and west sides of the project site. These wooded areas include suitable Indiana bat habitat, which was observed during field investigations by OPSB Staff. ODNR and OPSB Staff would require that the Applicant adhere to seasonal cutting dates (between September 30 and April 1) for the clearing of trees that exhibit suitable Indiana bat summer habitat, such as roosting and maternity roost trees. If suitable Indiana bat habitat trees must be cut during the summer season (between April 2 and September 29), a mist-netting survey must be conducted in May or June prior to cutting.

Vegetation

A portion of the area where the proposed facility would be located consists of uneven aged deciduous wooded areas, old fields, and maintained grasslands. Approximately 13 acres of wooded areas would be permanently removed as a result of construction activities. The trees would be cleared and disposed of by chipping on-site or by sectioning and hauling off-site.

Ancillary facilities include approximately 16 miles of a water inlet and wastewater outlet pipe lines between the proposed facility and the Ohio River. The Applicant would work with the appropriate federal and state agencies to evaluate potential impacts to surface waters, threatened and endangered species, and vegetative communities. OPSB Staff would require the Applicant to provide Staff with all permit authorizations for the construction of the ancillary facilities.

All OPSB Staff recommendations for the requirements discussed in this section can be found under the **Ecological Conditions** of the Recommended Conditions of Certificate.

Public Services, Facilities, and Safety

Roads and Bridges

Equipment delivery routes to access the facility have not yet been determined, but the Applicant anticipates various road, rail, and barge deliveries to the site. The Applicant has not determined that major road improvements would be required to accommodate overweight or oversized loads. However, bridge improvements for overweight or oversized loads would be made as necessary.

Staff recommends a requirement for the Applicant to develop a final traffic plan, as outlined in the Recommended Conditions of Certificate.

Geology and Seismology

The existing facility has been in operation since June 2003 and has not experienced any issues with geology, seismology, mine subsidence, or other issues associated with past coal mining activity. Based on a review of company records of the Southern Ohio Coal Company, the nearest coal seam lies within 15 feet of the surface elevation of the facility. Test borings indicate that this seam is not well developed and may have been eroded away within the vicinity of the project.

The underground mine at this location is the Meigs No. 2 (MS-142) coal mine. Southern Ohio Coal Company operated this mine and extracted the Clarion No. 4A coal by drift entry methods. The coal elevation is listed at 468 feet above sea level (ASL). Surface elevation is around 800 feet ASL. Southern Ohio Coal Company abandoned operations in 2002.

The Applicant is working with the Ohio Department of Natural Resources, Division of Mineral Resources Management to address and mitigate any coal mining related conditions that may be encountered during the construction of the proposed facility.

The project area and Vinton County in general do not have a history of seismic activity. Seismic activity has been recorded in the surrounding counties of Athens, Meigs, Gallia, and Ross. Therefore, the Applicant does not anticipate seismic activity having an effect on the construction and operation of this facility.

Noise

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

The Applicant obtained the services of a noise consultant to conduct a background ambient noise level study, in order to understand the existing noise levels in the vicinity of the facility. The noise study was conducted during times when the existing facility was not being operated. The results of that study showed that noise levels in the vicinity of the facility ranged from 56 to 69 dBA (Leq)[15] at the various sample locations during the daytime. Measured nighttime noise levels ranged from 36 to 43 dBA (Leq). The higher daytime noise levels were attributed by the Applicant's consultant to vehicular traffic that was present during the day, but absent at night.

The Applicant's consultant also estimated the noise from the operation of the expanded facility by using computer noise modeling, with the Computer Aided Noise Abatement (CadnaA) software. Sound power levels were obtained from the equipment manufacturer when available and derived from similar projects when not available. Using noise modeling software, sound pressure levels were predicted for nearby residences. These results were compared to sound pressure levels modeled from the existing facility. The model results showed that sound pressure levels from the new combined-cycle operational mode at the nearest residences would be approximately 62 dBA. This modeled sound level is approximately two dBA higher than that of

[15] Leq, or equivalent continuous sound level, is a method used to describe sound levels that vary over time. It is best described as the average sound level over the period of measurement.

the existing facility (modeled at 60 dBA). It is generally accepted that a differential of at least three dBA is required for a person to notice a difference between two sound levels. Therefore, the modified facility would operate at a noise level that is not noticeably louder than the current facility. However, it is important to note that the hours of operation for the new facility are expected to increase significantly over the hours of operation of the existing facility, likely including the entire nighttime during extended periods of time.

The certificate for the current facility allows operation of the existing facility at all hours at its current noise emission levels. Staff therefore views a 60 dBA noise level at nearby residences as the current standard for the existing facility. In order to minimize adverse impacts associated with incrementally increased noise levels, Staff recommends that the Applicant include procedures in its complaint resolution process for handling noise complaints. Additionally, any noise complaints for which noise levels are validly measured to exceed 60 dBA at existing residences shall require appropriate mitigation.

All OPSB Staff recommendations for the requirements discussed in this section can be found under the **Public Services, Facilities, and Safety Conditions** of the Recommended Conditions of Certificate.

Recommended Findings

The Staff recommends that the Board find that the nature of the probable environmental impact has been determined for the proposed facility, and therefore complies with the requirements specified in ORC Section 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 report entitled Recommended Conditions of Certificate.

Considerations for ORC Section 4906.10(A)(3)

MINIMUM ADVERSE ENVIRONMENTAL IMPACT

Pursuant to ORC Section 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.

Minimizing Impacts

Staff recommends that the proposed facility amendment, as described in the application and with Staff's recommended conditions, represents the minimum adverse environmental impact. The Applicant proposes modifications to its existing facility near Wilkesville, Ohio, that would increase overall generation capacity in Ohio by approximately 554 MW. The proposed modifications would convert the existing 860 MW simple cycle peaking facility into a combined cycle facility with an overall capacity of 1414 MW. The Applicant asserts that the modifications would allow the facility, which is currently operated only intermittently, to be operated as an intermediate or baseload generation facility. The increase in capacity along with an increase in overall utilization would result in significant additional electric generation within Ohio. Electric grid impacts are being modeled by PJM, through its system impact study. Any determined impacts would be known, and mitigated, prior to construction and operation of the facility.

The proposed modifications to the existing facility would increase the facility's footprint from 24 to 38 acres. The additional 14 acres would be entirely within the current facility's existing 182 acre site. Incremental land disturbance associated with the proposed facility expansion is minimal, in comparison with siting an equivalently sized facility in a greenfield location. Impacts to streams, wetlands, and state and federal listed species are anticipated to be minimal. Tree cutting restrictions recommended by Staff further minimize any potential impacts to Indiana bat populations. Impacts associated with the ancillary water lines and Ohio River inlet/outfall structures would be minimized through the Applicant's coordination with the appropriate federal and state agencies in the evaluation of such impacts and determination of appropriate permitting requirements. No new gas supply interconnections would be necessary for operation of the expanded facility. Impacts associated with air emissions would be minimized through the Ohio EPA's air emission permitting processes.

The additional structures associated with the facility expansion would be visible to the surrounding community, but the new aesthetic impact would not detrimentally affect the character of the area. Transportation infrastructure in the area is generally sufficient to support construction traffic, and local community impacts associated with facility construction would be temporary. Construction noise impacts would be temporary, and impacts would be minimized by limiting construction activities to normal daytime working hours. Operational noise for the expanded facility would be for longer durations, but is modeled to be increased by an unnoticeable amount over current facility operational noise levels. Impacts associated with discharges and waste generated during facility construction and operation would be minimized by adhering to appropriate permitting requirements.

Conclusion

The project would result in both temporary and permanent impacts to the facility location and surrounding area. With the recommended conditions, Staff concludes that minimum adverse environmental impacts would be realized.

Recommended Findings

The Staff recommends that the Board find that the proposed facility represents the minimum adverse environmental impact, and therefore complies with the requirements specified in ORC Section 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 report entitled Recommended Conditions of Certificate.

Considerations for ORC Section 4906.10(A)(4)

ELECTRIC GRID

Pursuant to ORC Section 4906.10(A)(4), the Board must determine that the proposed electric 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.

The purpose of this section is to evaluate the impact of interconnecting the proposed RHGS Combined-Cycle Conversion Project into the existing regional electric transmission system. The Applicant plans to convert the existing 860 MW simple-cycle combustion turbine facility to a 1,242 MW combined-cycle combustion turbine facility with one of the original 172 MW simple cycle turbines remaining in place. The current generating facility uses a 765 kV transmission switchyard which interconnects with American Electric Power to get the power onto the grid. Due to the increase in generating capacity, the transmission switchyard would require additional equipment.

PJM Interconnection

PJM, a regional transmission organization, is charged with managing the regional transmission system and the wholesale electricity market. In addition, PJM administers the interconnection process of new generation to the system. 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. Rolling Hills submitted the proposed project to PJM on September 27, 2011. PJM gave the project a queue number of X3-051. Before PJM can allow interconnection to the local or regional grid, PJM business rules include three studies, 1) feasibility study, 2) system impact study, and 3) interconnection facilities study. As of December 10, 2012, PJM had completed the feasibility study and was preparing the system impact study (SIS). All three studies are required along with a signed Interconnection Agreement before the proposed facility is allowed to interconnect to the regional transmission grid.

Feasibility Study

The feasibility study is a preliminary review to assess the practicality and cost of incorporating increased generating capacity in the PJM system. The feasibility study includes a short-circuit study and load flow analysis. The Applicant submitted the feasibility study completed by PJM. The study was performed using reliability criteria for summer peak conditions in 2015. The study revealed that there may be reliability problems under multiple contingencies. Additionally, the proposed upgrade may contribute to previous identified overloads and system reinforcements and require local upgrades. The capacity increase may cause generator deliverability problems for the capacity portion of the generator. The SIS would give a more precise review of the reliability problems and the necessary upgrades to alleviate these problems. The short circuit study results indicated that the proposed facility would not cause any reliability issues.

System Impact Study

The SIS is a more detailed study that identifies constraints relating to the project and necessary attachment facilities, local upgrades, and network upgrades. In addition, cost responsibility, construction lead times and upgrades are further refined. In order to review that a generation facility can be safely and reliably interconnected to the regional electric grid Staff must review

the results of a SIS.[16,17] Staff requested that the Applicant provide the results of the SIS performed by PJM. The Applicant was unable to provide the study and stated that it would not be available until early 2013. At this time, Staff is unable to review the results of the SIS and verify that the facility can safely and reliably be interconnected to the grid. Staff requests that the Applicant supply the study when available.

All OPSB Staff recommendations for the requirements discussed in this section can be found under the **PJM Interconnection Conditions** of the Recommended Conditions of Certificate.

Conclusion

ORC 4901.10(A)(4) requires 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. In order for Staff to determine compliance with this requirement, the Staff relies on the results from the SIS produced by the regional transmission operator, in this case PJM. Staff was able to review the feasibility study, which is only the first of the three studies required by transmission operator before the facility would be allowed to interconnect to the regional transmission grid. The feasibility study itself is not detailed enough for Staff to reach a conclusion about the impacts the proposed facility may have on the transmission system, or system upgrades that would be necessary to reliably interconnect the facility to the grid. In order for Staff to meet the requirements of ORC 4901.10(A)(4), the results of the System Impact Study need to be reviewed. PJM staff is working on the System Impact Study and it is not expected to be released until early 2013. Staff requests that the Applicant provide the System Impact Study to Staff for review and approval, before a Board decision is issued in this case.

Recommended Findings

The Staff recommends that the Board find that the proposed generation 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, contingent upon the Applicant submitting to the Staff, for review and approval, the PJM System Impact Study. Further, the Staff recommends 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.

[16] ORC 4906.10(A)(4)
[17] OAC 4901-13-04(D)

Considerations for ORC Section 4906.10(A)(5)

AIR, WATER, SOLID WASTE, AND AVIATION

Pursuant to ORC Section 4906.10(A)(5), the facility must comply with specific sections of the ORC regarding air and water pollution control, withdrawal of waters of the state, solid and hazardous wastes, and air navigation.

Air

The proposed project would include Siemens 501FD2 combustion turbines fueled with natural gas only. These turbines are equipped with DLN burners and limited water injection. Four HRSGs would be equipped with SCRs to minimize nitrogen oxide ($NO_{x)}$ emissions. The proposed facility would also continue to operate using existing CEMS to demonstrate compliance with the NO_x and carbon monoxide (CO) emission limits.

Based on air dispersion modeling and the Permit to Install (PTI) air permit application prepared and submitted to the Ohio EPA to authorize conversion of the RHGS, the proposed facility would result in an emissions increase of particulate matter (PM), particulate matter with aerodynamic diameter of less than or equal to 10 microns (PM_{10}), and particulate matter with an aerodynamic diameter of less than or equal to 2.5 microns ($PM_{2.5}$); NO_x; SO_2; CO; volatile organic compounds (VOC); sulfuric acid mist (H_2SO_4); greenhouse gases (GHGs) represented as carbon dioxide equivalents (CO_2e); and minor concentrations of hazardous air pollutants (HAP).

Emissions of CO and VOC would be controlled through good combustion practices. SO_2, H_2SO_4, and $PM/PM_{10}/PM_{2.5}$ would be controlled through the use of low sulfur natural gas. Greenhouse gas emissions would be controlled through energy efficiency. The BACT to be used for converting the RHGS per the Ohio EPA PTI air permit application are as follows.

Pollutant	Limit	Units	Averaging Period	Proposed BACT	Compliance Method
NO_x	2.0	ppmvd[18] @ 15% O_2	3 hour	SCR and DLN Burners	CEMS
CO	15.0	ppmvd @ 15% O_2	3 hour, without DB	Good Combustion Practices	CEMS
$PM/PM_{10}/PM_{2.5}$	8.5	lbs. per hour	3 hour, without DB	Good Combustion Practices & Fuel Specifications	Initial Performance Test
	15.8	lbs. per hour	3 hour, without DB	Good Combustion Practices & Fuel Specifications	Initial Performance Test
VOC	13.4	ppmvd @ 15% O_2	3 hour	Good Combustion Practices	Initial Performance Test
H_2SO_4	0.25	gr/100 scf[19] fuel sulfur limit	N/A	Low Sulfur Fuel	Fuel Sulfur Monitoring
GHGs	7,471	Btu/kW hour (HHV)[20]	N/A	High Thermal Efficiency Design	Periodic Testing
	4,897,350	tpy[21] CO_2e	12 month rolling	High Thermal Efficiency Design	Fuel Usage Monitoring

[18] **ppmvd** – parts per million, volumetric dry
[19] **gr/100scf** – grains per 100 standard cubic feet
[20] **HHV** – higher heating value, also known as gross calorific value
[21] **tpy** – tons per year

The proposed conversion would result in emission increases that exceed the relevant surface-enhanced Raman scattering (SERS) for PM, PM_{10}, $PM_{2.5}$, VOC, CO, NO_x, and H_2SO_4. GHGs would be subject to regulation under the Prevention of Significant Deterioration (PSD) program given that the emissions increase attributable to the conversion exceeds 75,000 tons per year (tpy) of CO_2e. All PSD requirements are addressed in the PTI application because the U.S. EPA has approved the Ohio EPA's State Implementation Plan. Additionally, the conversion required air depression modeling to show that air impacts do not exceed National Ambient Air Quality Standards (NAAQS) and PSD Class II standards. The converted facility's air pollutants would contribute to, but not exceed, the NAQQS or PSD II increment thresholds. The current RHGS is a major source subject to Title V permitting requirements. In accordance with OAC 3745-77, the Applicant would be required to submit a Title V Operating application for the additional air emissions from the proposed facility. Additionally, the Applicant would need to submit a Title IV Acid Rain Program permit application for new SO_2 allowances from the conversion facilities within the year that SO_2 is emitted.

Fugitive dust rules adopted pursuant to the requirements of ORC Chapter 3704 (air pollution control laws) are applicable to the proposed facility. The Applicant has indicated that fugitive dust would be controlled, where necessary, through water sprays and other control techniques. These methods of dust control should be sufficient to comply with fugitive dust rules.

Water

Construction of the proposed facility would not require the use of significant amounts of water. Operation of the proposed facility would require the use of a significant amount of water, so requirements under ORC 1503.33 and 1501.34 are applicable to this facility.

The Applicant states that it would seek coverage under the U.S. Army Corps of Engineers Nationwide Permit No. 12 for impacts to a wetland and an intermittent stream associated with construction of the proposed facility.

The Applicant intends to submit a Notice of Intent (NOI) for coverage under the Ohio EPA's National Pollutant Discharge Elimination System (NPDES) general permit for storm water discharges associated with construction and industrial activities. The Applicant would submit a Storm Water Pollution Prevention Plan (SWPPP) to the Ohio EPA and the Vinton County Soil and Water Conservation District for review and approval. This SWPPP would be developed for the project pursuant to Ohio EPA regulations and would conform to the ODNR's Rainwater and Land Development Manual.

The Applicant would coordinate with all appropriate federal and state agencies prior to construction of the ancillary water intake and wastewater discharge lines and water intake/outfall structures at the Ohio River. This coordination would determine the appropriate permitting requirements for surface water impacts associated with the water lines and water intake/outfall structures. OPSB Staff would require that the Applicant provide the Staff with a copy of all applicable permits and authorizations as required by federal and state laws and regulations for any activities where such permit or authorization is required for impacts to surface waters associated with the ancillary water intake and waste water discharge lines and intake/outfall structures located at the Ohio River.

Solid Waste

The Applicant indicates that solid waste generated from construction activities would include items such as packing materials, office waste, scrap lumber, excess concrete, metals, cables, glass, cardboard containers, and other miscellaneous debris. All construction-related debris would be disposed of in Ohio EPA approved landfills, or other appropriately licensed and operated facilities.

Any contaminated soils discovered or generated during construction would be handled in accordance with applicable regulations. The Applicant plans to have a Spill Prevention, Containment, and Countermeasure (SPCC) Plan in place and would follow manufacturer's recommendations for any spill cleanup. Vegetation waste from clearing activities would be chipped on-site or by sectioning and hauling off-site. The Applicant's solid waste disposal plans comply with solid waste disposal requirements in ORC Chapter 3734, and the rules and laws adopted under this chapter.

Aviation

There is one public-use air transportation facility within 10 miles of the proposed generation facility. The nearest identified public use airport is Ohio University Airport which is approximately 10 miles to the northeast. Because of the distance from the airport and the absence of structures for the generating facility that would be greater than 200 feet above ground level, the construction and operation of the proposed facility is not expected to have an impact on airport facilities.

In accordance with ORC 4561.32, Staff contacted the Ohio Office of Aviation during the review of this application in order to coordinate review of potential impacts of the facility on local airports. As of the date of preparation of this report, no such concerns have been identified. The Applicant provided the structure coordinates and heights and utilized the Federal Aviation Administration online Notice Criteria Tool. The use of this tool showed that no further coordination was required.

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

Recommended Findings

The Staff recommends that the Board find that the proposed facility complies with the requirements specified in ORC Section 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 report entitled Recommended Conditions of Certificate.

Considerations for ORC Section 4906.10(A)(6)

PUBLIC INTEREST, CONVENIENCE, AND NECESSITY

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

The Rolling Hills conversion 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.

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; parts 199 and 40, the Drug and Alcohol Regulations; the Ohio Revised Code 4905.90 through 4905.96, Natural Gas Pipeline Safety Standards; and the Ohio Administrative Code 4901:1-16, Gas Pipeline Safety.

EMF

The electric and magnetic fields (EMF) resulting from the generation equipment are expected to be confined to the site. The magnetic fields generated by the generation equipment are attenuated very rapidly as the distance from the equipment increases. The nearest residence is over 800 feet from the site.

Gas Supply

The Rolling Hills Generating Project would be fueled with natural gas supplies from the existing pipelines on site at sufficient pressures such that further interconnection upgrades would not likely be required. Texas Eastern Transmission LP is the owner/operator of the pipeline.

The Applicant intends to invest over $865 million in this natural gas fired combined cycle facility. Because of the magnitude of this investment, Staff believes that the Applicant would take appropriate measures 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.

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 ORC Section 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 report entitled Recommended Conditions of Certificate.

Considerations for ORC Section 4906.10(A)(7)

AGRICULTURAL DISTRICTS

Pursuant to ORC Section 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 site of the proposed utility facility.

The agricultural district program was established under ORC 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 ten acres or produce a minimum average gross annual income of $2,500.

The Applicant has indicated that, according to the Vinton County Auditor, none of the proposed facility site is classified as agricultural district land. Furthermore none of the site is currently being used for agricultural purposes. Additionally, any agricultural land crossed by the associated water lines would be allowed to remain in agricultural use after installation of the water lines. Therefore, Staff concludes that construction and operation of the proposed facility would have no impact on the agricultural viability of any land in an existing agricultural district, and would have no adverse impact on currently existing agricultural land.

Recommended Findings

The 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 ORC Section 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 ORC Section 4906.10(A)(8)

WATER CONSERVATION PRACTICE

Staff has reviewed the Applicant's proposed water balance and water consumption for the facility. Construction of the proposed facility would not require the use of significant amounts of water. Operation of the proposed facility would require the use of a significant amount of water, so requirements under ORC 1503.33 and 1501.34 are applicable to this project.

The Applicant intends to withdraw up to 12.1 MGD of water from the Ohio River in order to supply its process water needs. The river water would be clarified and primarily used to supply the evaporative cooling cells, with lesser amounts being used for other water consuming processes throughout the system (such as the service/fire water system, reverse osmosis, and demineralization).

Water conservation practice for the project includes using DLN burners. The DLN burners currently use limited water injection for air emissions control. Also, the project would be designed to re-cycle water through the cooling tower system from four to 10 times. The Applicant submitted water balance diagrams that showed both four and 10 cycles of concentration.[22] This re-cycling is a good water conservation practice. This practice is designed to allow the cooling tower water to be concentrated to within industry accepted water chemistry limits (to avoid scaling/fouling of the critical heat exchanger systems) and meet state water quality discharge standards for the Ohio River. Also, the boiler water blowdown and reverse osmosis rejected water would be recovered and recycled into the cooling tower makeup.

The Applicant has an existing connection with the Leading Creek Conservancy District for potable water supply. This connection would be used for the potable and sanitary water systems. No new groundwater wells would be utilized for power production or for potable/sanitary requirements.

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 ORC Section 4906.10(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.

[22] The phrase "cycles of concentration" refers to the number of times water is recycled through the cooling water system

IV. RECOMMENDED CONDITIONS OF CERTIFICATE

Following a review of the application filed by Rolling Hills Generating, 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 issuance of this report.

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 the Applicant's supplemental filings and further clarified by recommendations in this *Staff Report of Investigation*.

(2) The Applicant shall utilize the equipment and construction practices as described in the application and as modified and/or clarified in supplemental filings, replies to data requests, and recommendations in this *Staff Report of Investigation*.

(3) The Applicant shall implement the mitigation measures as described in the application and as modified and/or clarified in supplemental filings, replies to data requests, and recommendations in this *Staff Report of Investigation*.

(4) The Applicant shall conduct a preconstruction conference prior to the start of any construction activities. Staff, the Applicant, and representatives of the prime contractor and all subcontractors for the project shall attend the preconstruction conference. The conference shall include a presentation of the measures to be taken by the Applicant and contractors to ensure compliance with all conditions of the certificate, and discussion of the procedures for on-site investigations by Staff during construction. Prior to the conference, the Applicant shall provide a proposed conference agenda for Staff review. The Applicant may stage separate preconstruction conferences for project phases if necessary.

(5) At least thirty days before the preconstruction conference, the Applicant shall submit to Staff, for review and acceptance, one set of detailed engineering drawings of the final project design, including the switchyard, 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.

(6) If any changes are made to the project layout after the submission of final engineering drawings, all changes shall be provided to Staff in hard copy and as geographically-referenced electronic data. All changes outside the environmental survey areas and any changes within environmentally-sensitive areas shall be subject to Staff review and

acceptance, to ensure compliance with all conditions of the certificate, prior to construction in those areas.

(7) Within sixty 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.

(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 provide to Staff the date on which construction will begin, the date on which construction was completed, and the date on which the facility begins commercial operation.

SOCIOECONOMIC CONDITIONS

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

(10) Prior to commencement of construction, the Applicant shall prepare a Phase I cultural resources survey program for archaeological work within the construction disturbance area. The Applicant shall provide a copy of the survey program to Staff for review and confirmation that it complies with this condition.

ECOLOGICAL CONDITIONS

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

(11) The Applicant shall adhere to seasonal cutting dates of September 30 through April 1 for removal of suitable Indiana bat habitat trees, if avoidance measures cannot be achieved.

(12) OPSB Staff, the ODNR Division of Wildlife (DOW), and the USFWS shall be contacted within 24 hours if state or federal threatened or endangered 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, OPSB Staff, and the DOW in coordination with the USFWS. Nothing in this provision shall preclude agencies having jurisdiction over the facility with respect to threatened or endangered species from exercising their legal authority over the facility consistent with law.

PUBLIC SERVICES, FACILITIES, AND SAFETY CONDITIONS

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

(13) At least 30 days prior to the preconstruction conference, the Applicant shall have in place a complaint resolution procedure to address potential public grievances resulting from project construction and operation. The complaint resolution procedure must provide that the Applicant will work to resolve or mitigate any issues with those who submit either a formal or informal complaint and that the Applicant will provide monthly updates on the status of all complaints to Staff. After the period of initial operation, updates may be provided on a semi-annual basis. The complaint resolution process must include procedures for handling construction and operational noise complaints, as well as mitigation plans for any noise complaints for which validly measured operational noise levels exceed 60dBA at existing residences. The Applicant shall provide the complaint resolution procedure to Staff, for review and confirmation that it complies with this condition, prior to the preconstruction conference.

(14) Prior to commencement of construction, the Applicant shall obtain all required transportation permits. The Applicant shall coordinate with the appropriate authority regarding any temporary or permanent road closures, lane closures, or road and parking access restrictions necessary for construction and operation of the proposed facility. Coordination shall include, but not be limited to the County Engineer, ODOT, local law enforcement, and health and safety officials. This coordination shall be detailed as part of a final traffic plan submitted to OPSB Staff prior to the pre-construction conference for review and confirmation that it complies with this condition.

(15) 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 and hoe ram 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.

PJM INTERCONNECTION CONDITIONS

Staff recommends the following conditions to address the requirements discussed in the **PJM Interconnection** section of the Electric Grid:

(16) The Applicant shall not commence construction of the facility until it has a signed Interconnection Agreement with PJM, which includes construction, operation, and maintenance of system upgrades necessary to reliably and safely integrate the proposed generating facility into the regional transmission system.

(17) Prior to the Board's decision, the Applicant shall submit to the Staff, for review and approval, the PJM System Impact Study.

AIR, WATER, SOLID WASTE, AND AVIATION CONDITIONS

Staff recommends the following conditions to address the requirements discussed in Air, Water, Solid Waste, and Aviation:

(18) The Applicant shall assure compliance with fugitive dust rules by the use of water spray or other appropriate dust suppressant measures whenever necessary.

(19) Prior to the commencement of construction of the proposed facility, the Applicant shall obtain and comply with all applicable permits and authorizations as required by federal and state laws and regulations for any activities where such permit or authorization is required. Copies of permits and authorizations for the facility, including all supporting documentation, shall be provided to OPSB Staff within seven days of issuance or receipt by the Applicant. Additionally, the Applicant shall provide the Staff with a copy of all applicable permits and authorizations as required by federal and state laws and regulations for any activities where such permit or authorization is required for surface waters associated with the construction of ancillary intake and waste water discharge lines and intake/outfall structures at the Ohio River.

APPENDIX

1. DOCKETING RECORD

CASE NUMBER: 12-1669-EL-BGA

DESCRIPTION: Rolling Hills Generating Station
Combined-Cycle Conversion Project
in Vinton County, Ohio

FILINGS AS OF: 01/14/2012

11/21/2012	Text Supplemental Information and Updates to Application, Part 1 of 2 electronically filed by Teresa Orahood on behalf of Rolling Hills Generating, L.L.C.
11/21/2012	Text Supplemental Information and Updates to Application, Part 2 of 2 electronically filed by Teresa Orahood on behalf of Rolling Hills Generating, L.L.C.
10/11/2012	Correspondence Transmitting Documents Provided to OPSB Staff electronically filed by Teresa Orahood on behalf of Rolling Hills Generating, L.L.C
07/25/2012	Motion and Memorandum in Support for Rolling Hills Generating, LLC for a waiver of Ohio revised code 4906.06 (C) and Ohio Administrative Code Rule 4906-5-08 (C)(1) regarding publication requirements electronically filed by Teresa Orahood.
07/19/2012	Proof of Publication electronically filed by Teresa Orahood on behalf of Rolling Hills Generating, L.L.C.
06/29/2012	List of required additional items needed to process the Rolling Hills Generating Station Project application filed by S. Malone (for G. Smith) on behalf of the Ohio Environmental Protection Agency.
06/01/2012	Application filing continued. (Part 2 of 2)
06/01/2012	In the matter of the application for an amendment of a Certificate of Environmental Compatibility and Public Need for Rolling Hills Generating Station Combined-Cycle Conversion Project In Vinton County, Ohio filed by Sally W. Bloomfield on behalf of Rolling Hills

2. REFERENCES

Ohio Department of Development. (2007, June). *Population Characteristics and Projections*: *2000 to 2020 Projected Percent Population Change*. Retrieved December 10, 2012, from http://development.ohio.gov/files/research/P6094.pdf

U.S. Census Bureau. (2001). *2000 SF1 100% Data* [Data set]. *Profile of General Demographic Characteristics: 2000.* Available from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml

U.S. Census Bureau. (2012). *2011 ACS 5-year estimates* [Data set]. *ACS Demographic and Housing Estimates.* Available from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml

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Summary: Report of investigation electronically filed by Mr. Adam S Bargar on behalf of Staff of OPSB