BEFORE
THE OHIO POWER SITING BOARD

In the Matter of the Application of The Ohio State University for a Certificate of Environmental Compatibility and Public Need for a Combined Heat and Power Generating Facility in Franklin County, Ohio	)))))	Case No. 19-1641-EL-BGN

DIRECT TESTIMONY OF

SCOTT POTTER

ON BEHALF OF
THE OHIO STATE UNIVERSITY

July 6, 2020

I. INTRODUCTION, BACKGROUND, AND EXPERIENCE

Q. Please state your name, title, and business address.

A. My name is Scott Potter. I am the Senior Director – Comprehensive Energy Management and an Authorized Representative of The Ohio State University ("Ohio State"). My business address is 1590 North High Street, Suite 400, Columbus, Ohio 43210.

Q. What are your duties as the Senior Director – Comprehensive Energy Management?

A. My office oversees the university's enterprise-wide energy needs and interests. This includes the competitive procurement of electricity and natural gas commodities and services; directing the invoice management and payments for all electricity, natural gas, and water utilities and related services; managing the operation of university's Long Term Lease and Concession Agreement for The Ohio State University's Utility Systems (the "Concession Agreement"); and serving as the University Liaison, the official first point of contact between the university and the chief executive of Ohio State Energy Partners LLC ("OSEP").

Q. What is your educational and professional background?

A. I graduated from The Ohio State University in 1989 and received my graduate degree from The University of Southern California in 1991. While attending graduate school, I interned as a utilities regulatory analyst for the City of Los Angeles, and was employed as a regulatory accounting analyst with GTE. From 1992 – 2000, I was employed at the Public Utilities Commission of Ohio ("PUCO"). At the PUCO, I began as an energy rate analyst focusing on the evaluation of demand-side management programs, Long-Term Forecasts, and Integrated Resource Plans of Ohio's investor-owned utility companies. My final position at the PUCO was Director of the Utilities Division, overseeing more than 100

technical staff in the Electricity, Telecommunication, Gas and Water, and Forecasting divisions of the PUCO. After the PUCO, I joined the National Regulatory Research Institute as the Senior Energy Research Specialist, where my projects and publications focused on energy market transitions, Locational Marginal Pricing in the wholesale markets, strategic power solutions for U.S. military installations, and lifecycle costs of grid-scale power generation systems. In 2006, I joined Ohio State as a senior research specialist in the College of Engineering and Senior Energy Advisor in the university's newly established Office of Energy and Environment. In 2015, my position was moved into the university's Office of Business and Finance where I began reporting directly to the CFO. In 2017, upon the execution of the Concession Agreement, I began in my current title and role.

Q. On whose behalf are you offering testimony?

A. I am testifying on behalf of the Applicant, The Ohio State University.

Q. What is the purpose of your testimony?

A. I will summarize the major items in the Application and sponsor their admission into evidence, along with the exhibits and various proofs of publication. I will also review the conditions suggested by the Board's Staff in the Staff Report of Investigation filed on June 15, 2020 and respond on behalf of the Applicant.

II. CASE SUMMARY AND OVERVIEW

Q. Would you please provide a summary and overview of the proposed project and facility?

A. Ohio State is proposing to install a Combined Heat and Power ("CHP") major utility facility on the Ohio State campus in Franklin County, Ohio. The CHP facility will produce

thermal energy powered by natural gas while introducing electricity generation on campus and will serve as a primary source of heating and electricity to the Columbus campus. The heating capacity of the CHP facility will be 285 Klbs/hour of superheated steam during normal configuration. The CHP facility will have a nameplate maximum output capacity of 105.5 MW and will include the installation of two natural gas combustion turbine generators, two heat recovery steam generators ("HRSGs") and one steam turbine generator. The CHP has been sized to optimally serve Ohio State's heating and electrical loads. Using the exhaust energy of the combustion turbines, high pressure superheated steam will be generated in the HRSGs, which then will be used to produce power in the steam turbine. The CHP facility will inject steam into the main campus steam distribution network; produce heating hot water ("HHW") through a heat exchanger to feed a new district heating and cooling ("DHC") network west of the Olentangy River; and serve some of the Columbus campus' electricity demand.

Ohio State owns all parts of the proposed project area. The CHP planned permanent site footprint is 1.18 acres located on previously disturbed land in the midwestern portion of Ohio State's Columbus campus. The CHP project site is on the corner of John H. Herrick Drive and Vernon L. Tharp Street. Except for the gas regulator station being outside the building, as required by code, all CHP facility equipment, will be housed within a single building that will be approximately 65 feet high. Cooling towers will extend approximately 27 feet above the roof and largely shielded from view by aesthetic panels. Two steel stacks will extend to a total height of 115 feet (total height) above ground level.

In addition to the CHP facility construction, construction of associated facilities, e.g. buried cables (communications and electrical), buried water lines, and the natural gas supply line is also proposed.

Pursuant to the terms of the Concession Agreement between Ohio State and OSEP, the CHP real estate and the CHP facility will be leased to OSEP as part of Ohio State's utility systems that will be operated and maintained under the custody of OSEP.

Q. What is the general purpose of the CHP facility?

A. One purpose of the CHP facility is to be a primary source of heating for the Columbus campus. Heating will be provided in the form of steam and heating hot water. Both forms of heating are necessary to serve the many existing buildings connected to the campus steam distribution network and planned new buildings that will be heated via a new HHW network.

The CHP facility will also fulfill several purposes and needs for the campus power supply including; establishing a microgrid for the Columbus campus to increase the campus energy resiliency and reliability; provide better control of our system demand to minimize demand costs for purchased power; and reduce Ohio State's levelized cost of energy by reducing the amount of power the university must purchase from the market.

The current summer steam demand is more than 100 Klbs/hour. The winter demand peak is five times higher. Ohio State's Columbus campus includes a major medical campus – the Wexner Medical Center. The Wexner Medical Center on the Columbus campus has six separate hospitals and more than 1,300 staffed patient beds; including a Level 1 Trauma Center; dedicated care hospitals for cancer, cardiac care, mental and behavioral health, and brain and spine care; and a wide range of other

community and patient services. The university will soon be breaking ground on a new ambulatory hospital and the region's first proton therapy (cancer treatment) facility. Within the next couple years will be preparing to break ground on a new hospital tower with approximately 800 patient beds. For energy and operational cost efficiencies, all the new facilities have been designed without in-building heating and cooling systems and instead will rely on the more efficient centralized heating and cooling that will be provided from the proposed CHP facility. It is imperative that these facilities always have the necessary volumes of steam/heating hot water and high-quality power supply.

Q. Are the November 6, 2019 Application and the November 27, 2019 Supplement, including all appendices and exhibits, true and accurate to the best of your knowledge and belief?

A. Yes.

Q. How did Ohio State decide to locate the CHP facility in Franklin County, Ohio?

A. Throughout the preliminary design phase, multiple locations on campus were considered, all of which were previously disturbed areas of land controlled by Ohio State. Each of the locations considered assessed the CHP's ability to serve Ohio State's Columbus campus with heat and power through the existing Ohio State utility distribution systems. Factors such as comparative configuration options, power capacities, CO_2 emissions, resiliency, expansion capabilities, facility footprint, costs, constructability, and operational efficiencies were examined for each site considered.

The area selected is most suitable for several reasons including: the site is a flat location on previously developed land; the location is suitable to construct a multi-story facility with a much smaller footprint than would have been possible with a single story

facility; the land and all surrounding land are controlled by Ohio State; the CHP facility can readily be served through relatively minor extensions of the Ohio State's existing natural gas, electricity, water, and sewer utility distribution systems in the vicinity; the site will enable the use of an existing Olentangy River duct bank for electrical connections on the east side of the river; and the site is strategically located in the middle of Ohio State's Columbus campus footprint, enabling service to both east and west sides of the river and west of Ohio Route 315, but still away from the much of campus' vehicle and pedestrian traffic paths.

The site is readily accessible by roads and away from key campus traffic paths, making very suitable location on campus for the proposed industrial construction. The site was studied for potential impacts on ecological and cultural considerations; study results showed minimal impacts from disturbance and negligible expected impacts to soil, water, vegetation, cultural resources, and wildlife.

Q. Do you believe that the CHP facility will have a positive impact on the local community?

A. Yes. The CHP facility will have positive economic impacts in the form of payroll and employment during both the construction and operation of the CHP facility. An estimated $20 million in labor income will be earned in Franklin County as a result of the construction project, including secondary and tertiary multiplier impacts. Annual operations payroll will increase by approximately $0.5 million in Franklin County throughout the CHP facility's expected life. The number of employees and the duration of the construction activities will vary monthly, but the maximum number at the site at any one-time during construction is estimated between 150 and 175. Four permanent positions are also expected to be added to

ENGIE Buckeye Operations, LLC's (EBO) existing operations team before commissioning of the facility commences. These new positions will continue for the duration of the CHP's operational life.

The CHP facility will affect local commercial and industrial activities via direct and indirect purchases and labor related to construction, operations, and maintenance activities. During the construction phrase, $18 million in local equipment and supply purchases and $9 million for temporary local equipment, consumables, and construction services is expected. During the operations phase, $1.15 million per year for labor, consumables, and supplies is expected.

The CHP facility is expected to significantly reduce the university's levelized cost of energy overtime. The university's operational costs are a significant factor in the university's ability to keep the cost of obtaining an education at Ohio State affordable.

Q. Has the CHP facility been designed to achieve minimum impacts?

A. Yes. Ohio State has designed the CHP facility to minimize or eliminate potential impacts of construction and operation.

Temporary construction activities are expected to have relatively limited impacts given their intermittent nature, time of day restrictions, and use of best management practices. During the construction phase, two of the four lanes on John H. Herrick Drive will be closed to public traffic to allow construction crane(s) and other equipment to operate. Public traffic will be maintained in both directions using the other two lanes. Ohio State will obtain the required permits and authorizations including, for example, heavy haulage and oversized load permits from the City of Columbus and the Ohio Department of Transportation. Coordination with state and local agencies will be undertaken to plan

the schedule and route of equipment deliveries. Following construction, if damages occur (whether incidental or planned), repairs will be made to restore roadways and bridges to their original condition or better in accordance with any required permits and in coordination with appropriate authorities.

The CHP facility layout is designed to minimize disruption to the location and existing facilities in the area. The multi-story vertical design will minimize the facility's ground footprint. The cooling towers will be positioned on the roof of the building to further aid in minimizing the facility footprint. Once constructed, the operational CHP facility will not disrupt any existing roads or neighboring buildings.

OSEP engaged TRC Companies, Inc. to study the potential environmental and ecological impacts of the CHP facility. Those studies are attached to the Application and, as Serdar Tüfekçi of Ohio State Energy Partners LLC explains in his testimony, show few or no expected impacts from the CHP facility.

The CHP facility has been sited to minimize adverse ecological impact. The planned construction site will require 2.14 acres of disturbance, but most of this disturbance is a graveled area of 1.18 acres. The remainder is urban lawn, sidewalks, parking lots. The construction laydown area will be in a vacant field immediately west of Ohio Route 315 and north of Woody Hayes Drive. After construction, the laydown area will be returned to its pre-construction state. No topsoil will be removed from this site. No wetlands will be disturbed, and no natural vegetative communities will be disturbed. The only vegetation to be disturbed during construction will be urban lawns. Approximately 19 trees will be removed; a few potential bat roost trees will be removed, but they are not considered suitable habitat because of their location near a busy freeway and isolation from forests.

Construction will have negligible temporary impacts on ecological resources. The ecological impacts and wildlife impacts due to the operation and maintenance of the CHP facility will likewise be negligible

The design elements of the CHP facility also will help avoid or minimize any impacts to air quality. Each HRSG will be equipped with an air emission control block consisting of an oxidation catalyst followed in series by a selective catalytic reduction (SCR) system. The oxidation catalyst will reduce potential carbon monoxide (CO) emissions by a minimum of 85 percent. The SCR system is designed to achieve a minimum of 85 percent nitrogen oxides (NOX) reduction. The unit is designed to also reduce volatile organic compounds (VOC) and organic hazardous air pollutants (HAPs) by at least 50 percent. The proposed CHP facility will have monitoring systems in place to ensure that the pollution control equipment is operating properly to show that the facility is operating within its permit limitations.

Noise levels from the CHP facility will be similar to the existing ambient noise levels. With the sound mitigation plans of the proposed CHP facility design it is estimated that exterior noise emissions level from the CHP will be at or below 61 dBA at 150 feet from the plant. Such mitigation of noise emissions includes incorporating noise attenuating roll-up doors and rooftop sound barriers in the CHP facility design, as well as incorporating interior sound-absorptive treatment. Incorporating silencers in the HRSG exhaust stack design, incorporating silencers into combustion turbine generator (CTG) inlet and ventilation air and gas turbine filter house system designs, and plans for low sound fan equipment packages for all cooling towers are also integrated into the CHP facility to mitigate noise emissions.

The visual impact of the CHP facility will also be minimal. The CHP facility will be compatible with the surrounding environment and it has been designed to fit within the visual harmony of the surrounding buildings on campus. As with all new buildings on Ohio State's campus, the CHP facility design went through a multi-step formal process with the university's Design Review Board, comprised of design experts from Ohio State as well as design experts without other affiliation to the university.

Other operational impacts, such as to water supplies and navigable airspace, will likewise be minimal. Ohio State operates and maintains the domestic (potable) water distribution systems on campus, which will be used for the construction and operation of the proposed CHP. No water will be withdrawn from groundwater, lakes, ponds, rivers or streams to construct or operate the CHP facility, and no significant amount of fresh water will be needed during construction. Similarly, the CHP facility will not impact any navigable airspace or the operation of any airport or helicopter landing facility. Only the temporary construction tower crane may require coordination and/or filings. Ohio State will coordinate with any local, state, and/or federal agencies to ensure any required notices be filed within the necessary timeframes prior to construction.

In addition to all of the efforts already mentioned, Ohio State will implement a complaint resolution procedure to ensure any complaints regarding construction and operation of the CHP facility are appropriately investigated and resolved and reported to the OPSB as required.

Q. Will the Applicant be sponsoring witnesses to support the Application in addition to your testimony?

A. Yes. In addition to my testimony, Ohio State will present testimony by Serdar Tüfekçi, CEO of Ohio State Energy Partners, LLC. Mr. Tüfekçi testifies regarding the calculations in the Application and OSEP's ongoing activities associated with the CHP facility.

Q. Did Ohio State publish notices of the public information meeting and hold a public information meeting prior to filing the Application?

A. Yes. On September 3, 2019 A letter of notice of the project and the public information meeting was also mailed to all 323 contiguous property owners and tenants. On September 11, 2019, Ohio State filed with the Ohio Power Siting Board a Pre-Application Notification Letter regarding the CHP facility. Notice of the public information meeting was published on September 16, 2019 in The Columbus Dispatch, a newspaper of general circulation in Franklin County, Ohio, and posted to Ohio State's publicly accessible dedicated project website. The public information meeting was held on September 26, 2019 at the Fawcett Center in Columbus, Ohio. No members of the public attended.

Q. When was the Application filed and when was the Application accepted as complete?

A. Ohio State filed the Application with the Board on November 6, 2019, and Ohio State supplemented the Application on November 27, 2019. On January 6, 2020, the Board accepted the Application as complete.

Q. Did Ohio State send copies of the accepted and complete Application to public officials?

A. Yes. On January 23, 2020, Ohio State sent via Federal Express Two-Day Service a copy of the accepted and complete Application to Franklin County Board of Commissioners;

Franklin County Economic Development & Planning Department; Franklin County Soil and Water Conservation District; Franklin County Engineer (Cornell R. Robertson, P.E., P.S.); Mayor Andrew J. Ginther; and Clinton Township Board of Trustees.

On January 23, 2020, notice of the availability of the Application was also placed in the main public library of each political subdivision and an electronic copy of the Application was sent to Columbus Metropolitan Library and Columbus Metropolitan Library – Northside.

A Certificate of Service of Accepted, Complete Application on Public Officials and Libraries was filed with the Board on January 23, 2020.

Q. Did the Applicant file and serve a copy of the letter sent to property owners and tenants within the CHP facility site or contiguous to the CHP facility site?

A. Yes. On September 3, 2019, Ohio State mailed via first class mail a letter providing notice of the proposed CHP facility to all property owners and affected tenants contiguous to the planned project area. On September 4, 2019, Ohio State filed Notice of Compliance with Service Requirements, including a copy of the letter sent to property owners and tenants.

III. RESPONSES TO STAFF REPORT OF INVESTIGATION

Q. Have you reviewed the Staff Report of Investigation issued in this case on June 15, 2020?

A. Yes.

Q. Does the Applicant have any proposed revisions to any of the conditions recommended by Staff in the Staff Report of Investigation?

A. Yes.

Q. What are the proposed revisions?

A. Ohio State proposes the following revisions or clarifications:

Condition 7

Ohio State recommends that Condition 7 be modified to make the complaint reporting less burdensome. Ohio State has no objection to reporting complaints from neighboring property owners or residents during the construction process and in the quarter immediately following the completion of the construction process.

Ohio State seeks modification of the portion of this condition which would require complaint reporting indefinitely. Ohio State is not aware of any OPSB rule which requires Ohio generation facilities to report every complaint they receive. Ohio State is also not aware of any policy of including this requirement for new generation facilities. As such, there does not appear to be any legal or precedential basis for this portion of Condition 7.

There is also no factual justification for creating a new reporting requirement in this case. The proposed CHP facility site is surrounded by Ohio State property and adjacent to a freeway with high traffic volumes. Once construction is complete, the CHP facility is not expected to have any appreciable impact on the noise, air quality, or viewshed of any non-Ohio State entities. As this facility is surrounded by Ohio State's campus there is no reason to create a new reporting requirement in this case since there are no neighboring property owners who are expected to be impacted.

Finally, Ohio State requests a modification from requiring reporting from any complainant to reports only from neighboring property owners or residents. Ohio State understands the need to report from those parties, but not from national parties like the Sierra Club. Specifically, Ohio State recommends that Condition 7 be revised to read:

During the construction of the facility through one quarter after the construction is complete, the Applicant shall submit to Staff a complaint summary report by the fifteenth day of April, July, October, and January of each year. The report should include a list of all complaints received from neighboring property owners through the Applicant's complaint resolution program, a description of the actions taken toward a resolution of each complaint, and a status update if the complaint has yet to be resolved.

Q. Are there any other matters you would like to bring to the Board's attention?

A. No.

Q. What do you recommend that the Ohio Power Siting Board do in this case?

A. I recommend that the Ohio Power Siting Board grant the Application based upon the recommended conditions contained in the June 15, 2020 Staff Report of Investigation as modified by the revisions in my testimony.

Q. Does this conclude your direct testimony?

A. Yes, it does. However, I reserve the right to offer testimony in support of any stipulation reached in this case.

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Summary: Testimony Direct Testimony of Scott Potter electronically filed by Ms. Kari D Hehmeyer on behalf of THE OHIO STATE UNIVERSITY