

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 TO
CONSTRUCT A COMBINED HEAT AND
POWER FACILITY IN FRANKLIN COUNTY,
OHIO.**

CASE NO. 19-1641-EL-BGN

OPINION, ORDER, AND CERTIFICATE

Entered in the Journal on September 17, 2020

TABLE OF CONTENTS

- I. Summary.....3
- II. Procedural Background.....3
- III. Project Description7
- IV. Certification Criteria8
- V. Consideration of Certification Criteria.....9
 - A. Public Testimony and Comments.....9
 - B. Evidence and Arguments.....11
 - 1. Basis of Need.....11
 - 2. Nature of Probable Environmental Impact12
 - a. Socioeconomic Impacts.....12
 - b. Ecological Impacts.....13
 - c. Public Services, Facilities, and Safety14
 - 3. Minimum Adverse Environmental Impact16
 - a. Summary of the Parties’ Arguments16
 - b. Sierra Club’s Motion to Strike24
 - c. Conclusion.....25
 - 4. Electric Power Grid33
 - 5. Air, Water, Solid Waste, and Aviation.....34
 - a. Air.....34
 - b. Water35
 - c. Solid Waste.....36
 - d. Aviation37
 - 6. Public Interest, Convenience, and Necessity.....38
 - 7. Agricultural Districts39
 - 8. Water Conservation Practice40
- VI. Conditions41
- VII. Conclusion.....46
- VIII. Findings of Fact and Conclusions of Law.....46
- IX. Order50

I. SUMMARY

{¶ 1} The Ohio Power Siting Board issues a certificate of environmental compatibility and public need to The Ohio State University for the construction, operation, and maintenance of its proposed combined heat and power facility, subject to the conditions set forth in this Opinion, Order, and Certificate.

II. PROCEDURAL BACKGROUND

{¶ 2} All proceedings before the Ohio Power Siting Board (Board) are conducted according to the provisions of R.C. Chapter 4906 and Ohio Adm.Code Chapter 4906-1, et seq.

{¶ 3} The Ohio State University (Ohio State, University, or OSU) is a person as defined in R.C. 4906.01.

{¶ 4} Pursuant to R.C. 4906.04, no person shall construct a major utility facility without first having obtained a certificate from the Board. In seeking a certificate for an electric generation facility, applicants must comply with the filing requirements outlined in R.C. 4906.06, as well as Ohio Adm.Code Chapters 4906-3 and 4906-4.

{¶ 5} On September 11, 2019, Ohio State filed a preapplication notification letter with the Board regarding its proposal to construct a combined heat and power (CHP) major utility facility on the University's campus in Clinton Township in Franklin County, Ohio. According to Ohio State, the CHP facility would serve as a primary source of heating and electricity to its Columbus campus.

{¶ 6} On November 6, 2019, Ohio State filed with the Board an application for a certificate of environmental compatibility and public need to construct the new CHP facility. Ohio State supplemented its application on November 27, 2019.

{¶ 7} On January 6, 2020, Staff issued correspondence to Ohio State, stating that the University's application, as supplemented, provided sufficient information to permit

Staff to begin its review of the application. Staff also identified additional information that would be requested, during the course of its investigation, to ensure that Staff would be able to conduct its review of the application. This information included the following: description of operation noise impacts at noise-sensitive receptors; final erosion and sediment control plans; any authorizations, permits, or approvals for discharges to the sanitary sewer from the City of Columbus Division of Sewerage and Drainage Pretreatment Office; gas supply feasibility and interconnection study; and visual impact evaluations.

{¶ 8} On January 23, 2020, Ohio State filed correspondence indicating that the application fee had been submitted to the Board, pursuant to Ohio Adm.Code 4906-3-07(A)(5) and 4906-3-12.

{¶ 9} On January 23, 2020, Ohio State filed its proof of compliance with Ohio Adm.Code 4906-3-07(A), which requires service of the accepted and complete application.

{¶ 10} By Entry dated January 29, 2020, the effective date of the filing of the application was deemed January 29, 2020, pursuant to Ohio Adm.Code 4906-3-08(A). A procedural schedule was also established for this case, including a local public hearing to occur on April 9, 2020, and an adjudicatory hearing to commence on April 23, 2020. Ohio State was directed to issue public notices of the application and hearings pursuant to R.C. 4906.06(C) and Ohio Adm.Code 4906-3-09(A).

{¶ 11} On March 9, 2020, the governor signed Executive Order 2020-01D (Executive Order), declaring a state of emergency in Ohio to protect the well-being of Ohioans from the dangerous effects of COVID-19. As described in the Executive Order, state agencies are required to implement procedures consistent with recommendations from the Department of Health to prevent or alleviate the public health threat associated with COVID-19. Additionally, all citizens are urged to heed the advice of the Department of Health regarding this public health emergency in order to protect their health and safety. The Executive Order was effective immediately and will remain in effect until the COVID-19 emergency no

longer exists. The Department of Health is making COVID-19 information, including information on preventative measures, available via the internet at coronavirus.ohio.gov/.

{¶ 12} Pursuant to R.C. 3701.13, the Ohio Department of Health has supervision of “all matters relating to the preservation of the life and health of the people” and the “ultimate authority in matters of quarantine and isolation.” On March 12, 2020, the Director of the Ohio Department of Health issued an Order indicating that “all persons are urged to maintain social distancing (approximately six feet away from other people) whenever possible.”

{¶ 13} On March 12, 2020, the administrative law judge (ALJ) issued an Entry to suspend the procedural schedule in this matter, in light of the guidance issued by the Executive Order and the Department of Health. Among other things, the ALJ postponed the local public and adjudicatory hearings and directed that notice of the postponement be issued by Ohio State.

{¶ 14} On May 12, 2020, a prehearing teleconference occurred during which the parties discussed a new procedural schedule for this matter, including potential dates for the local public and adjudicatory hearings, and options for proceeding with the hearings through video conferencing or other means.

{¶ 15} By Entry dated May 22, 2020, the ALJ reestablished the procedural schedule in this matter. In the Entry, the ALJ scheduled a public hearing for June 30, 2020, and an adjudicatory hearing to commence on July 14, 2020. Due to the continued state of emergency, and given the passage of Am. Sub. H.B. 197, the ALJ indicated that the public and adjudicatory hearings would both be held using remote access technology that facilitates participation by telephone and/or live video on the internet.

{¶ 16} On June 15, 2020, the Staff Report of Investigation (Staff Report) was filed.

{¶ 17} On June 23, 2020, the ALJ granted Sierra Club’s timely petition to intervene in this case.

{¶ 18} A second prehearing conference and technology test session were held through remote access technology (specifically, Webex) on June 26, 2020.

{¶ 19} A public hearing in this matter was held through Webex on June 30, 2020.

{¶ 20} On July 6, 2020, Ohio State filed the direct testimony of Serdar Tufekci (OSU Ex. A) and Scott Potter (OSU Ex. D).

{¶ 21} On July 9, 2020, Staff filed the direct testimony of Robert Holderbaum (Staff Ex. B), Andrew Conway (Staff Ex. C), Tyler Conklin (Staff Ex. D), Eric Morrison (Staff Ex. E), Grant Zeto (Staff Ex. F), Matt Butler (Staff Ex. G), Jason A. Cross (Staff Ex. H), Paul Nathan Spahr (Staff Ex. I), Jon C. Pawley (Staff Ex. J), Mark Bellamy (Staff Ex. K), and Allison DeLong (Staff Ex. L).

{¶ 22} On that same date, Sierra Club filed the direct testimony of Ranajit (Ron) Sahu (Sierra Club Ex. F).

{¶ 23} The adjudicatory hearing, which was held through Webex, commenced on July 14, 2020, and concluded on July 15, 2020.

{¶ 24} Pursuant to Entry dated July 15, 2020, a second public hearing was held on August 4, 2020, through Webex.

{¶ 25} Timely initial and reply briefs were filed by Ohio State, Staff, and Sierra Club on August 7, 2020, and August 19, 2020, respectively.

{¶ 26} On August 25, 2020, Sierra Club filed a motion to strike portions of Ohio State's reply brief or, in the alternative, a motion for leave to file a surreply, along with the proposed surreply. Ohio State filed a memorandum contra Sierra Club's motion on September 1, 2020. These pleadings are addressed further below.

III. PROJECT DESCRIPTION

{¶ 27} According to the application, Ohio State proposes to construct a natural gas-powered CHP facility to produce both thermal energy and electricity for its main campus in Columbus, Ohio, with a project site of 1.18 acres located on the western side of campus at the corner of John H. Herrick Drive and Vernon L. Tharp Street, which is currently used for greenhouse operations. The CHP facility would operate by using exhaust energy from natural gas combustion turbine generators to produce high pressure superheated steam through heat recovery steam generators (HRSG). This steam would then be used to produce power; supplement the main campus steam network; or produce heating hot water through a heat exchanger for a new district heating and cooling network to be built west of the Olentangy River. As a primary source of heating and electricity to the campus, the CHP facility would have a heating capacity of 285 kilopounds/hour of superheated steam and be capable of producing 105.5 megawatts of electricity. The CHP facility's equipment, with the exception of a water tank, would be housed within a single building of 60 feet in height, with cooling towers extending 27 feet above the roof and two steel stacks at a total height of 115 feet above ground level. In addition to the construction of the CHP facility, Ohio State seeks approval to install associated facilities, such as buried communications and electrical cables, buried water lines, and a natural gas supply line. (OSU Ex. A at Ex. 1 at 1-3.)

{¶ 28} Ohio State explains that the CHP facility is intended to fulfill several purposes and needs for its campus power supply, including increasing energy resiliency and reliability, establishing the University's microgrid, reducing the University's carbon footprint, and reducing the University's energy costs. Ohio State particularly notes that the CHP facility would increase the reliability and resiliency of power provided to critical buildings on campus, including the University's Wexner Medical Center, which includes in-patient and out-patient hospital facilities, cancer research facilities, and a wide range of community and patient services. Additionally, the CHP facility would provide heating in the form of heating hot water for buildings west of the Olentangy River and steam network integration for buildings east of the river. (OSU Ex. A at Ex. 1 at 1-2.)

IV. CERTIFICATION CRITERIA

{¶ 29} Pursuant to R.C. 4906.10(A), the Board shall not grant a certificate for the construction, operation, and maintenance of a major utility facility, either as proposed or as modified by the Board, unless it finds and determines all of the following:

- (1) The basis of the need for the facility if the facility is an electric transmission line or gas pipeline;
- (2) The nature of the probable environmental impact;
- (3) The facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations;
- (4) In the case of an electric transmission line or generating facility, 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 the facility will serve the interests of electric system economy and reliability;
- (5) The facility will comply with R.C. Chapters 3704, 3734, and 6111, as well as all rules and standards adopted under those chapters and under R.C. 4561.32;¹
- (6) The facility will serve the public interest, convenience, and necessity;

¹ In determining whether the facility will comply with all rules and standards adopted under R.C. 4561.32, the Board is required to consult with the Office of Aviation of the division of multi-modal planning and programs of the Department of Transportation under R.C. 4561.341.

- (7) The impact of the facility on the viability as agricultural land or any land in an existing agricultural district established under R.C. Chapter 929 that is located within the site and alternative site of the proposed major facility; and
- (8) The facility incorporates maximum feasible water conservation practices as determined by the Board, considering available technology and the nature and economics of various alternatives.

V. CONSIDERATION OF CERTIFICATION CRITERIA

{¶ 30} The Board has reviewed the evidence presented by the parties and has also considered the eight criteria set forth in R.C. 4906.10(A) in evaluating Ohio State's application. Any evidence not specifically addressed herein has nevertheless been considered and weighed by the Board in reaching its final determination.

A. *Public Testimony and Comments*

{¶ 31} The Board held two public hearings to afford the public an opportunity to provide testimony regarding the proposed CHP facility. Most of the witnesses at the public hearings noted that they are either current or former Ohio State students or faculty. During the first public hearing, which was held through Webex on June 30, 2020, the Board heard testimony from 20 witnesses opposed to the CHP facility. These individuals raised objections to the siting of the proposed CHP facility on campus, in close proximity to Ohio State's students and patients at its medical facilities, or voiced broader concerns with the construction of a gas-fired plant, particularly with respect to climate change and the environmental impact associated with emissions generated by the facility and by the production of the natural gas that would fuel the plant, as well as impacts to the water and other natural resources in the portions of the state where natural gas extraction occurs. Given the COVID-19 state of emergency, several of these witnesses also urged the Board to take particular note of the health effects caused by pollutants, such as increased risk of

respiratory disease. Witnesses testified that Ohio State's plan to construct a CHP facility is contrary to the University's Climate Action Plan, which aims to achieve carbon neutrality by 2050, and the commitment of the city of Columbus to pursue an aggregation program with a 100 percent renewable energy supply by 2022. Witnesses noted that Ohio State has not sufficiently considered alternatives to the proposed CHP facility, including renewable energy and geothermal generation sources. Others stated that the CHP facility is not consistent with Ohio State's mission, as an institution of higher education, and its core values of excellence and innovation and does not facilitate resource stewardship and sustainability leadership. (Public Tr. I at 14-15, 17-21, 27-29, 34, 52, 55, 62-63, 68, 78, 83-84, 92, 102-103, 112, 114-115, 117, 119-120, 127-128, 132-133, 135, 138, 141.) Two individuals testified in support of the proposed CHP facility. The faculty director of Ohio State's Sustainability Institute, testifying in her personal capacity, noted that, although the University's Climate Action Plan calls for a mix of strategies, the CHP facility is the most significant factor within the plan to enable the University to achieve, in a cost-effective manner, its carbon emission reduction target by 2030, while affording flexibility to transition to alternative fuel types in the future and providing advanced energy efficiency in delivering electricity and heating to the campus in comparison to the University's existing operations and electric grid purchases. Additionally, the policy director for the Midwest Cogeneration Association testified that the proposed CHP facility would enable Ohio State to efficiently and reliably meet its electricity and thermal energy requirements, reduce its carbon footprint, and utilize greener fuels like hydrogen in the future. (Public Tr. I at 39-42, 95-96.)

{¶ 32} A second public hearing was held through Webex on August 4, 2020. Testimony was offered by a total of 41 witnesses. Of this group, 32 individuals, including Ohio State faculty and students, testified in opposition to the proposed CHP facility. Various objections were raised, with particular emphasis on Ohio State's continued reliance on fossil fuels rather than investment in renewable energy and geothermal resources; the environmental and public health impacts resulting from the carbon and particulate matter

emissions that would be generated by the CHP facility, as well as those resulting from the extraction of natural gas from wells in Ohio; and the project's inconsistency with the renewable energy goal set by the city of Columbus. (Public Tr. II at 16, 24-25, 34-35, 40-41, 53, 62, 65, 67-68, 74, 79, 82-83, 89-91, 94-95, 107, 109-111, 114-115, 117-119, 123-124, 128-129, 132-133, 136-137, 141-143, 144-145, 146-147, 151-153, 160-161, 165-166, 168-169, 174-175, 176, 178-180, 183-184.) Nine witnesses at the second public hearing testified in favor of the CHP facility, including three representatives from the construction trades and operating engineer local unions that noted that the facility would provide a number of construction and ongoing maintenance jobs (Public Tr. II at 19, 21, 172). Further, other supporting witnesses, including several members of the faculty at Ohio State, testified that the project is an efficient solution to meet the University's electricity and heating needs and a step in the right direction, in terms of providing cleaner energy, reducing carbon dioxide emissions, and mitigating climate change (Public Tr. II at 27-28, 30-32, 43-44, 47-48, 86, 103).

{¶ 33} In addition to the testimony provided at the public hearings, more than 40 public comments regarding the proposed CHP facility have been received and reviewed by the Board. The majority of these public comments, many of which were provided by individuals that testified at the public hearings, express opposition to the project. Additionally, the Sierra Club Beyond Coal Campaign filed, on behalf of numerous individuals, a set of identical public comments opposing the CHP facility.

B. Evidence and Arguments

1. BASIS OF NEED

{¶ 34} R.C. 4906.10(A)(1) requires that the Board consider the basis of the need for the facility if the facility is an electric transmission line or gas pipeline.

{¶ 35} Ohio State and Staff note that R.C. 4906.10(A)(1) is inapplicable to the proposed CHP facility, because it is not an electric transmission line or gas pipeline (Staff Ex. A at 11; OSU Br. at 7; Staff Br. at 7).

{¶ 36} Because the CHP facility is not an electric transmission line or gas pipeline, the Board finds that R.C. 4906.10(A)(1) is not applicable under the circumstances (Staff Ex. A at 11).

2. NATURE OF PROBABLE ENVIRONMENTAL IMPACT

{¶ 37} R.C. 4906.10(A)(2) requires that the Board determine the nature of the probable environmental impact of the proposed facility.

a. *Socioeconomic Impacts*

{¶ 38} Ohio State asserts that the proposed CHP facility is compatible with regional planning documents and will have a negligible impact on regional development and areas outside of the University's control. Ohio State further asserts that the CHP facility will have a negligible effect on land use, as it will be constructed on a previously disturbed site on its campus and the surrounding land and structures are controlled by the University. Noting that it has satisfied the requirements in Ohio Adm.Code 4906-4-08(D)(1) and (D)(2) by evaluating all cultural resources located within ten miles of the CHP facility, Ohio State also argues that the facility would have no direct impact on known cultural resources beyond a limited visual impact. Ohio State contends that it has met the requirements relative to assessing the potential visual impact of the CHP facility, by conducting a visual impact assessment in accordance with Ohio Adm.Code 4906-4-08(D)(4) through its environmental consulting firm, TRC Environmental Corporation (TRC), which concluded that the overall visual impact of the facility is minimal. Regarding the economics of the project, Ohio State expects that the CHP facility will have significant positive economic impacts in terms of jobs and local output, at a cost that falls on the low end of the range of the average cost for similar facilities. (OSU Ex. A at 13, Ex. 1 at 3, 8, 18-19, 37-38, 42-43, 118-126, Ex. T, Ex. U; OSU Br. at 8-11.)

{¶ 39} Addressing socioeconomic impacts, Staff notes that the proposed CHP facility is compatible with regional planning documents, is consistent with energy reduction goals of the city of Columbus, and will have negligible impact on regional development and

external areas outside of Ohio State's control. Staff states that the current land use of the proposed site is for educational purposes and comprised of non-permanent greenhouse and garden structures, which would be relocated to a different location on Ohio State's campus. Staff adds that areas proposed for pipelines and cabling are also categorized as an educational land use type and would be immediately returned to their pre-construction land use after installation of the facilities. With respect to cultural resources in the vicinity, Staff notes that Ohio State's cultural resources consultant determined that the project would not involve or impact any significant cultural resources or landmarks and that no further cultural resource management work was necessary; the Ohio Historic Preservation Office concurred with these findings. Staff also points out that Ohio State provided a visual impact assessment report indicating that, given the urban context of the site and its surroundings, visual impact would be minimal and compatible with the surrounding urban landscape. Finally, Staff states that the total capital and intangible costs for the proposed CHP facility are estimated at nearly \$197 million. Staff verified that the reported average cost of similar facilities is not substantially different from Ohio State's estimated cost. According to Staff, Ohio State's economic analysis indicates that the project will have a number of positive economic impacts for the state, including four long-term operational jobs and between 150 and 175 construction jobs, although there would not be an appreciable increase in tax revenue due to the University's status as a public institution of higher education. (Staff Ex. A at 12-14.)

b. Ecological Impacts

{¶ 40} Ohio State contends that its application and Subsurface Exploration report confirm that the project will have limited impacts on geology or groundwater. Ohio State adds that no streams, wetlands, lakes, reservoirs, or floodplains would be impacted by the project. Ohio State also notes that TRC completed a Site Ecological Study Report, which found very few potential impacts to any threatened or endangered wildlife species. Ohio State notes that the project area is within the range of the state- and federal-endangered Indiana bat and the state- and federal-threatened northern long-eared bat. Because a small

amount of tree clearing is proposed in the project area, Ohio State agrees with Staff's recommended condition regarding seasonal tree cutting to minimize any potential impacts, as discussed below. According to Ohio State, no sensitive plant species would be impacted by the CHP facility. (OSU Ex. A at Ex. 1 at 104-106, 115-116, Ex. Q, Ex. R, Ex. S; OSU Br. at 12-14.)

{¶ 41} With respect to the ecological impacts of the proposed CHP facility, Staff addresses the geological, soil, groundwater, and other characteristics of the project area and surrounding region. Staff states that no streams, wetlands, lakes, reservoirs, or floodplains would be impacted by the proposed CHP facility, while sedimentation that may occur as a result of construction activities would be minimized through best management practices. Staff reports that a small amount of tree clearing would be necessary within the project area. Because the project is within the range of the state- and federal-endangered Indiana bat and the state- and federal-threatened northern long-eared bat, Staff recommends that Ohio State adhere to seasonal tree cutting dates of October 1 through March 31 for all trees that are three inches or greater in diameter, unless coordination efforts with the Ohio Department of Natural Resources and the U.S. Fish and Wildlife Service result in a different course of action. Staff adds that impacts to other state- and federal-listed animal species or to sensitive plant species are not anticipated. (Staff Ex. A at 15-18.)

c. Public Services, Facilities, and Safety

{¶ 42} Ohio State asserts that no damage or other significant impact to roads and bridges is expected in the project area, although the University will restore infrastructure to its previous or to better condition, if damage should occur. During construction, Ohio State plans to provide pertinent authorities with advanced notice of any temporary disruptions to traffic. Regarding noise, Ohio State notes that the results of its Baseline Ambient Sound Survey show that noise levels from the CHP facility will be similar to the existing ambient noise levels, while the University's application describes a number of measures that will be undertaken to mitigate noise emissions. As another matter, Ohio State notes that high winds

are not expected to impact the project. (OSU Ex. A at Ex. 1 at 46-47, 88-96, 106, Ex. P; OSU Ex. D at 10; OSU Br. at 14-15.)

{¶ 43} Staff also reports on several matters related to public services, facilities, and safety. Staff states that, although no damage to roads or bridges is expected, traffic patterns would be minimally disrupted during construction, with momentary delays for the delivery and removal of large equipment from the project site. According to Staff, John H. Herrick Drive would be reduced to two lanes during construction; however, traffic would be maintained in both directions utilizing the remaining two lanes. Staff indicates that Ohio State will coordinate with the city of Columbus and the Ohio Department of Transportation (ODOT) to minimize impacts to traffic flow and infrastructure, as well as provide the pertinent authorities advanced notification and updates concerning the temporary disruptions to traffic. Regarding noise, Staff notes that adverse impact from construction would be temporary and intermittent, away from residential structures, limited to daytime working hours, and minimized through equipment mitigation measures. Upon operation, Staff states that Ohio State would continue to employ noise reduction mitigation. In order to minimize adverse impacts associated with increased noise levels, Staff recommends that Ohio State use the mitigation measures described in the application or similar measures, as well as include procedures in its complaint resolution process for resolving noise complaints. Finally, Staff advises that there are no anticipated adverse impacts due to high wind velocities, as the CHP facility would be constructed in accordance with engineering standards and use diagonal steel bracing to account for wind and seismic loads. (Staff Ex. A at 18-20.)

{¶ 44} In sum, following its review of the socioeconomic, ecological, and other impacts, Staff recommends that the Board find that Ohio State has demonstrated the nature of the probable environmental impact for the proposed CHP facility, provided that any certificate issued by the Board include the conditions specified in the Staff Report (Staff Ex. A at 20; Staff Br. at 7-8).

{¶ 45} Based on the evidence in the record, we agree that the nature of the probable environmental impact associated with the CHP facility has been determined, in accordance with R.C. 4906.10(A)(2) (Staff Ex. A at 12-20; OSU Ex. A at 11-13, Ex. 1 at 37-47, 87-126).

3. MINIMUM ADVERSE ENVIRONMENTAL IMPACT

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

a. Summary of the Parties' Arguments

{¶ 47} Staff states that Ohio State conducted a feasibility study site analysis that included five potential sites for the proposed CHP facility, which compared configuration options, power capacity, carbon dioxide emission reductions, resiliency, expansion capability, facility footprint, costs, and efficiencies associated with the five options. Staff notes that the site that was ultimately selected by Ohio State is centrally located on campus, minimizes the footprint of the CHP facility, is distant from the majority of the student facilities on campus, is near State Route 315, and is close to existing utility infrastructure and an existing duct bank underneath the Olentangy River that could be utilized for crossing the river without impact to it. According to Staff, the proposed project layout was designed to minimize disruption to the location and to existing facilities adjacent to the proposed site, while minimizing the footprint of the CHP facility through a multi-story vertical design and placement of the cooling towers on the roof, and without disruption to any roads or neighboring buildings. Staff believes that Ohio State followed a reasonable process for site selection and its determination of a proposed layout for the CHP facility. (Staff Ex. A at 21.)

{¶ 48} Staff finds that Ohio State has sited and designed the CHP facility in a way that minimizes potential adverse impacts. Noting that the site is surrounded by previously developed campus infrastructure, a highway, and dense urban development, Staff indicates that the site has no known cultural resources within it and that construction of the proposed

CHP facility would not directly impact any streams, wetlands, lakes, reservoirs, or floodplains. Staff further indicates that impacts to state- and federal-listed species can be avoided by following seasonal restrictions for the limited amount of tree clearing required on the project site. Addressing noise, Staff states that the adverse impact of construction noise would be temporary and intermittent, would occur away from all residential structures, and would be limited to daytime working hours, while Ohio State would be required to adhere to noise mitigation measures during operation. Although local and state roads would experience a temporary increase in truck traffic during construction, Staff advises that no damage to roads and bridges is expected and a final traffic plan will be developed with local officials and submitted to Staff for review. Addressing the visual impact of the CHP facility, Staff notes that, due to existing viewshed impacts from other nearby campus buildings, a cell tower, and State Route 315, and given that tree clearing would be limited, the aesthetic impacts are expected to be minimal. Staff concludes that the project represents the minimum adverse environmental impact, based on low potential impacts to land use, cultural resources, surface water resources, and wildlife, as well as Staff's recommended conditions to further mitigate these impacts. Staff, therefore, recommends that the Board find, in accordance with R.C. 4906.10(A)(3), that the proposed CHP facility represents the minimum adverse environmental impact, provided that any certificate issued by the Board includes the conditions specified in the Staff Report. (Staff Ex. A at 21-22; Staff Br. at 8-9.)

{¶ 49} Sierra Club argues that Ohio State has not met its burden under Ohio law to show that the proposed CHP facility represents the minimum adverse environmental impact as compared to feasible alternatives. Sierra Club notes that the Ohio Supreme Court found that an identical statutory requirement pertaining to the approval of proposed hazardous waste facilities requires an applicant to “produce evidence of alternative technologies in order to prove that its facility represents the minimum adverse environmental impact” and requires the reviewing board to “evaluate the nature and economics of alternative technologies to determine whether a more advanced, more

environmentally protective technology can and should be utilized.” *State of West Virginia v. Ohio Hazardous Waste Facility Approval Board*, 28 Ohio St.3d 83, 84, 502 N.E.2d 625 (1986) (considering R.C. 3734.05(C)(6)(c), now R.C. 3734.05(D)(2)(c)). Sierra Club claims that more advanced, more environmentally protective technology is available and should be utilized to serve Ohio State’s needs – specifically, a heated hot water system that uses heat exchangers and geothermal wells for heating and renewable generation resources for electricity. (Sierra Club Br. at 1-3.)

{¶ 50} Noting that the proposed CHP facility is premised on Ohio State’s continued use of its existing steam heating system, Sierra Club contends that heated hot water systems provide an alternative to steam that is more efficient, causes much less harm to the environment in terms of air pollutants, and produces long-term cost savings, as confirmed by the testimony of Sierra Club’s witness, large-scale projects undertaken at numerous other universities that have retired steam generation in favor of heated hot water, and the CHP Feasibility Study conducted by Ohio State’s own contractor, Ohio State Energy Partners (OSEP). With respect to the CHP Feasibility Study in particular, Sierra Club emphasizes that the study recognizes that the replacement of Ohio State’s current steam system with a heated hot water system is preferable on nearly every metric and will be done at some point in the future. Sierra Club adds that Ohio State witness Tufekci² testified that heated hot water is preferable to steam with respect to its ability to facilitate heat recovery and generation efficiency; can be used in conjunction with heat storage, unlike steam; and is the “clear choice” for new construction. (Sierra Club Ex. F at 24-26, 29, 35; OSU Ex. A at Ex. 4 at App. N; Tr. I at 48, 60-61; Sierra Club Br. at 3-7.)

{¶ 51} Additionally, Sierra Club contends that Ohio State failed under R.C. 4906.10(A)(3) to investigate alternatives to the proposed CHP facility. Emphasizing that Ohio State assumed that it would first proceed with a CHP facility and then convert to heated hot water at some point in the future, Sierra Club states that the University did not

² Mr. Tufekci is OSEP’s chief executive officer and an employee of ENGIE North America (OSU Ex. A at 2).

conduct, aside from the CHP Feasibility Study, any investigation to determine the costs and benefits associated with conversion to heated hot water or the installation of geothermal wells or system-wide heat exchangers; did not investigate the cost of the steam to heated hot water conversion projects at other universities that have completed or initiated such projects; and did not analyze the University's actual heating needs to determine the amount of energy that a geothermal system would need to provide. (Tr. I at 65, 77-78, 81-82, 84, 195; Sierra Club Br. at 8-12.)

{¶ 52} In terms of Ohio State's electricity needs, Sierra Club argues that the University has not met its burden to show that no alternative technology exists that can provide the electrical generation benefits provided by the proposed CHP facility with less adverse environmental impact. According to Sierra Club, Ohio State's rejection of solar or wind generation was based on an overstatement of both solar costs and CHP capacities. Sierra Club notes that Ohio State did not issue a request for proposal or otherwise investigate the cost of off-site solar or wind power purchase agreements, or consider constructing its own on-site renewable generation resources. Sierra Club also asserts that the proposed CHP facility shares many of the same insufficiencies that Ohio State attributes to wind and solar generation. Further, Sierra Club contends that Ohio State did not evaluate the scope of its actual reliability needs or conduct any studies of the reliability of grid electricity to establish the comparative advantage of on-campus steam turbine generation. Sierra Club adds that the Board should not adopt Staff's conclusion that the CHP facility represents the minimum adverse environmental impact, as Staff did not consider any other technological alternative. (Tr. I at 19, 30-35, 88, 97-99; Tr. II at 374-375, 381, 389-390; Sierra Club Ex. F at 22-23; Sierra Club Br. at 12-16.)

{¶ 53} Finally, Sierra Club argues that Ohio State has proposed a facility with significant adverse environmental impacts in the form of greenhouse gas emissions and has failed to account for the full extent of those impacts. Although Ohio State claims that the CHP facility will reduce the University's carbon footprint, Sierra Club contends that the University's position is based on an outdated and faulty analysis of the PJM generation mix,

as well as efficiencies from reduced reliance on its McCracken power plant that may not materialize, given that only one of its five boilers will be retired prior to 2035. With respect to nitrogen oxide and particulate matter emissions, Sierra Club asserts that Ohio State's modeling to estimate the effects of these emissions on ambient concentrations suffers from significant defects and, therefore, the full impact is unknown. Among other alleged defects, Sierra Club claims that Ohio State's model uses meteorological data from a weather station several miles from the proposed CHP facility at a non-representative location that lacks distinctive attributes affecting the flow of air and pollutants. Sierra Club also emphasizes that neither Ohio State nor Staff investigated or attempted to characterize the adverse environmental impacts associated with the extraction of natural gas for use in the proposed CHP facility, such as emissions of fugitive methane at the point of extraction. For all of these reasons, Sierra Club urges the Board to deny Ohio State's application. (Sierra Club Ex. F at 13-15, 17-18, 19-20; Tr. I at 17, 36, 95-96, 127, 130-131, 144-146, 159, 161, 196-197, 286-287; Tr. II at 373, 391; Sierra Club Br. at 16-25.)

{¶ 54} In its reply brief, Ohio State contends that Sierra Club has misstated, in several respects, the relevant legal standard for the Board's consideration of this case – specifically, by focusing solely on environmental impact, without consideration of whether proposed alternatives are feasible or economically viable; by repeatedly claiming that the University should have conducted additional formal studies of alternatives or other matters of interest to Sierra Club; by relying on the Ohio Supreme Court's interpretation of hazardous waste facility permitting requirements in R.C. 3734.05; and by suggesting that the Board must take fuel extraction impacts into account. (OSU Reply Br. at 4-14.)

{¶ 55} Additionally, Ohio State argues that the record evidence supports approval of its application, as the proposed CHP facility complies with Ohio law and is the best possible solution to meet the University's objectives, based on cost considerations, thermal needs, electricity needs, and reliability benefits. With respect to cost, Ohio State asserts that, as confirmed by the testimony of its witnesses, the CHP Feasibility Study, and the Climate Action Plan, the University considered a variety of alternatives, including those proposed

by Sierra Club, and concluded that each option is not as advantageous as the CHP facility. Specifically, Ohio State determined that it is not feasible to immediately replace its extensive steam network with a heating hot water system, which would cost several hundred million dollars. Ohio State adds that it already utilizes heat recovery chillers in some campus buildings; however, they cannot fully meet the load for the new hospital facilities that would be served by the CHP facility. Noting that it also uses geothermal generation to serve some of the heating and cooling load of several campus buildings, Ohio State contends that the use of geothermal technology at a scale comparable to the thermal output of the CHP facility would require extensive real estate that the University's urban environment does not provide. Ohio State adds that on- or off-site renewable generation is more costly, is intermittent, and fails to meet the University's thermal needs. Further, Ohio State asserts that Sierra Club failed to provide projected costs for its proposed options, with the exception of a flawed cost estimate for solar generation that fails to account for transmission and distribution charges. Finally, Ohio State argues that Sierra Club's position ignores the reality of budget constraints, which require the University to adhere to an annual allocation of approximately \$110 to \$135 million for comprehensive energy management. (OSU Ex. A at Ex. 4; OSU Ex. C; Sierra Club Ex. C; Sierra Club Ex. F at 22-23; Tr. I at 70-72, 76-77, 88, 102-105, 177-178, 190-191, 194, 199, 207-208, 221, 241-243; OSU Reply Br. at 14-26.)

{¶ 56} Ohio State also emphasizes that the proposed CHP facility will enable the University to meet its considerable thermal needs, as well as to rely less upon, and begin to retire, the less efficient McCracken boilers. According to Ohio State, the McCracken power plant is expected to provide only 15 percent of the annual steam capacity on campus once the CHP facility is operational, with the possibility that the new facility may provide all of the steam needed on campus in the future. Noting that there are few alternatives to meet its thermal needs, Ohio State argues that there is insufficient land to construct geothermal generation, while the CHP facility will enable the University to further expand its heating hot water deployment. Although Sierra Club points to heating hot water system

conversions at other universities, Ohio State contends that Sierra Club witness Sahu³ was unfamiliar with the specifics of these projects and with the University's campus and, therefore, the purported comparison does not bolster Sierra Club's position. Ohio State also maintains that off-site renewable resources would not provide any of the steam needed to meet its thermal load. Addressing the electricity benefits of the proposed CHP facility, Ohio State believes that the project will enable it to use gas efficiently to produce both electricity and heat, while reducing carbon emissions due to the planned switch from the more carbon intensive grid to natural gas generation. (Tr. I at 38-41, 70, 92-93, 120, 124-126, 167, 190-191, 194, 227-228, 238-239, 302-310; OSU Reply Br. at 26-32.)

{¶ 57} As to reliability, Ohio State asserts that the CHP facility, as an additional source of on-site generation capability, will provide reliable heat and electricity to the campus system, with additional benefits in the form of islanding capacity, less reliance on diesel backup generators for medical and other critical locations, and limited reliance on the PJM grid and the local distribution utility for electricity. Ohio State adds that Sierra Club's preferred renewable resources would not offer the same reliability benefits due to the intermittent nature of solar and wind generation, as well as the physical limitations associated with siting on-site renewable resources with sufficient capacity. (Tr. I at 30, 88, 101, 104-105, 108, 168-169, 170, 172, 174-175, 239-240; OSU Reply Br. at 33-36.)

{¶ 58} Finally, Ohio State insists that there are no environmental concerns associated with the CHP facility, as confirmed by modeling and analysis completed by TRC in response to Sierra Club's objections. Ohio State notes that TRC concluded that the CHP facility will have a negligible impact on the existing air quality in Franklin County and will not affect its attainment status for any pollutant, with project impacts of less than one percent above the background concentration and well below the Primary National Ambient Air Quality Standards. With respect to carbon emissions in particular, Ohio State asserts

³ Dr. Sahu is an independent engineering, environmental, and energy consultant (Sierra Club Ex. F at 1, Ex. RS-A).

that the CHP facility will reduce such emissions for the campus by 35 percent in its first year of operation. Ohio State adds that, although Sierra Club argues that any increase in particulate matter emissions should be prohibited, the CHP facility complies with the primary standard for such emissions. Further, Ohio State claims that the model employed by TRC is utilized by the Ohio Environmental Protection Agency (Ohio EPA), among other agencies, and was appropriately used in this case, contrary to Sierra Club's position. Ohio State also notes that the Ohio EPA has already examined the environmental impacts of the CHP facility's emissions and granted the requisite permit, without imposing any limit on the capacity factor at which the facility must operate. (Sierra Club Ex. E at 2; Tr. I at 11, 294; OSU Reply Br. at 36-45.)

{¶ 59} Staff offers two contentions in response to Sierra Club's position. First, Staff asserts that Sierra Club's arguments regarding environmental impact are irrelevant to this proceeding. According to Staff, Sierra Club's concerns are more appropriately directed to the U.S. Environmental Protection Agency, which establishes national ambient air quality standards for pollutants. Staff also asserts that Ohio State, as a non-profit educational institution, was properly granted an exemption from major stationary source modeling and other conditions required for an Ohio EPA permit, in accordance with Ohio Adm.Code 3745-31-13(D)(1). Staff notes that Sierra Club did not appeal or even comment on the final permit issued by the Ohio EPA on October 25, 2019. Staff further notes that there is no rule of the Ohio EPA that requires review of the alleged impacts from natural gas extraction for permitting purposes. (Staff Reply Br. at 1-4.)

{¶ 60} Additionally, Staff believes that Sierra Club's arguments concerning alternative technologies have no relevance to this proceeding. Staff contends that it must only investigate the application that is before it and recommend conditions necessary to minimize the adverse impacts of the proposed facility, as Staff has done in this case. Staff states that Sierra Club's reading of R.C. 4906.10(A)(3) results in an impossible standard that would require Staff's continual investigation of comparative evidence and analysis, as well as the preparation of numerous reports of investigation. (Staff Reply Br. at 5-6.)

{¶ 61} In its reply brief, Sierra Club asserts that Ohio State did not offer, in its initial brief, any discussion of R.C. 4906.10(A)(3) or summary of any evidence that the Board has before it to show that the proposed project minimizes any adverse environmental impact; refused to address the adverse environmental impact from emissions; and failed to provide any comparative analysis of alternatives as required by the statute. Further, Sierra Club claims that, although Ohio State may have satisfied the legal requirements to obtain the relevant permits through its use of a discretionary exemption from the Ohio EPA, the University has failed to adequately and accurately characterize the adverse environmental impacts from particulate matter and nitrogen oxide pollution. Noting that Ohio State focuses on the increased payroll and jobs that would be created by the project, Sierra Club responds that the University could construct a heated hot water system with less environmental impact and similar economic benefits to the surrounding community as the proposed CHP facility, while also furthering the energy goals of the city of Columbus. Finally, Sierra Club argues that Staff has cited no evidence or even addressed the state of available technology or alternatives, as required by R.C. 4906.10(A)(3). (Sierra Club Reply Br. at 3-11.)

b. Sierra Club's Motion to Strike

{¶ 62} On August 25, 2020, Sierra Club filed a motion to strike or, in the alternative, a motion for leave to file a surreply, along with its proposed surreply. As its primary request, Sierra Club seeks to strike portions of Ohio State's reply brief that cite as evidence materials outside of the record or that rely on claims unsupported by evidence in the record. First, Sierra Club asserts that it has been prejudiced by Ohio State's reply brief, as it relies on a document referred to as the Sierra Club Energy Resources Policy, which, according to Sierra Club, was not introduced into the record before or during any of the hearings, was not authenticated, and was not subject to examination by a witness who could testify to its content or context, but which was instead submitted in a comment from a member of the public after the conclusion of the hearings. Sierra Club further asserts that Ohio State has misrepresented the contents of the policy document and advanced new arguments

regarding the relative merits of the proposed CHP facility in relation to statements in the document. If Ohio State is permitted to rely on the policy document, Sierra Club requests that it be provided an opportunity to introduce it into evidence in its entirety and explain how the University has misrepresented its contents. As another matter, Sierra Club argues that Ohio State's reply brief introduces, for the first time in this proceeding, several factual claims that have no basis in the record evidence. According to Sierra Club, Ohio State has no evidentiary support for its claims that it has conducted extensive, detailed analysis of hourly thermal load; that the cost of replacing its steam network would be \$500 million; that it needs significant, yet unspecified, volumes of steam at campus hospitals and medical research facilities; and that there is insufficient campus land on which to construct geothermal generation to meet its thermal needs.

{¶ 63} In its memorandum contra Sierra Club's motion, Ohio State argues that the motion should be denied, with one exception. Ohio State notes that it does not object to the Board's consideration of the portion of Sierra Club's offered surreply that relates to the Sierra Club Energy Resources Policy, because the policy document was offered at the public hearing on August 4, 2020, after the evidentiary hearing had already occurred. As to that document, Ohio State asserts that, although it was referenced by a witness at the public hearing on August 4, 2020, Sierra Club failed to question the witness on the document or to object to the witness's testimony. Ohio State adds that the witness submitted the entire document to the Board, which is part of the record in this proceeding. As to Sierra Club's contention that Ohio State failed to support portions of its reply brief with evidentiary support, the University responds that it provided citations to the record and that, accordingly, there is no basis for the motion to strike or for the motion for leave to file a surreply.

c. Conclusion

{¶ 64} As an initial matter, the Board finds that Sierra Club's motion to strike portions of Ohio State's reply brief should be denied. As to the Sierra Club Energy Resources Policy, the document was referenced by a witness at the August 4, 2020 public

hearing and, following a question from the Board's chairman, was subsequently provided by the witness in its entirety and filed in the docket. Sierra Club raised no objections to the testimony of the witness or the filing of the document in the docket on August 5, 2020, for the Board's consideration, along with all of the other public comments and supporting documents. (Public Tr. II at 44-45.) Because the policy document was filed as a public comment in the docket, we do not find it appropriate to strike Ohio State's reference to the document in its reply brief. We find that Sierra Club's objections to Ohio State's use of the contents of the policy document in its reply brief pertain more to the weight, if any, that the Board should afford to the document in this case. As confirmed by our analysis below, we have not found it necessary to consider the policy document in reaching our conclusion as to R.C. 4906.10(A)(3).

{¶ 65} Regarding Sierra Club's assertion that other portions of Ohio State's reply brief fail to include evidentiary support for some of the University's factual claims, we find that the University has offered citations to the record throughout its reply brief. To the extent that Ohio State has not fully supported its claims with evidence in the record, we find that this is not a sufficient basis for the motion to strike. Rather, the Board will consider Ohio State's factual claims, evaluate the evidence of record, and determine whether there is sufficient evidentiary support for the University's position. As to Sierra Club's alternative request, we find that the motion for leave to file a surreply should also be denied, with one exception. Because the portion of the surreply related to the Sierra Club Energy Resources Policy is not opposed by any party, we find that it should be permitted to stand.

{¶ 66} The Board will now consider the evidence of record and the parties' arguments with respect to R.C. 4906.10(A)(3). In order to facilitate the Board's review of a proposed project's adverse environmental impact as required by the statute, Ohio Adm.Code 4906-4-04 provides that an applicant must describe the selection of the project area and the process for designing the facility layout. In this case, we find that Ohio State conducted a reasonable site selection process and provided information regarding the project area selection and site design for the proposed CHP facility, consistent with the rule.

Five sites in three areas of the Columbus campus, all of which are on land controlled by Ohio State in previously disturbed areas, were considered as part of the CHP Feasibility Study: two sites on campus adjacent to the existing McCracken power plant, two sites west of the Olentangy River and east of State Route 315 (one of which was ultimately selected), and a site west of Kenny Road and south of Lane Avenue. Numerous factors were considered by Ohio State in selecting the project location, including proximity to serve both the University's existing buildings and future growth; environmental, noise, and visual impacts; ability to minimize disruption of campus operations during construction; ability to minimize reduction of existing natural or developed green spaces on campus; avoidance of loss of student recreational spaces on campus; land value for other development possibilities; constructability and cost; and protection from possible flooding from the Olentangy River. Ohio State concluded that its chosen site at the corner of John H. Herrick Drive and Vernon L. Tharp Street is optimal for several reasons. It is centrally located on campus; relatively small; distant from the academic center, athletics district, and student recreational facilities; and close to State Route 315. The selected site will also facilitate the CHP facility's electrical connection to the Buckeye Substation by way of the existing duct bank under the Olentangy River, while also serving all buildings west of the river via a new district heating and cooling network and to the east of the river via the campus steam network. We agree with Staff's conclusion that Ohio State followed a reasonable process for selecting a site and determining a proposed layout for the CHP facility. (OSU Ex. A at 4-5, Ex. 1 at 26-34; OSU Ex. D at 6-7; Staff Ex. A at 21.)

{¶ 67} The record also supports Staff's conclusion that the proposed CHP facility represents the minimum adverse environmental impact. The application indicates that the project site was studied for potential land use, ecological, cultural, and other types of impacts, with study results showing minimal impacts from disturbance and negligible expected impacts to soil, water, vegetation, cultural resources, and wildlife. Along with the application, Ohio State provided numerous reports to the Board, including the Acentech Baseline Ambient Sound Survey, CTL Geotechnical Report, Surface Water Survey Report,

Ecological Resources Report, and Visual Impact Assessment Report. In accordance with R.C. 4906.07(C), Staff reviewed this information as part of its investigation of the application and offered its findings and recommendations in the Staff Report. In its analysis of the potential adverse environmental impacts, Staff noted that the proposed CHP facility was designed and sited in a way that minimizes such impacts, particularly given that it is surrounded by previously developed campus infrastructure, a highway, and dense urban development. Staff reported that, as confirmed by the Ohio Historic Preservation Office, there are no known cultural resources within the project site. Staff also highlighted that the construction of the CHP facility would not directly impact any streams, wetlands, lakes, reservoirs, or floodplains, while Ohio State would obtain the necessary permit for stormwater discharges. According to Staff, potential impacts to state- and federal-listed species can be avoided by following seasonal restrictions for the limited amount of tree clearing required on the project site. Staff noted that Ohio State has also proposed measures to mitigate noise, traffic, and aesthetic impacts in the project area, while Staff has recommended a number of conditions as a means to further mitigate potential adverse impacts. Ultimately, Staff advised that, because the CHP facility is expected to have little impact on land use, cultural resources, surface water resources, and wildlife, and with Staff's recommended conditions in place to further mitigate potential adverse environmental impact, the standard set forth in R.C. 4906.10(A)(3) has been satisfied. Further, Ohio State witness Potter⁴ testified that the CHP facility has been designed to minimize or eliminate potential environmental impacts. Mr. Potter provided a thorough explanation of how the design and siting of the CHP facility will minimize disruption to the project location and surrounding area. Upon review of the record, the Board finds that Ohio State and Staff have fully assessed the potential impacts of the proposed project and provided evidence demonstrating that the CHP facility represents the minimum adverse

⁴ Mr. Potter is employed by Ohio State as the Senior Director of Comprehensive Energy Management (OSU Ex. D. at 2).

environmental impact. (Staff Ex. A at 21-22; Staff Ex. B at 2-3; OSU Ex. A at 5, 14, Ex. 1 at 3-4, 87-126, Ex. P, Ex. Q, Ex. R, Ex. S, Ex. U; OSU Ex. D at 7, 8-11.)

{¶ 68} Before the Board addresses the issues raised by Sierra Club, we note that the parties disagree as to the scope of the review that the Board must undertake pursuant to R.C. 4906.10(A)(3). The statute requires the Board to evaluate whether a major utility 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.” R.C. 4906.10(A)(3). The statute is clear that the Board must consider “various alternatives” as part of its evaluation of a proposed facility’s adverse environmental impact, and nothing in the statute limits the Board’s review solely to the project proposed in the application before it. In prior cases, the Board has considered evidence offered by the applicant or other parties of alternatives to the proposed project, as part of the Board’s environmental analysis under R.C. 4906.10(A)(3). *See, e.g., In re Duke Energy Ohio, Inc.*, Case No. 16-253-GA-BTX, Opinion, Order, and Certificate (Nov. 21, 2019) at ¶ 120 (considering non-pipeline alternatives to proposed pipeline); *In re American Municipal Power-Ohio, Inc.*, Case No. 06-1358-EL-BGN, Opinion, Order, and Certificate (Mar. 3, 2008) at 12-15 (considering generating alternatives to proposed pulverized coal facility). At the same time, we recognize that the word “alternative” implies a viable choice or substitute that is functionally equivalent to the proposed facility and capable of fully meeting the applicant’s need for the facility.

{¶ 69} In opposing Ohio State’s application, Sierra Club raises two primary arguments. First, Sierra Club asserts that Ohio State has not satisfied its burden under R.C. 4906.10(A)(3) to show that the proposed CHP facility represents the minimum adverse environmental impact as compared to feasible alternatives. The record, however, is clear that there is no viable alternative that will as fully and efficiently meet Ohio State’s unique needs as a CHP facility. As Mr. Potter explained, the CHP facility has been designed and sized to optimally serve Ohio State’s heating and electrical loads. With respect to heating, the CHP facility will provide both steam and heating hot water, in order to serve a large

number of existing buildings that are connected to the existing campus steam distribution network and planned new buildings that will be heated via a new heating hot water network. In terms of electrical needs, the CHP facility will enable Ohio State to establish a microgrid for the Columbus campus to strengthen its energy resiliency and reliability; provide better control of its system demand to minimize demand costs for purchased power; and reduce its levelized cost of energy by reducing the amount of power that the University purchases from the market. Mr. Potter also emphasized that Ohio State is preparing to construct several new hospital and cancer treatment facilities that must have sufficient quantities of steam, heating hot water, and power that the CHP facility would reliably provide. (OSU Ex. D at 4, 5-6.)

{¶ 70} Further, upon review of the record, the Board finds that Ohio State reasonably considered and rejected various alternatives to the CHP facility proposed in the application. Mr. Tufekci testified that, as a general matter, Ohio State and OSEP consider any technology that is commercially available to be implemented on campus at any given time. For this project, Ohio State considered different options with respect to facility layout and site design. Both Mr. Potter and Mr. Tufekci testified that Ohio State evaluated a number of different configuration and combustion turbine generator models, in light of the University's objectives of providing the needed output capacities; fitting the facility within a defined footprint to minimize impact on the surrounding roads, infrastructure, and buildings during construction; providing the highest level of thermal efficiency; enabling combustion of green hydrogen blended into natural gas; and avoiding disruption to existing facilities once operational. Mr. Tufekci added that the proposed site will enable Ohio State to grow efficiently and economically because each new building can be connected to the CHP facility. To support its application, Ohio State also offered the CHP Feasibility Study, in which OSEP evaluated multiple CHP cases to ensure an optimized solution for the University, based on an analysis of comparative configuration options, power capacity, carbon dioxide emissions reduction, resiliency, expansion capability, facility footprint, costs, and efficiencies. (OSU Ex. A at 5-6, Ex. 1 at 26, Ex. 4; OSU Ex. D at 6; Tr. I at 70.)

{¶ 71} Sierra Club argues that a heated hot water system that uses heat exchangers and geothermal wells for heating and renewable generation resources for electricity would have less environmental impact than the CHP facility. There are several flaws in this argument. Although Sierra Club characterizes its preferred option as a feasible alternative, the evidence of record indicates that it is not, in fact, a viable solution to meet Ohio State's needs for both electricity and thermal energy. In terms of its heating needs, Ohio State acknowledged that it is transitioning its extensive steam system to a hot water system for heating. Mr. Tufekci projected, however, that a complete steam to hot water conversion at present would cost a few hundred million dollars, which places this option outside of Ohio State's current budget constraints. Aside from cost considerations, a full heating hot water system requires a heating source like geothermal wells or chillers. As Mr. Tufekci explained, while Ohio State already uses geothermal heating for certain buildings on campus, it is not an alternative to the CHP facility due to lack of available land on campus and the scale of heating required. Similarly, Mr. Tufekci noted that, while Ohio State makes use of heat recovery from chillers in some campus buildings, chillers are not a feasible or cost-effective option for every building. From the CHP Feasibility Study, it appears that a steam to hot water conversion is essentially dependent upon the construction and operation of the CHP facility. With respect to its electricity needs, although Ohio State already relies upon renewable energy to some extent, an on-site renewable generation resource would require a substantial amount of land that is not available on campus. Further, a renewable energy generating resource, whether on- or off-site, would be less cost-effective and would not meet Ohio State's heating needs, unless used in conjunction with geothermal heating, which, again, is not a feasible way to serve the heating load of the new hospital facilities and other new and existing buildings on campus. As the CHP Feasibility Study noted, "[a]n on-site CHP facility can simultaneously generate heat (steam and/or hot water) and power in the most efficient thermodynamic cycle that cannot be matched by any other alternative technology." Sierra Club appears itself to acknowledge that the evidence does not definitely establish that Ohio State's needs can be met through conversion to a heated hot water system, with thermal generation provided through heat exchangers and supplemented by

geothermal wells. (OSU Ex. A at Ex. 4 at 3-19, App. N at A-24; OSU Ex. C; OSU Ex. D at 5-6; Sierra Club Ex. C at 11; Tr. I at 50, 70-72, 76, 88, 92-93, 102-105, 176-180, 190-192, 199; Sierra Club Br. at 12.)

{¶ 72} Sierra Club also contends that the proposed CHP facility does not represent the minimum adverse environmental impact, in light of the carbon and other emissions that would be associated with the facility. The record, however, reflects that the impact from emissions will be negligible. According to the independent analysis conducted by TRC, the “CHP project will have negligible impact on the existing air quality in Franklin County and will not affect its attainment status for any pollutant.” Using conservative assumptions, the highest concentration for any pollutant at the nearest sensitive location is less than two percent of the relevant air quality standard. Further, following its consideration of the environmental impact associated with the CHP facility’s air emissions, the Ohio EPA granted the necessary permit, without any limit on the capacity factor at which the facility must operate. The record also reflects that Ohio State will take appropriate steps to mitigate the negligible environmental impact through pollution control equipment and will employ best available technology to control air emissions. With respect to Sierra Club’s assertion that Ohio State should have addressed the potential adverse environmental impact associated with the extraction of the natural gas that would power the CHP facility, nothing in R.C. 4906.10(A)(3) or the Board’s rules requires an analysis of the environmental impact associated with the production of the fuel or other materials to be used in the construction or operation of a major utility facility under review. (Sierra Club Ex. E at 1-4; OSU Ex. A at Ex. 1 at 50-53, 70-71; Tr. I at 294; Staff Ex. A at 25-27.)

{¶ 73} Having fully considered the parties’ arguments, in light of the evidence in the record, the Board finds, in accordance with R.C. 4906.10(A)(3), that the CHP facility represents 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.

4. ELECTRIC POWER GRID

{¶ 74} R.C. 4906.10(A)(4) provides that, in the case of an electric transmission line or generating facility, the Board must ensure that such 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 such facility will serve the interests of electric system economy and reliability.

{¶ 75} Ohio State contends that it has satisfied R.C. 4906.10(A)(4), because the proposed CHP facility would not be connected to the regional grid, would not be subject to the regulations of PJM Interconnection, LLC (PJM), and would not result in any reliability issues, as confirmed by American Electric Power. Ohio State adds that it will employ measures to prevent the export of energy to the bulk power system. (OSU Ex. A at Ex. 1 at 35-36, Ex. E; OSU Br. at 16.)

{¶ 76} Staff reports that the proposed CHP facility would not be connected to the regional grid and would instead entirely serve the load of Ohio State's campus facilities. Staff adds that, because the CHP facility is considered behind the meter, it is not subject to regulation by PJM, the regional transmission organization charged with planning for upgrades and administering the generation queue for the regional transmission system in Ohio. According to Staff, Ohio State would ensure that energy cannot flow to the bulk power system by using metering and protection, such as reverse power relaying. Staff notes that, if Ohio State plans to export power to the bulk power system in the future, a filing must be made with the Board, in addition to a new service request for generation interconnection with PJM. Staff recommends that the Board find that the proposed CHP facility complies with the requirements in R.C. 4906.10(A)(4), provided that any certificate issued by the Board for the facility includes the conditions specified in the Staff Report. (Staff Ex. A at 23-24; Staff Br. at 9.)

{¶ 77} As Staff recommends, the Board finds that the proposed CHP facility complies with R.C. 4906.10(A)(4), to the extent that it is applicable to this project (Staff Ex. A at 23-24; OSU Ex. A at 6, Ex. 1 at 35-36).

5. AIR, WATER, SOLID WASTE, AND AVIATION

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

a. Air

{¶ 79} With respect to air quality, Ohio State contends that it has demonstrated that the project complies with Ohio law relative to air pollution and control. Ohio State notes that, in coordination with TRC, the University undertook a comprehensive study of the ambient air quality data for Franklin County and the potential impact of the proposed CHP facility on air quality during construction and operation. Ohio State further notes that the CHP facility was designed to ensure best available technology to control air emissions. According to Ohio State, the CHP facility's state-of-the-art pollution control equipment will significantly reduce emissions of carbon monoxide and nitrogen oxide, each by at least 85 percent, as well as volatile organic compounds and organic hazardous air pollutants by a minimum of 50 percent. Ohio State adds that the project was reviewed for applicability of regulatory requirements and was granted an Air Permit to Install by the Ohio EPA. Ohio State also notes that, to address concerns raised by Sierra Club, TRC undertook additional air quality analysis and modeling, using a conservative approach with respect to location, weather, and operational configuration, and concluded that the CHP facility will have a negligible impact on the existing air quality in Franklin County and will not affect its attainment status for any pollutant; will have a negligible impact on sensitive receptor locations in the vicinity of the project site, including the OSU Wexner Medical Center; and will meet the Ohio EPA's definition of de minimis impacts for air permitting. (OSU Ex. A

at 7-10, Ex. 1 at 48-71, Ex. I; OSU Ex. D at 10; Sierra Club Ex. E; Tr. I at 115, 148-149; OSU Br. at 17-20.)

{¶ 80} Staff states that the construction of the proposed CHP facility would result in minor emissions from the construction equipment and vehicles, with no expectation of significant adverse impacts to air quality. Staff adds that fugitive dust from construction-related activities would be minimized through a combination of vehicle speed control, surface improvement with crushed stone or gravel, routine watering, or spraying with dust suppressants. In terms of the operation of the CHP facility, Staff describes a number of air pollution controls that are proposed for the facility to minimize impacts to air quality, including dry low nitrogen oxide burners within the combustion turbines, an oxidation catalyst bed and selective catalytic reduction system within the HRSG stacks, and high efficiency water mist drift eliminators and impingement baffles for the cooling towers. Staff indicates that these established technologies are reliable, safe, and effective. According to Staff, Ohio State will perform regularly scheduled preventive maintenance and demonstrate compliance with emission limits by conducting annual compliance testing in accordance with its air permit, while the Ohio EPA will continue to monitor the impact of the CHP facility during its operation based on multiple regional air quality monitoring stations. Staff finds that, with these measures in place, the construction and operation of the CHP facility would comply with the requirements of R.C. Chapter 3704 and the rules adopted under that chapter. (Staff Ex. A at 25-27; Staff Br. at 10.)

b. Water

{¶ 81} Addressing water impacts, Ohio State notes that it has identified all required permits and programs for the installation and operation of the proposed CHP facility. Ohio State also asserts that no water will be withdrawn from lakes, ponds, rivers, streams, or groundwater to construct or operate the CHP facility and no significant amount of fresh water will be needed during construction. According to Ohio State, it modeled the CHP facility's peak water consumption and confirmed that capacity is available within the University's existing domestic water infrastructure to support the facility's operation.

Further, Ohio State claims that no impacts to public or private water supplies are expected from pollution control device failures, no discharges into drinking water sources are possible, and no impact is expected to the nearest body of water, the Olentangy River, or any other bodies of water. (OSU Ex. A at 10, Ex. 1 at 71-72, 100-101, Ex. J, Ex. K; OSU Ex. D at 11; OSU Br. at 20-21.)

{¶ 82} Staff notes that, among other permits and plans, Ohio State would develop a Stormwater Pollution Prevention Plan and a Spill Prevention Control and Countermeasures (SPCC) plan between 60 to 90 days before the start of construction. Staff states that Ohio State's operation of the proposed CHP facility would require the use of significant amounts of water, approximately 550 gallons per minute on average, to be obtained through the University's existing domestic water distribution system supplied from the city of Columbus, while effluent wastewater from the CHP process is expected to be of a quality that will enable discharge into the University's existing wastewater system. Staff adds that the construction and operation of the CHP facility are not anticipated to result in any impacts to wetlands or other waters of the United States. Staff believes that Ohio State has measures in place to ensure that construction and operation of the CHP facility will comply with the requirements of R.C. Chapter 6111 and the rules adopted under that chapter. (Staff Ex. A at 27-28; Staff Br. at 10-11.)

c. Solid Waste

{¶ 83} Ohio State asserts that, in coordination with TRC, the University assessed the nature of solid waste associated with construction and operation of the proposed CHP facility, as well as appropriate plans to deal with waste during both construction and operation, and concluded that the project will result in limited impacts from solid waste (OSU Ex. A at 11, Ex. 1 at 79-82; OSU Br. at 21).

{¶ 84} Staff indicates that solid waste that cannot be recycled or reused would be stored in on-site containers for disposal and that Ohio State would develop procedures to ensure that potentially hazardous wastes are separated from normal waste, including

segregation of storage areas and proper labeling of containers. Staff also notes that all solid waste would be transported by truck off site by licensed contractors in accordance with applicable regulatory requirements and managed in licensed facilities. According to Staff, Ohio State would have a SPCC plan in place for any spill cleanup. Staff finds that Ohio State's solid waste disposal plans comply with the requirements in R.C. Chapter 3734 and the rules adopted under that chapter. (Staff Ex. A at 28; Staff Br. at 11.)

d. Aviation

{¶ 85} Ohio State asserts that no filing with the Federal Aviation Administration (FAA) is required for this project due to its height of 115 feet, while the University has exceeded requirements to provide notice to public- and private-use airports within a five-mile radius of the proposed CHP facility (OSU Ex. A at 7, Ex. 1 at 3, 82, Ex. M; OSU Ex. D at 4; OSU Br. at 21-22).

{¶ 86} Staff reports that the tallest parts of the CHP facility are the HRSG stacks at 115 feet. Staff and the ODOT Office of Aviation consulted to determine potential impacts on local airports and concluded that, because no part of the CHP facility would exceed 199 feet, the project does not meet notification criteria or require a filing with the FAA. Additionally, Staff notes that Ohio State will obtain a temporary construction permit from the FAA to utilize a 170-foot tower crane during the construction of the CHP facility. (Staff Ex. A at 28-29; Staff Br. at 11.)

{¶ 87} Having addressed the issues of air, water, solid waste, and aviation, Staff recommends that the Board find that the CHP facility complies with the requirements specified in R.C. 4906.10(A)(5), provided that any certificate issued by the Board includes the conditions listed in the Staff Report (Staff Ex. A at 29; Staff Br. at 10).

{¶ 88} Consistent with R.C. 4906.10(A)(5), the Board finds that the CHP facility, subject to the conditions set forth in this Opinion, Order, and Certificate, will comply with R.C. Chapters 3704, 3734, and 6111 and all rules and standards adopted under those chapters

and, following consultation with the ODOT Office of Aviation, under R.C. 4561.32 (Staff Ex. A at 25-29; OSU Ex. A at 7-11, Ex. 1 at 48-83, 86-87).

6. PUBLIC INTEREST, CONVENIENCE, AND NECESSITY

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

{¶ 90} Ohio State asserts that the proposed CHP facility will provide significant benefits to the local economy and citizens, in the form of payroll and employment during construction and operation. Ohio State also notes that the CHP facility will affect local commercial and industrial activities via direct and indirect purchases and labor related to construction, operation, and maintenance activities. Further, Ohio State contends that the CHP facility is expected to significantly reduce the University's levelized cost of energy, which will assist in keeping the cost of obtaining an education affordable. (OSU Ex. A at Ex. 1 at 42-43; OSU Ex. D at 7-8; OSU Br. at 22-23.)

{¶ 91} Addressing public safety, Staff states that the proposed CHP facility would be designed in accordance with applicable safety regulations, including Occupational Safety and Health Administration and National Fire Protection Association requirements, as well as industry standards, and that facility personnel would be trained to operate the equipment in a safe and reliable manner. Staff adds that Ohio State has a number of emergency plans and will develop an emergency response program in coordination with local fire, medical, and emergency responders to supplement its existing on-site capabilities. Staff also notes that a complete fire protection and detection system would be provided for the CHP facility. (Staff Ex. A at 30; Staff Br. at 12.)

{¶ 92} With respect to public interaction and participation, Staff states that, on September 26, 2019, Ohio State held a public informational meeting that afforded attendees the opportunity to view project maps, speak with University representatives, and provide feedback. Staff further states that, in addition to maintaining a website about the proposed

CHP facility, Ohio State provided copies of its application to the Franklin County Board of Commissioners, Franklin County Economic Development and Planning Commission, Franklin County Soil and Water Conservation District, Franklin County Engineer, city of Columbus, Clinton Township Board of Trustees, and Columbus Metropolitan Library. Noting that Ohio State intends to notify affected property owners and tenants at least seven days prior to the start of construction, Staff recommends that the University provide similar notice at least seven days prior to the commencement of operation. Staff further recommends that the Board find that the proposed CHP facility would serve the public interest, convenience, and necessity, provided that any certificate issued by the Board for the facility includes the conditions specified in the Staff Report. (Staff Ex. A at 30-31; Staff Br. at 12.)

{¶ 93} As recommended by Staff, the Board finds that the CHP facility will serve the public interest, convenience, and necessity, as required under R.C. 4906.10(A)(6) (Staff Ex. A at 30-31; OSU Ex. A at Ex. 1 at 44-45, 84-86; OSU Ex. D at 12-13).

7. AGRICULTURAL DISTRICTS

{¶ 94} Pursuant to R.C. 4906.10(A)(7), the Board must determine the facility's impact on the agricultural viability of any land in an existing agricultural district established under R.C. Chapter 929 that is located within the project area of the proposed major utility facility.

{¶ 95} Ohio State notes that this statutory criterion is not applicable, as there is no agricultural land within the project site (OSU Ex. A at Ex. 1 at 126; OSU Br. at 23).

{¶ 96} Noting that the area surrounding the location of the proposed CHP facility is highly developed, Staff reports that no agricultural district land was identified within the vicinity, including the laydown area. Staff adds that no agricultural district land would be disturbed in association with the construction of the proposed CHP facility and that no impacts to field operations, irrigation, or field drainage systems associated with agricultural

district land would occur as a result of the construction, operation, or maintenance of the proposed facility. Accordingly, Staff recommends that, because the proposed CHP facility would not impact the viability of agricultural district land, the Board find that the application complies with R.C. 4906.10(A)(7). (Staff Ex. A at 32; Staff Br. at 13.)

{¶ 97} Because there is no agricultural district land within the area of the CHP facility, the Board finds that no agricultural district land would be impacted by the facility. The Board further finds that the requirements of R.C. 4906.10(A)(7) have been met. (Staff Ex. A at 32; OSU Ex. A at 14, Ex. 1 at 126.)

8. WATER CONSERVATION PRACTICE

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

{¶ 99} Ohio State contends that the proposed CHP facility will, by design, incorporate significant water conservation measures, will be included as a component of the University's water conservation goal, and will utilize reclaimed waste streams to the cooling towers to minimize makeup of domestic water from the city of Columbus (OSU Ex. A at Ex. 1 at 76-77, 79, Ex. L; OSU Br. at 23-24).

{¶ 100} Staff reports that, while construction of the proposed CHP facility would not require much water, its operation would require the use of a significant amount of water, approximately 550 gallons per minute on average. According to Staff, the water would be used for process water, fire protection, and sanitary uses and would be obtained through the University's existing domestic water distribution system, which is ultimately supplied from the city of Columbus. Staff reviewed Ohio State's proposed water balance and water consumption analysis for the CHP facility's operation. Staff finds that the proposed CHP facility design incorporates significant water conservation measures, which include maximizing the cycles of concentration to reduce water intake requirements, a cooling tower

drift elimination system, and reclamation of the wastewater streams. Staff notes that the proposed CHP facility would also be incorporated into Ohio State's resource stewardship water conservation goals, which include reducing potable water consumption by five percent per capita every five years and resetting its baseline every five years. As a result of its review, Staff recommends that the Board find that the proposed CHP facility would incorporate maximum feasible water conservation practices and that it, therefore, complies with R.C. 4906.10(A)(8), provided that any certificate issued by the Board for the facility includes the conditions specified in the Staff Report. (Staff Ex. A at 33; Staff Br. at 13.)

{¶ 101} Consistent with Staff's recommendation, the Board finds that the CHP facility incorporates maximum feasible water conservation practices, considering the available technology and the nature and economics of the various alternatives, as required under R.C. 4906.10(A)(8) (Staff Ex. A at 33; OSU Ex. A at Ex. 1 at 78-79).

VI. CONDITIONS

{¶ 102} The Ohio Supreme Court has recognized that the Board is vested with the authority to issue certificates upon such conditions as the Board considers appropriate. As acknowledged by the Court, the construction of power siting projects subject to the Board's authority necessitates a dynamic process that does not end with the issuance of a certificate. The Court concluded that the Board has the authority to allow Staff to monitor compliance with the conditions that the Board has set. *In re Buckeye Wind, LLC*, 131 Ohio St.3d 449, 2012-Ohio-878, 966 N.E.2d 869. Such monitoring includes the convening of preconstruction conferences and the submission of final construction plans by an applicant. Additionally, as with all certificates, the Board emphasizes that, if Staff should discover, through its continued monitoring and review of the progress of the CHP facility, that Ohio State is not complying with any of the conditions adopted below, Staff should bring such concern to the attention of the Board. If Ohio State fails to comply with any of the established conditions, the Board may take appropriate action to ensure compliance, in accordance with R.C. Chapter 4906.

{¶ 103} In the Staff Report, Staff recommended that ten general, ecological, and public service conditions be made part of any certificate issued by the Board for the CHP facility (Staff Ex. A at 35-36). Staff reiterates in its initial and reply briefs that any certificate issued by the Board for the CHP facility should incorporate and require compliance with these conditions. Staff notes that Ohio State objects to one of the proposed conditions, Condition 7, which would require the University to submit to Staff a quarterly complaint summary report during each year of the construction and operation of the facility. Although Ohio State seeks to modify Condition 7, Staff believes that the condition, which has been recommended by Staff in recent electric generation cases, is reasonable, as it ensures that any concerns of those who may be affected by the operation of the facility are appropriately and adequately addressed. (Staff Ex. G at 2; Staff Br. at 13-15; Staff Reply Br. at 6.)

{¶ 104} Ohio State notes that it 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. With respect to the portion of Condition 7 that would require complaint reporting indefinitely, Ohio State asserts that it is not aware of any rule that requires Ohio generation facilities to report every complaint that they receive to the Board. Ohio State also claims that it is unaware of any precedent supporting this requirement for new generation facilities, as Staff contends. Ohio State adds that there is no factual basis for the requirement, as there are no neighboring property owners that would be impacted by the CHP facility. Finally, proposing specific language for a revised condition, Ohio State requests that its reporting obligation extend only to neighboring property owners or residents and not to any complainant such as Sierra Club. (OSU Ex. D at 14-15; OSU Br. at 24-25.)

{¶ 105} Upon review of the testimony and briefs, the Board finds that Condition 7 should be adopted, with modifications. As Staff witness Butler testified, the complaint reports required by this condition provide useful information that enables Staff to monitor the responsiveness and effectiveness of an applicant's complaint resolution process. With respect to the CHP facility, Mr. Butler explained that the condition is intended to ensure that

Staff has access to complaints from members of the University community and their campus neighbors, which Staff believes is particularly important in light of the concerns that have been expressed by students and others impacted by the project. (Staff Ex. G at 2.) Further, Mr. Butler noted that this condition has become standard in recent cases involving proposed electric generation facilities. *In re Hardin Solar Energy LLC*, Case No. 17-773-EL-BGN, Opinion, Order, and Certificate (Feb. 15, 2018) at ¶ 69; *In re Vinton Solar Energy LLC*, Case No. 17-774-EL-BGN, Opinion, Order, and Certificate (Sept. 20, 2018) at ¶ 91; *In re Hillcrest Solar I, LLC*, Case No. 17-1152-EL-BGN, Opinion, Order, and Certificate (Feb. 15, 2018) at ¶ 67; *In re Harrison Power, LLC*, Case No. 17-1189-EL-BGN, Opinion, Order, and Certificate (June 21, 2018) at ¶ 112; *In re Paulding Wind Farm IV LLC*, Case No. 18-91-EL-BGN, Opinion, Order, and Certificate (Feb. 21, 2019) at ¶ 146; *In re Willowbrook Solar I, LLC*, Case No. 18-1024-EL-BGN, Opinion, Order, and Certificate (Apr. 4, 2019) at ¶ 61; *In re Hecate Energy Highland LLC*, Case No. 18-1334-EL-BGN, Opinion, Order, and Certificate (May 16, 2019) at ¶ 59; *In re Hardin Solar Energy II, LLC*, Case No. 18-1360-EL-BGN, Opinion, Order, and Certificate (May 16, 2019) at ¶ 61; *In re Nestlewood Solar I LLC*, Case No. 18-1546-EL-BGN, Opinion, Order, and Certificate (Apr. 16, 2020) at ¶ 72.

{¶ 106} We agree with Staff's position that a similar condition should be imposed here. In the recent cases cited by Staff, the applicants agreed, pursuant to stipulations with Staff, to provide complaint summary reports over various periods of time past the completion of construction (first year of operation, first five years of operation, or indefinitely). In this case, the Board finds that Ohio State's quarterly reporting obligation under Condition 7 should be in effect during construction and for the first five years of the CHP facility's operation, as reflected in the modified condition below. We find that, for this type of generating facility, five years is a reasonable duration that will enable Staff to ensure that Ohio State has implemented a responsive and effective complaint resolution process. The Board declines to narrow the scope of Ohio State's reporting obligation to complaints received from neighboring property owners. We find that Ohio State's proposed limitation would unnecessarily restrict Staff's ability to monitor the University's complaint resolution

process and could be construed to preclude all complaints, given that the University controls all of the land and structures surrounding the CHP facility.

{¶ 107} Consistent with the above findings, the Board finds that Ohio State's certificate for the construction, operation, and maintenance of the CHP facility shall be subject to the following ten conditions. As Ohio State satisfies the conditions specified below, the University shall timely file, in this proceeding, documentation sufficient to demonstrate such compliance.

- (1) Ohio State shall comply with the applicable requirements established by Ohio Adm.Code Chapter 4906-1, et seq., and shall install the facility, utilize equipment and construction practices, and implement mitigation measures as described in the application and as modified and/or clarified in supplemental filings, replies to data requests, and recommendations in the Staff Report (Staff Ex. A at 35).
- (2) Ohio State shall docket a detailed construction project schedule within seven days of the date of journalization of the certificate (Staff Ex. A at 35).
- (3) The certificate authority provided in this case shall not exempt the facility from any other applicable and lawful local, state, or federal rules or regulations nor be used to affect the exercise of discretion of any other local, state, or federal permitting or licensing authority with regard to areas subject to their supervision or control (Staff Ex. A at 35).
- (4) Prior to the commencement of construction activities in areas that require permits or authorizations by federal or state laws and regulations, Ohio State shall obtain and comply with such permits or authorizations. Ohio State shall provide copies of permits and authorizations, including all supporting documentation, to Staff within

seven days of issuance or receipt by the University. Ohio State shall provide a schedule of construction activities and acquisition of corresponding permits for each activity at the preconstruction conference. (Staff Ex. A at 35.)

- (5) Ohio State shall coordinate with local building code enforcement officials with regard to the construction of any new structures, or modification of any existing structures, not directly related to the operation of the generation facility (Staff Ex. A at 35).
- (6) At least 30 days prior to the preconstruction conference, Ohio State shall submit to Staff, for review and acceptance, one set of detailed engineering drawings of the final project design and mapping in the form of PDF, which the University shall also file on the docket of this case, and geographically referenced data (such as shapefiles or KMZ files) based on final engineering drawings to confirm that the final design is in conformance with the certificate. Mapping shall include the limits of disturbance, permanent and temporary infrastructure locations, and areas of vegetation removal and vegetative restoration, as applicable, and specifically denote any adjustments made from the siting detailed in the application. All final geotechnical study results shall be included in this submission. (Staff Ex. A at 35-36.)
- (7) During the construction and first five years of operation of the facility, Ohio State 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 through Ohio State'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. (Staff Ex. A at 36; Staff Ex. G at 2.)

- (8) Ohio State shall adhere to seasonal cutting dates of October 1 through March 31 for removal of any trees greater than or equal to three inches in diameter, unless coordination efforts with the Ohio Department of Natural Resources and the U.S. Fish and Wildlife Service allow a different course of action (Staff Ex. A at 36).
- (9) Ohio State shall submit to Staff the final traffic plan that provides details of coordination with the pertinent government authorities, prior to the preconstruction conference, for Staff's review and confirmation that it complies with the requirements of the certificate. Ohio State shall also file a copy of the final traffic plan on the docket of this case. (Staff Ex. A at 36.)
- (10) Ohio State shall not have a physical or electrical interconnection with the Transmission System pursuant to the PJM Open Access Transmission Tariff (OATT) Part IV or OATT Part VI (Staff Ex. A at 36).

VII. CONCLUSION

{¶ 108} Based on the record in this proceeding, the Board concludes that all of the elements established in accordance with R.C. Chapter 4906 are satisfied for the construction, operation, and maintenance of the CHP facility, as described in Ohio State's application, as amended and supplemented, subject to the conditions set forth in this Opinion, Order, and Certificate. Accordingly, based upon all of the above, the Board hereby issues a certificate to Ohio State in accordance with R.C. Chapter 4906.

VIII. FINDINGS OF FACT AND CONCLUSIONS OF LAW

{¶ 109} Ohio State is a person under R.C. 4906.01(A).

{¶ 110} The proposed CHP facility is a major utility facility as that term is defined in R.C. 4906.01(B).

{¶ 111} On September 4, 2019, Ohio State filed its confirmation of notification to property owners and affected tenants of the date of a public informational meeting regarding the CHP facility.

{¶ 112} On September 11, 2019, Ohio State filed a preapplication notification letter informing the Board of the public informational meeting for its proposed CHP facility.

{¶ 113} On September 20, 2019, Ohio State filed proof of its publication of the notice regarding the public informational meeting in accordance with Ohio Adm.Code 4906-3-03.

{¶ 114} Ohio State held the public informational meeting regarding the CHP facility on September 26, 2019.

{¶ 115} On November 6, 2019, Ohio State filed its application for a certificate of environmental compatibility and public need to construct the CHP facility.

{¶ 116} On November 27, 2019, Ohio State supplemented its application for a certificate of environmental compatibility and public need.

{¶ 117} By letter dated January 6, 2020, the Board notified Ohio State that its application had been found to be sufficiently complete pursuant to Ohio Adm.Code Chapter 4906-1, et seq.

{¶ 118} On January 23, 2020, Ohio State filed correspondence indicating that it had submitted the application fee to the Board pursuant to Ohio Adm.Code 4906-3-07(A). On that same date, Ohio State filed its proof of compliance with the requirements for service of its accepted and complete application, consistent with Ohio Adm.Code 4906-3-07(A).

{¶ 119} On January 29, 2020, the ALJ issued an Entry establishing the effective date of the application as January 29, 2020, and adopting a procedural schedule for this case, including dates for a local public hearing and adjudicatory hearing.

{¶ 120} On February 18, 2020, Ohio State filed proof of service of notice regarding the date, time, and location of the public hearing and adjudicatory hearing, including notice to affected property owners and elected officials.

{¶ 121} By Entry dated March 12, 2020, the procedural schedule was suspended, in light of the guidance issued by the Executive Order and the Department of Health. Ohio State filed proof of publication of notice of the suspension on March 25, 2020.

{¶ 122} A prehearing conference occurred by telephone on May 12, 2020.

{¶ 123} By Entry dated May 22, 2020, the procedural schedule was reinstated, including dates for public and adjudicatory hearings. In the Entry, Ohio State was also directed to issue public notice of the hearings.

{¶ 124} On June 8, 2020, Ohio State filed proof of service of notice regarding the date, time, and location of the public hearing and adjudicatory hearing, including notice to affected property owners and elected officials.

{¶ 125} The Staff Report of Investigation was filed on June 15, 2020.

{¶ 126} By Entry dated June 23, 2020, Sierra Club was granted intervention in this case.

{¶ 127} A second prehearing conference and technology test session were held through Webex on June 26, 2020.

{¶ 128} A public hearing was held through Webex on June 30, 2020.

{¶ 129} Ohio State filed its direct testimony on July 6, 2020. Staff and intervenor testimony was filed on July 9, 2020.

{¶ 130} The adjudicatory hearing commenced on July 14, 2020, and concluded on July 15, 2020, through Webex.

{¶ 131} A second public hearing was held through Webex on August 4, 2020.

{¶ 132} Initial and reply briefs were filed by Ohio State, Staff, and Sierra Club on August 7, 2020, and August 19, 2020, respectively.

{¶ 133} Adequate data on the proposed CHP facility has been provided to make the applicable determinations required by R.C. 4906.10(A). The record evidence in this matter provides sufficient factual data to enable the Board to make an informed decision.

{¶ 134} The record establishes that the CHP facility is not an electric transmission line or gas pipeline and that R.C. 4906.10(A)(1) is, therefore, inapplicable.

{¶ 135} The record establishes the nature of the probable environmental impact from construction, operation, and maintenance of the CHP facility, consistent with R.C. 4906.10(A)(2).

{¶ 136} The record establishes that the CHP facility, subject to the conditions set forth in this Opinion, Order, and Certificate, represents the minimum adverse environmental impact, considering the available technology and nature and economics of the various alternatives, and other pertinent considerations, consistent with R.C. 4906.10(A)(3).

{¶ 137} The record establishes that the CHP facility complies with R.C. 4906.10(A)(4), to the extent that it applies to the project.

{¶ 138} Consistent with R.C. 4906.10(A)(5), the record establishes that the CHP facility, subject to the conditions set forth in this Opinion, Order, and Certificate, will comply with R.C. Chapters 3704, 3734, and 6111 and all rules and standards thereunder and, following consultation with the ODOT Office of Aviation, under R.C. 4561.32.

{¶ 139} The record establishes that the CHP facility, subject to the conditions set forth in this Opinion, Order, and Certificate, will serve the public interest, convenience, and necessity, consistent with R.C. 4906.10(A)(6).

{¶ 140} The record establishes that the CHP facility will not be located on or near any agricultural land or agricultural district parcels and the Board has, therefore, determined the facility's impact on the agricultural viability of any land in an existing agricultural district, in accordance with R.C. 4906.10(A)(7).

{¶ 141} The record establishes that the CHP facility incorporates maximum feasible water conservation practices, considering the available technology and the nature and economics of the various alternatives, in accordance with R.C. 4906.10(A)(8).

{¶ 142} The evidence supports a finding that all of the criteria in R.C. 4906.10(A) are satisfied for the construction, operation, and maintenance of the CHP facility as proposed by Ohio State, subject to the conditions set forth in this Opinion, Order, and Certificate.

{¶ 143} Based on the record, the Board should issue a certificate of environmental compatibility and public need, pursuant to R.C. Chapter 4906, for the construction, operation, and maintenance of the CHP facility, subject to the conditions set forth in this Opinion, Order, and Certificate.

IX. ORDER

{¶ 144} It is, therefore,

{¶ 145} ORDERED, That a certificate be issued to Ohio State for the construction, operation, and maintenance of the CHP facility, subject to the conditions set forth in this Opinion, Order, and Certificate. It is, further,

{¶ 146} ORDERED, That Sierra Club's motion to strike be denied and that its motion for leave to file a surreply be granted, in part, and denied, in part. It is, further,

{¶ 147} ORDERED, That a copy of this Opinion, Order, and Certificate be served upon all parties and interested persons of record

BOARD MEMBERS:

Approving:

Sam Randazzo, Chairman
Public Utilities Commission of Ohio

Rachel Johanson, Designee for Lydia Mihalik, Director
Ohio Development Services Agency

Mary Mertz, Director
Ohio Department of Natural Resources

W. Gene Phillips, Designee for Lance Himes, Interim Director
Ohio Department of Health

Drew Bergman, Designee for Laurie Stevenson, Director
Ohio Environmental Protection Agency

Sarah Huffman, Designee for Dorothy Pelanda, Director
Ohio Department of Agriculture

Greg Murphy, Public Member

SJP/kck

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 TO
CONSTRUCT A COMBINED HEAT AND
POWER FACILITY IN FRANKLIN COUNTY,
OHIO.

CASE NO. 19-1641-EL-BGN

CONCURRING OPINION OF CHAIRMAN SAM RANDAZZO

Entered in the Journal on September 17, 2020

I write separately to commend The Ohio State University (OSU) for advancing the project certificated in the foregoing order.

In these times, almost any proceeding involving a proposed generation facility using natural gas to produce electricity and other forms of energy is likely to inspire passionate opposition even if, as is the case here, the proposal will allow for credible and significant emissions reductions and put waste heat (a renewable resource in Ohio) to useful work.

But passionately held views of one or more opponents of a project do not necessarily mean that the positions held by the developer are not reasonable, are without merit or incapable of being sustained by the Board. And, as importantly, passionately advanced opposition does not license the use of our evidentiary proceedings to fish for things that might appear to make the passion logical, rational or, when accompanied by credible evidence, compelling.

OSU plans to invest substantial dollars to construct and operate a combined heat and power (CHP) facility to meet a significant portion of the main campus's thermal and electricity needs. As a matter of law, the CHP facility falls within Ohio's definition of an Advanced Energy Resource¹ and, accordingly, the CHP project is an Advanced Energy Project.² The CHP facility will be behind OSU's purchased electricity meter, will (as already

¹ R.C. 4928.01(A)(34).

² R.C. 4928.01(A)(25).

stated) put waste heat to work, produce electricity, produce steam and hot water to meet the needs of various campus buildings and position OSU to reduce the use of and potentially retire a portion or all of OSU's existing natural gas fired boilers.

The passionately advanced views of the opponents of the proposed CHP facility clash with Ohio's placement of behind the meter or distributed CHP facilities with waste heat recovery systems on Ohio's preferred resources eligibility list.³ Yet, the opponents here made repeated efforts to demean CHP technology, would have the Board overlook the potential efficiency gains and emissions reductions and diminish the quantity and quality of the evaluation homework that was completed by OSU prior to bringing this proposal to the Board for certification.

I commend OSU for sticking with its CHP proposal and bringing it to the Board for the Board's consideration. In today's environment, lesser institutions might have been bullied off course by the passionate advocacy from stakeholders attached unyieldingly to their beliefs.

This CHP project is good for OSU, it is good for the environment and the issuance of a certificate to construct and operate the proposed facility is the right thing to do based on the law as applied to the facts in this case.

THE OHIO POWER SITING BOARD

/s/Sam Randazzo

By: Sam Randazzo
Chairman

³ See R.C. 4928.02(K) and R.C. 4928.01(A)(37)(a)(xi).

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

9/17/2020 3:42:07 PM

in

Case No(s). 19-1641-EL-BGN

Summary: Opinion & Order issuing a certificate to Ohio State subject to conditions herein and denying the motion to strike. Attached: Concurring opinion of Sam Randazzo electronically filed by Ms. Mary E Fischer on behalf of Ohio Power Siting Board