

**BEFORE  
THE OHIO POWER SITING BOARD**

In the Matter of the Application of )  
**REPUBLIC WIND, LLC** for a Certificate of )  
Environmental Compatibility and Public Need ) Case No. 17-2295-EL-BGN  
for a Wind-Powered Electric Generating )  
Facility in Republic and Sandusky Counties, )  
Ohio. )

**DIRECT TESTIMONY OF**

**Shawn McGee, PE  
TRC**

**on the behalf of**

**Republic Wind, LLC**

**October 21, 2019**

**Q-1. Please state your name, current title, and business address.**

**A-1.** My name is Shawn McGee. I am the Office Practice Leader of Geotechnical Engineering & Inspection Services at TRC, located at 1382 West Ninth Street, Suite 400, Cleveland, Ohio 44113.

**Q-2. What is your educational background?**

**A-2.** I have received both my Bachelor (1998) and Master (2001) of Science degrees in Civil Engineering from The University of Toledo, Ohio, and I am a registered Professional Engineer in the states of Ohio, Pennsylvania, and West Virginia. I have multiple publications, have lectured at universities and conferences and have worked to develop and/or update environmental regulations and policies.

**Q-3. What is your professional background?**

**A-3.** I have over nineteen years of experience in geotechnical engineering and construction inspection and materials testing. I worked at Hull & Associates, Inc. from February 2000 to March 2019 as a Senior Project Manager and the Geotechnical Engineering Practice Leader. Since March 2019, I have been a Senior Project Manager and Office Practice Leader for Geotechnical Engineering and Inspection Services for TRC. I have performed numerous geotechnical subsurface explorations and forensic investigations across the Midwest and performed a diverse variety of analyses related to foundation and retaining wall design, slope stability analyses and landslide mitigation designs. My experience has focused on a wide range of projects including dams and levees, wind turbines, solar arrays, sediment and dredged material management, infrastructure, roadways and bridges, stream restoration and stabilization, coastal revetment, brownfield redevelopment, beneficial use and materials recycling, commercial and residential structures, Oil & Gas well pads and midstream pipelines and facilities, and waste disposal facilities. These projects have been conducted for public and private clients in the retail, office, commercial, mixed-use, transportation, energy, and industrial markets.

**Q-4. What are your current job duties?**

**A-4.** As Office Practice Leader of Geotechnical Engineering & Inspection at TRC, I am responsible for managing multidisciplinary project teams and leading geotechnical related activities on relatively large complex projects and numerous smaller and diverse projects requiring independent study and responsible judgment. I apply knowledge of professional principles and practices in broad areas of assignments and related fields, and am responsible for interpreting, organizing, and coordinating all phases of projects and upholding company standards in all areas of practice. I also develop strategy, scope of work, and budgets for projects and manage project schedules and budgets and maintain overall project quality consistent with company and professional standards.

**Q-5. On whose behalf are you offering testimony?**

**A-5.** I am testifying on behalf of the Applicant in the case, Republic Wind, LLC (“Applicant” or “Republic Wind”).

**Q-6. Please describe the history of your involvement with the Republic Wind project.**

**A-6.** In approximately 2016 (during my employment with Hull & Associates, Inc.), I began work as the senior geotechnical engineer supporting the project team to perform a groundwater hydrogeological and geotechnical desktop review and, in follow up to such review, assist in drafting and peer reviewing a Groundwater Hydrogeological and Geotechnical Desktop Document Review Summary Report (final version dated December 10, 2018) for the proposed Republic Wind project located in Seneca and Sandusky Counties (the “Project”).

**Q-7. What is the purpose of your testimony?**

**A-7.** The purpose of my testimony is to describe the information presented in the Groundwater, Hydrogeological, and Geotechnical Report (“Report”), which is Exhibit F to the Application for Certificate of Environmental Compatibility and Public Need (“Application”). I am prepared to testify generally regarding groundwater, hydrogeological, and geotechnical conditions as they may pertain to the Project.

**Q-8. Please discuss the Board's rules that address an analysis of the groundwater, hydrogeological, and geotechnical features of the project area.**

**A-8.** Pursuant to O.A.C. 4906-04-08, the applicant must submit the following information:

- An evaluation of the impact to public and private water supplies due to construction and operation of the proposed facility.
- An evaluation of the impact to public and private water supplies due to pollution control equipment failures.
- Existing maps of aquifers, water wells, and drinking water source protection areas that may be directly affected by the proposed facility.
- How construction and operation of the facility will comply with any drinking water source protection plans near the project area.
- An analysis of the prospects of floods for the area, including the probability of occurrences and likely consequences of various flood stages, and describe plans to mitigate any likely adverse consequences.
- A description of the suitability of the site geology and plans to remedy any inadequacies.
- A description of the suitability of soil for grading, compaction, and drainage, and plans to remedy any inadequacies and restore the soils during post-construction reclamation.
- A description of plans for the test borings, including closure plans for such borings. Plans for the test borings shall contain a timeline for providing the test boring logs and the following information to the Board: (i) subsurface soil properties; (ii) static water level; (iii) rock quality description; (iv) percent recovery; and (v) depth and description of bedrock contact.

The Report addresses each of these requirements set forth within the Board's rules.

**Q-9. What work have you performed?**

**A-9.** I assisted in the desktop document review that informed the drafting of the Report. I also coordinated field reconnaissance that was completed by project team members on May 16, 2016 and March 13, 2017 at representative points within the Project Boundary (as used and defined in the Report) to observe geotechnical-related conditions including topography, surface geologic features, and surface water conditions. This information

1 was then reviewed to develop a generalized understanding of the suitability of conditions  
2 for the proposed construction within the Project Area (as used and defined in the Report).

3 **Q-10. What was your role in the preparation of the Report?**

4 **A-10.** My role was to provide senior-level management of the studies including planning,  
5 scheduling, organization, and management of the field and desktop reviews, to perform  
6 senior-level review and quality assurance on the study products (e.g., reports, figures,  
7 tables, and written analysis), and to provide communications with the Applicant  
8 regarding the studies' progress, results and project implications.

9 **Q-11. Please generally summarize the findings of the Report.**

10 **A-11.** Based on the information reviewed and the field reconnaissance conducted, the Report  
11 concludes that it does not appear that the local geology and/or hydrogeology will be  
12 prohibitive regarding construction of the proposed wind turbines, access roads, and/or  
13 substations. Similarly, the Report concludes that it does not appear that the construction  
14 of the proposed wind turbines will have a significant impact on the local geology and/or  
15 hydrogeology of the Project Boundary. Additionally, the Report concludes that  
16 construction of the wind turbines or other project components is not anticipated to result  
17 in any significant negative impact to property owners' wells.

18 **Q-12. Please explain what, if any, additional testing needs to be performed prior to**  
19 **construction.**

20 **A-12.** The primary geotechnical issue that should be considered during construction is variable  
21 subsurface conditions (i.e., depth to bedrock and karst) and poor drainage of the surface  
22 soils within the Project Boundary. Adequate surface water drainage should be  
23 established at each Project Area access road and substation location to minimize any  
24 increase in the moisture content of the subgrade material. Surface water drainage can be  
25 managed by implementing techniques such as surface water swales, drainage berms, etc.

26 Site-specific geotechnical information should be obtained prior to design of each of the  
27 turbine foundations, and prior to preparation of construction specifications and design  
28 plans. This may require, but not be limited to, completion of geotechnical explorations,  
29 laboratory testing, and geophysical surveys to further evaluate the subsurface conditions

1 at each Facility (as used and defined in the Report). Foundation system design for each  
2 turbine location should consider the findings and recommendations of these  
3 investigations.

4 **Q-13. Do the OPSB rules require that a final geotechnical report be prepared before**  
5 **construction begins?**

6 **A-13.** Yes. O.A.C. 4906-4-09(A)(2)(b)(i) requires that the applicant submit a fully detailed  
7 geotechnical exploration and evaluation sixty days before the preconstruction  
8 conference. This final report will address whether proposed turbine locations are located  
9 above karst formations and whether potential mitigation measures are recommended.

10 **Q-14. Have you reviewed the July 25, 2019 Staff Report of Investigation issued in this**  
11 **proceeding?**

12 **A-14.** Yes.

13 **Q-15. Do you have any comments in response to the Staff Report of Investigation?**

14 **A-15.** Yes. In Section III of the July 25, 2019 Staff Report of Investigation, Considerations and  
15 Recommended Findings, the Staff discusses the nature of probable environmental impact  
16 of the proposed facility, and specifically addresses geology considerations at page 26.  
17 Within this discussion, the Staff notes as follows: “The Applicant has noted that 27 of  
18 the proposed 64 wind turbines are situated in areas exhibiting karst features. Where the  
19 Applicant conducts future geotechnical studies that identify Karst features, those areas  
20 would be avoided for siting wind turbines.”

21 It is important to clarify that if future geotechnical studies identify that proposed turbine  
22 locations are located above karst formations, implementation of mitigation measures  
23 (such as grouting) is likely to be the recommended course of action. Complete avoidance  
24 of these areas may not be necessary or the recommended course of action.

25 **Q-16. As they pertain to your Report, do you have any reason to believe that the Applicant**  
26 **cannot implement any of the conditions as recommended by Staff?**

27 **A-16.** No.

1    **Q-17. Does this conclude your testimony?**

2            Yes, it does, except that I reserve the right to update this testimony to respond to any  
3            further testimony in this case.

## **CERTIFICATE OF SERVICE**

I hereby certify that the foregoing Testimony was served upon the following parties of record via regular or electronic mail this 21<sup>st</sup> day of October, 2019.



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Devin D. Parram

cendsley@ofbf.org

lcurtis@ofbf.org

amilam@ofbf.org

jclark@senecapros.org

jvankley@vankleywalker.com

cwalker@vankleywalker.com

mulligan\_mark@co.sandusky.oh.us

mleppla@theoec.org

tdougherty@theoec.org

ctavenor@theoec.org

jodi.bair@ohioattorneygeneral.gov



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Summary: Testimony of MsGee on behalf of Republic Wind, LLC electronically filed by Teresa OrahooD on behalf of Devin D. Parram