

8-21-19 - Canisteo Wind LLC - 16-F-0205

NEW YORK STATE

BOARD ON ELECTRIC GENERATION SITING AND THE ENVIRONMENT

16-F-0205 - APPLICATION OF CANISTEO WIND LLC FOR A
CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC
NEED PURSUANT TO ARTICLE 10 FOR A CONSTRUCTION OF A
WIND PROJECT LOCATED IN STEUBEN COUNTY.

A.L.J. MAUREEN LEARY, DPS

A.L.J. RICHARD SHERMAN, DEC

1 8-21-19 - Canisteo Wind LLC - 16-F-020

2

3 The attached affidavits were provided on

4 8-26-2019 and are affirming pre-filed testimony and

5 the attached pre-filedtestimony submitted is entered

6 into the record asthough given orally.

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NEW YORK STATE
PUBLIC SERVICE COMMISSION

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 for Construction of a Wind Energy Project in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ONONDAGA)

Benjamin R. Brazell, being duly sworn, deposes and says:

1. I am employed as Director of Environmental Services by Environmental Design & Research Landscape, Architecture, Engineering & Environmental Services D.P.C., 217 Montgomery Street, Suite 1000, Syracuse, New York 13202-1942 (EDR), and I am appearing as a witness in this proceeding on behalf of Canisteo Wind Energy LLC.

2. I previously prepared, or supervised the preparation of, written testimony labeled Pre-Filed Testimony and Exhibit 22 sections b, i, j, k, l, m, and n; Appendix 22j Wetland Delineation Report; Appendix 22m Wetland Impact Drawings; and Appendix 24b Shadow Flicker Report, and Rebuttal Testimony co-authored with Jacob Runner (EDR), which were filed under this case number with the Secretary of the Public Service Commission on November 2, 2018.

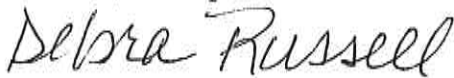
3. Upon review of my previously filed Pre-Filed Testimony, Rebuttal Testimony and exhibits, no further corrections to either are necessary.

4. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written Pre-Filed Testimony and Rebuttal Testimony are the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.


Benjamin R. Brazell

Sworn to before me this 26th day of August, 2019.

Notary information
signature/stamp



DEBRA RUSSELL
Notary Public, State of New York
No. 01RU6061488
Qualified in Madison County
Commission Expires July 16, 2023

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

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In the Matter of	:	
	:	
CANISTEO WIND ENERGY LLC	:	Case 16-F-0205
	:	
Application of Canisteo Wind Energy LLC for a	:	
Certificate of Environmental Compatibility and Public	:	
Need Pursuant to Article 10 for Construction of a Wind	:	
Energy Project in Steuben County.	:	
	:	
-----	X	

- 1 **Q. Please state your name, employer, and business address.**
- 2 **A.** Benjamin R. Brazell, Environmental Design & Research Landscape,
- 3 Architecture, Engineering & Environmental Services D.P.C. (EDR), 217
- 4 Montgomery Street, Suite 1000, Syracuse, New York 13202-1942.
- 5 **Q. For what parts of the application are you responsible?**
- 6 **A.** Exhibit 22 sections b, I, j, k, l, m, and n; Appendix 22j Wetland
- 7 Delineation Report; Appendix 22m Wetland Impact Drawings; and
- 8 Appendix 24b Shadow Flicker Report.
- 9 **Q. Please explain your educational and professional background.**
- 10 **A.** A copy of my curriculum vitae is attached.



Benjamin R. Brazell, Principal Director of Environmental Services



Ben is an environmental impact assessment and regulatory specialist with more than 15 years of professional experience. Ben has been directly involved in the environmental review and permitting of over 20 commercial wind power projects, including a variety of resource analyses such as wetland delineations, ecological surveys, environmental impact analysis, state and federal wetland permitting, New York State Environmental Quality Review Act (SEQRA) compliance, and siting board compliance. Ben's specialized expertise includes environmental impact analysis, SEQRA, Article VII and Article 10 of the NYS Public Service Law, and Ohio Power Siting Board (OPSB) compliance, state and federal wetland permitting, stream and wetland mitigation design and monitoring. He has specialized training and expertise in stream restoration and mitigation, wetland delineations, ecological surveys, shadow flicker analysis, and visual impact assessment.

As a Director of Environmental Services with EDR, Ben's responsibilities include conducting and managing environmental monitoring compliance; conducting and managing/coordinating report writing: preparing various environmental review and permitting documents, including Environmental Impact Statements; State Siting Board/Public Service Commission Applications; Biological Evaluations; wetland delineation reports, ecological survey reports, wetland monitoring reports; conducting wetland delineations, including boundary flagging, global positioning system (GPS) data entry, and wetland data collection.

education

North Carolina State University, Raleigh, NC, *Bachelor of Science*, 2001.

professional affiliations

Member, New York State Wetlands Forum

Member, Alliance for Clean Energy New York

Member, American Wind Energy Association

Member, American Wind Energy Association Siting & Environmental Compliance Committee

employment history

Principal, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C., Syracuse, NY, 2011 - Present.

Associate, EDR Environmental Services, LLC, Syracuse, NY, 2010 - Present.

Division Manager, EDR Environmental Services, LLC, Syracuse, NY, 2009 - Present.

Project Manager, Environmental Design & Research, Syracuse, NY, 2004 - 2008.

Project Scientist, EcoScience Corporation, Raleigh, NC, 2001 - 2003.

Dendrology Tutor, North Carolina State University, 2001.

project experience

Cassadaga Wind Project – Managing EDR's responsibilities associated with this 126 MW project located in the Towns of Cherry Creek, Charlotte, Arkwright, and Stockton, Chautauqua County, New York. This project is being reviewed under Article 10 of the Public Service Law and is the first Article 10 Application submitted in the State of New York. To date, EDR has prepared the Public Involvement Program Plan, the Preliminary Scoping Statement, Stipulations, the Article 10 Application and associated supplements, rebuttal testimony, and assisted with the preparation of briefs and reply briefs.

Jericho Rise Wind Farm – Serving as EDR's Principal-in-Charge for the SEQRA review for this 37-turbine, 78 MW project, located in the Towns of Belmont and Chateaugay, Franklin County, New York. EDR prepared a Supplemental EIS, a Final EIS, and multiple support studies including a Visual Impact Assessment, Shadow Flicker Analysis, Cultural Resources Reports (Archaeology and Historic Resources), a Wetland Delineation Report, and a Rare Plant Survey. EDR is also responsible for obtaining wetland/stream permits from the U.S. Army Corps of Engineers and the NYS Department of Environmental Conservation.



Benjamin R. Brazell, Principal Director of Environmental Services

Arkwright Summit Wind Farm – Serving as EDR's Principal-in-Charge for the SEQRA review for this 36-turbine, 78 MW project, located in the Town of Arkwright, Chautauqua County, New York. EDR prepared a Supplemental EIS, a Final EIS, and multiple support studies including a Visual Impact Assessment and Shadow Flicker Analysis. EDR is also responsible for obtaining wetland/stream permits from the U.S. Army Corps of Engineers and the NYS Department of Environmental Conservation.

Scioto Ridge Wind Farm – Managed the preparation of a Certificate Application submitted to the Ohio Power Siting Board for this 176-turbine, 300 MW project located in Hardin and Logan Counties, Ohio. EDR's responsibilities included attending work sessions with OPSB staff, directing other subconsultants, coordinating internal staff resources, and assuring a complete application was prepared/submitted in accordance with the Ohio Administrative Code. Also managed the preparation of a separate Certificate Application for the associated 4.8-mile 345 kilovolt transmission line, which was submitted subsequent to the wind farm application and also accepted as complete following its first submittal.

Copenhagen Wind Project – Directing EDR's responsibilities as a third-party consultant to the USFWS. As a result of potential impacts to federally-listed species, the developer is applying for an Incidental Take Permit. EDR is responsible for preparing all NEPA documentation associated with this action.

Crown City Wind Energy Project – Directed EDR's SEQRA review for this 44-turbine, 71 MW project, located in the Towns of Cortlandville, Homer, Solon, and Truxton, Cortland County, New York. EDR prepared a Draft EIS, and throughout this process worked closely with the Lead Agency's consultant. In support of the Draft EIS, EDR also prepared a Visual Impact Assessment, Shadow Flicker Analysis, Addendum Cultural Resources Report, and a Socioeconomic Report.

Buckeye II Wind Power Project – Managed the preparation of a comprehensive Application for a Certificate of Environmental Compatibility and Public Need submitted to the Ohio Power Siting Board for this 56-turbine, 140 MW project located in Champaign County, Ohio. EDR's responsibilities included conducting initial site reconnaissance to define the project layout, attending various work sessions with OPSB review staff, directing other subconsultants, coordinating internal staff resources, and assuring a complete application was prepared/submitted in accordance with the Ohio Administrative Code.

Allegany Wind Power Project – Directed EDR's SEQRA review for this 29-turbine, 72.5 MW project, located in the Town of Allegany, Cattaraugus County, New York. EDR prepared a Draft and a Final EIS, which resulted in successful issuance of SEQRA findings statement and local discretionary approvals in July 2011. Through these efforts, EDR has worked closely with the Lead Agency Special Counsel and consultant throughout the SEQRA review process, coordinated with interested state and federal regulatory agencies, and managed numerous subconsultants. EDR was also responsible for preparation of the SWPPP in accordance with the SPDES General Permit, which was approved by the NYSDEC in September 2011.

Hardscrabble Wind Power Project (Compliance Monitoring) – Initially managed EDR's role as Environmental Monitor for the construction and restoration of this 37-turbine project located in the Towns of Fairfield, Norway, and Little Falls, Herkimer County, New York. In addition to preparing an Environmental Compliance Manual and providing compliance training to the project contractors, EDR's responsibilities included overseeing construction activities, monitoring the environmental, agricultural, and archeological conditions on the construction site, reporting on compliance with environmental permits and conditions (including federal, state, and local permits and approvals), conducting bi-weekly SWPPP inspections in accordance with the SPDES General Permit, and serving as a liaison between agency representatives and the project contractor/developer.

Timber Road II Wind Farm – Managed the preparation of a comprehensive Application for a Certificate of Environmental Compatibility and Public Need submitted to the Ohio Power Siting Board for this 109-turbine, 150 MW project located in Paulding County, Ohio. EDR's responsibilities included attending various work sessions with OPSB review staff, directing other subconsultants, coordinating internal staff resources, and assuring a complete application was prepared/submitted in accordance with the Ohio Administrative Code. Irrespective of the project's aggressive schedule, EDR played a critical role in meeting the permitting deadline.

Timber Road I Wind Farm – Managed the preparation of a comprehensive Application for a Certificate of Environmental Compatibility and Public Need submitted to the Ohio Power Siting Board for this 35-turbine, 49 MW project located in Paulding County, Ohio. EDR's responsibilities included attending various work sessions with OPSB review staff, directing other subconsultants, coordinating internal staff resources, and assuring a complete application was prepared/submitted in accordance with the Ohio Administrative Code (the application was accepted as complete following its first submittal).

Buckeye Wind Power Project – Managed the preparation of the first ever Application for a Certificate of Environmental Compatibility and Public Need submitted to the Ohio Power Siting Board for a wind power project in Ohio. This 70-turbine, approximately 130 MW project is located in Champaign County, Ohio. EDR's experience in the wind industry proved invaluable when working OPSB staff, interpreting the State of Ohio's new wind law, directing the efforts of local consulting firms, and coordinating with the project sponsor and legal counsel. The Application was accepted as complete after the first submission.



Benjamin R. Brazell, Principal Director of Environmental Services

Howard Wind Power Project – Led EDR's SEQRA review for this 25-turbine, 62 MW project, located in the Town of Howard, Steuben County, New York. EDR prepared a Draft and Final EIS, and worked closely with the Lead Agency (SCIDA) Special Counsel and consultant throughout the SEQRA review process. EDR also assisted the Town of Howard (SEQRA Involved Agency) in their issuance of a Findings Statement, and obtained a local Special Use Permit. In addition, EDR obtained NYSDEC authorization under Section 401 of the Clean Water Act, and Corps authorization under Section 404 of the Clean Water Act. This project is currently under construction, and EDR's continued involvement includes obtaining authorization for various project modifications, preparing a Draft and Final EIS for a two-turbine project expansion, which is expected to be approved in August 2011, and assisting the project contractor/developer with regulatory compliance during construction.

Hardscrabble Wind Power Project (Permitting) – Coordinated EDR's SEQRA review for this 37-turbine, 74 MW project, located in the Towns of Fairfield, Norway, and Little Falls, Herkimer County, New York. EDR prepared a Draft, Supplemental, and Final EIS, and worked closely with the Lead Agency's Special Counsel and consultant through the preparation of SEQRA Findings and local Special Use Permits. EDR also obtained regulatory authorization from the Corps of Engineers and NYSDEC, designed the compensatory wetland mitigation area, obtained permit amendments necessitated by construction-driven project changes, and we are currently responsible for monitoring/reporting on the success of the wetland mitigation in accordance with Corp of Engineers/NYSDEC permit conditions. Construction was completed in early 2011, and restoration is anticipated to conclude in the summer/fall of 2011.

WindFarm Prattsburgh - Managed the preparation of a Draft and Final EIS for a 44-turbine, 75 MW project in the Towns of Prattsburgh and Italy, Steuben and Yates Counties, New York. By working closely with the Lead Agency (Steuben County Industrial Development Agency [SCIDA]) and the Lead Agency's Special Counsel and consultant, EDR successfully navigated WindFarm Prattsburgh through the SEQRA review process.

Jordanville Wind Power Project – Managed EDR's preparation of a Draft, Supplemental, and Final EIS for a 67-turbine, 136 MW project in the Towns of Warren and Stark, Herkimer County, New York. In support of this project, EDR prepared the local special use permit applications, which initiated the SEQRA review of the subject action, assisted in Lead Agency determination, and prepared three EIS's to guide the SEQRA review. EDR worked closely with the Lead Agency (Town of Warren) Special Counsel and consultant during the SEQRA review process. Subsequently, EDR prepared a fourth EIS, which addressed the reduced 40-turbine, 80 MW project.

Citizens Airtricity Wind Power Project - Coordinated EDR's SEQRA review for the 40 MW Citizens Airtricity Wind Power Project located in the Towns of Stockbridge, Eaton, Madison, and Augusta, Madison and Oneida Counties, New York. The Town of Stockbridge Planning Board assumed the role of Lead Agency for this project, which became operational in 2007.

Green Power Energy Wind Power Project – Managed the SEQRA review for this 5-turbine (9 MW) project located in Madison County, NY, including the preparation of a Full EAF, presenting the SEQRA document at local town board meetings, and continuous client and agency correspondence and sub-consultant coordination. Conducted on-site ecological surveys and wetland/stream delineations.

Article VII Application – Maple Ridge 230 kV Transmission Line Project – Managed the preparation of Volume II (Plan and Profile Drawings) of the EM&CP document for the 10.3-mile-long 230 kilovolt kV transmission line corridor in Lewis County, New York. Conducted on-site ecological surveys and wetland/stream delineations, worked closely with NYS Public Service Commission staff throughout the project review process, and coordinated the efforts of other consultants.

Maple Ridge Wind Power Project – Assisted in the preparation of various project permits, including state and federal wetland permitting, for the 330-megawatt (MW) Maple Ridge Wind Power Project on the Tug Hill Plateau in Lewis County, New York. Conducted on-site ecological surveys and wetland/stream delineations.

Great Bay Solar, Somerset County, MD – Directed environmental permitting studies in support of Maryland Public Service Commission review for a Certificate of Public Convenience and Necessity (CPCN), including preparation of an Environmental Review Document (ERD), wetland delineations, Visual Assessment, Phase 1 Archaeological Survey, Historic Resources Assessment, rare plant survey, wetland permitting, and local permitting for a proposed 100 MW solar energy project located on 800-acres.

Buckeye Wind Power Project, Champaign County, OH – Managed the preparation of the first ever Application on for a Certificate of Environmental Compatibility and Public Need submitted to the Ohio Power Siting Board for a wind power project in Ohio. This 70-turbine, approximately 130 MW project and EDR's experience in the wind industry proved invaluable when working OPSB staff, interpreting the State of Ohio's new wind law, directing the efforts of local consulting firms, and coordinating with the project sponsor and legal counsel. The Application was accepted as complete after the first submission.



Benjamin R. Brazell, Principal Director of Environmental Services

Critical Issues Analyses – Managed the preparation of numerous confidential analyses for potential wind power project in multiple states, which addressed issues ranging from anticipated public acceptance to jurisdictional reviews and threatened and endangered species concerns.

Onondaga County, Lakeview Amphitheatre Project, Syracuse, NY – Managed preparation of the project's Draft Environmental Impact Statement (DEIS), Final Environmental Impact Statement (FEIS), Findings Statement and worked closely with the project team to assure compliance with the State Environmental Quality Review Act (SEQRA). This effort included preparing an Environmental Assessment Form (EAF), assisting with designating Onondaga County as the SEQRA Lead Agency, issuing a Determination of Significance, and preparing a Draft and Final Scoping Document. In support of the DEIS, conducted multiple resource-specific analyses including visual impact assessment, ecological and cultural resource evaluations, and final document formatting and organization. Responded to over 400 substantive comments in preparation of the FEIS.

SUNY Cortland Student Life Center, City of Cortland, Cortland County, NY – Directed SEQRA review process on behalf of the State University Construction Fund, including preparation of a EAF and DEIS, numerous DEIS support studies (Visual Assessment, Archaeological Sensitivity Assessment, and Historic Resources Impact Assessment), Phase I ESA, and FEIS. Prepared Draft and Final Scoping Document; and coordinated the public hearing on Scoping and the public hearing on the DEIS. Participated in numerous project-specific meetings with local representatives, and on behalf of the State University Construction Fund, and acted as the sole representative during important meetings with local officials and stakeholders.

SUNY University at Buffalo School of Medical and Biological Sciences, City of Buffalo, Erie County, NY – Directed SEQRA review process on behalf of the State University Construction Fund, including preparation of DEIS and support studies (Visual Assessment, Archaeological Sensitivity Assessment, and Historic Resources Impact Assessment), conducted SEQRA public hearing, preparation of FEIS and SEQRA Findings Statement for a proposed 600,000 GSF new medical/educational complex (under construction) sited on the University at Buffalo Downtown Campus.

SUNY University at Albany Emerging Technology and Entrepreneurship Complex (ETEC), Albany, NY – Directed SEQRA review process on behalf of the State University Construction Fund, including preparation of a Scoping Document, Supplement Environmental Impact Statement (SEIS, Phase 1B Archaeological Survey, Visual Assessment, and coordination of traffic study (by sub-consultant) on behalf of the State University Construction Fund (SUCF) for a 12-acre site proposed for new academic building (under construction) sited on the New York State Office of General Services (OGS) Harriman Campus.

SUNY Binghamton University School of Pharmacy, Binghamton, NY – Managed SEQRA process on behalf of the SUCF, including preparation of DEIS and support studies (including, Visual Assessment, Archeological Sensitivity Assessment, and Historic Resources Impact Assessment), conducted SEQRA public hearing, preparation of EAF, FEIS, and SEQRA Findings Statement for a proposed new 110,000 SF science/educational building in the City of Binghamton.

St. Regis Mohawk Reservation Wetland Analysis, St. Regis Mohawk Indian Reservation in Franklin County, NY – Directed EDR's wetland reconnaissance investigation, delineation, and reporting efforts associated with a proposed expansion of the Akwesasne Casino. Digital design files were also provided to EDR in order to make a determination regarding potential impact to identified wetlands.

Murfreesboro Solar Project, Hertford County, NC – Prepared a jurisdictional analysis and permit screening evaluation for this 5 MW solar power project. EDR's responsibilities included review of various resource databases, agency consultation, coordination with a local consulting firm, and preparing written response to specific agency comments.

Snooks Pond Permitting, Town of Manlius, Onondaga County, NY – Managed the complex permitting of a single-family residence, which required discretionary approval from federal, state, and local agencies. EDR obtained Corps of Engineers authorization under Section 404 of the Clean Water Act, NYSDEC authorization under the Freshwater Wetlands Act (Article 24 of the Environmental Conservation Law), the Protection of Waters Program (Article 15 of the Environmental Conservation Law), and Section 401 of the Clean Water Act, and Town of Manlius Planning Board authorization under the local Grading and Excavation provisions.

Athens Generating Project Wetland Monitoring, Green County, NY – Directed field surveys/collected data and prepared monitoring reports, which detailed the success of project-specific wetland mitigation sites in accordance with federally issued permits.

Wallkill Loop Upgrade, Orange County, NY – Managed the Pre-Construction Notification document for in-kind replacement of wood pole structures within a 4.6-mile long transmission line right-of-way.

The Crossings Residential Subdivision, Onondaga County, NY – Managed a Wetland Delineation Report, obtained Corps and NYSDEC wetland permits, and prepared a Detailed Wetland Mitigation Plan for a 146-lot residential subdivision.



Benjamin R. Brazell, Principal Director of Environmental Services

At The Mill Residential Subdivision, Onondaga County, NY – Obtained NYSDEC wetland permits for a 22-lot residential subdivision.

Sanctuary at the Pastures II Residential Subdivision, Onondaga County, NY – Obtained NYSDEC wetland permits for a 9-lot residential subdivision.

Cincinnatus Central School District Expansion, Cortland County, NY – Managed SEQRA documentation, conducted field investigations, and corresponded with regulatory personnel for the proposed school expansion project.

Monroe County A-E Term Services Contracts (2016-2017) – Managed three local Prime Consultants, EDR is providing Landscape Architecture, Site/Civil Engineering, Community Planning, Ecological and Cultural Resource Management, Visualization, and Regulatory Compliance services on an as-needed basis.

Monroe County / Genesee Transportation Council, Irondequoit Seneca Trail, Town of Irondequoit, NY – Directed ecological consulting services as part of development of site analysis, feasibility assessment, and production of concept-level planning and design for a 10-plus mile urban multi-use trail along the Genesee River from the northern end of the El Camino Trail through Seneca Park (Olmstead-designed) to the Irondequoit Lakeside Trail near the O'Rourke Bridge in the Town of Irondequoit.

City of Rochester, Main Street Streetscape Improvement Project, Rochester, NY – Directed the project which included a rehabilitate pedestrian and bicycle facilities along East Main Street, including increased signage and enhancements to an urban plaza. Coordinating completion of the environmental review section of the Department of Transportation (DOT) Design Approval Document, including relevant screenings, assessments, and required DOT/FHWA checklists including the FEAW (Federal Environmental Affects Worksheet). Specific items being addressed are threatened & endangered species, cultural resources, and parks and recreational resources.

NYS Thruway Authority Term Contract for Bridge Rehabilitation in Western New York – Directed Ecological and Cultural Resource Management, and Regulatory Compliance services on an as-needed basis as sub-consultant to Stantec.

NYSDOT / Onondaga County / Costello Parkway Highway Rehabilitation & Bridge Replacement Project, Town of Minoa, NY – Directed environmental compliance and regulatory documentation for highway rehabilitation and proposed bridge rehabilitation project. Prepared SEQRA and NEPA checklist documents, an environmental assessment report for all ecological, cultural and aesthetic resources within the project area. Prepared preliminary environmental investigations in compliance with the criteria contained in the NYSDOT Environmental Procedures Manual. Prepared Phase 1 ESA and Phase 1A Cultural Resource Assessment.

NYSDOT / Onondaga County / Pompey Center Road Highway Rehabilitation & Bridge Replacement Project, Town of Pompey, NY – Directed environmental compliance and regulatory documentation for highway rehabilitation and proposed bridge replacement project. Prepared SEQRA and NEPA checklist documents, an environmental assessment report for all ecological, cultural and aesthetic resources within the project area. Prepared preliminary environmental investigations in compliance with the criteria contained in the NYSDOT Environmental Procedures Manual.

NYSDOT / Madison, Oneida & Herkimer County / Highway Rehabilitation & Bridge Replacements, NY – Directed environmental compliance and regulatory documents for several highway rehabilitation and six (6) proposed bridge replacement projects. Phase 2 services include SEQRA and NEPA checklist documents, an environmental assessment report for all ecological, cultural and aesthetic resources within the project area. Prepared preliminary environmental investigations in compliance with the criteria contained in the NYSDOT Environmental Procedures Manual. Prepared Phase 1 ESA and Phase 1A Cultural Resource Assessment.

NYSDOT / Onondaga Lake Parkway (NY Route 370) from Old Liverpool Road to I-81 Access & Final Design Project, Onondaga County, NY – Managed environmental regulatory compliance, ecological and cultural resource management for proposed highway and bridge rehabilitation/replacement; and parkway corridor enhancements. The scope of work for this project includes preparation of SEQRA and NEPA documents, an environmental assessment report for all ecological, cultural and aesthetic resources (including wetlands) within the project area, Phase 1 Environmental Site Assessment and Phase 1A Cultural Resource Assessment.

NYS Office of Parks, Recreation & Historic Preservation Term Contract for Engineering Services (Western, Central and Capital Regions) – Directed Ecological and Cultural Resource Management, and Regulatory Compliance services on an as-needed basis as sub-consultant to D&B Engineering, Beardsley and C&S Engineers.

CNYRTA A-E Services Term Agreement (2015-2024) – Directed Landscape Architecture, Site/Civil Engineering, Regulatory Compliance, Community Planning, Ecological and Cultural Resources Management, and Visualization services on an as-needed basis as sub-consultant to C&S Engineers.



Benjamin R. Brazell, Principal Director of Environmental Services

presentations/volunteer experience

Local Control vs. State Siting. Does it even Matter? 2016 AWEA Siting Conference, Charleston, SC. March 2016.

Presenter. Wind Development Non-Wildlife Siting Issues – Sounds, Planes, and Views...Oh my! 2015 AWEA Siting Conference, Austin, TX. March, 2015.

Presenter. Wetlands: Mapped vs. Actual, What You Don't Know About Wetlands Could Hurt Your Project. Environmental Breakfast Club of Central New York, Syracuse, NY. March, 2014.

Presenter. Successful Siting and Community Acceptance. 2013 AWEA Ohio Wind Energy Summit, Columbus, OH. September, 2013.

Poster Presentation. An Overview of the Relationship Between Permit Commitments and Construction Realities. 2013 AWEA Wind Power Conference, Chicago, IL. May, 2013.

Presenter. Typical Impacts & Benefits of Wind Power Development in New York State. 2012 Annual Conference, NY Upstate Chapter ASLA, Binghamton, NY. June, 2012.

Poster Presentation. New York's Article 10 Regulations, Potential Implications on New York State Wind Power Development and a Comparison to the Ohio Siting Process. 2012 AWEA Wind Power Conference, Atlanta, GA. May, 2012.

Presenter. The Relationship Between Permit Commitments and Construction Realities. 2012 NYS Wetlands Forum Annual Conference, Utica, NY. March, 2012.

Presenter. SUNY College of Environmental Science and Forestry (ESF), Renewable Energy Course. March 2010.

Presenter. Herkimer-Oneida County Land Use Training Conference. October 2009.

Presenter. Herkimer-Oneida County Wind Energy Conference. April 2008.

Volunteer. USFWS, Indiana Bat Telemetry Study, Glen Park Hibernaculum, Jefferson County. 2004.

NEW YORK STATE
PUBLIC SERVICE COMMISSION

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for
Construction of a Wind Energy Project in
Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ERIE)

Michael A. Cinquino, being duly sworn, deposes and says:

1. I am employed as Senior Vice President by Panamerican Consultants, Inc., 2390 Clinton Street, Buffalo, New York 14227, and I am appearing as a witness in this proceeding on behalf of Canisteo Wind Energy LLC.

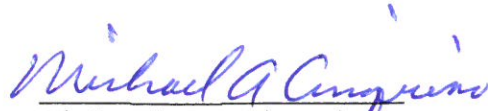
2. I previously prepared, or supervised the preparation of, written testimony labeled Pre-Filed Testimony and Exhibit 20 Cultural Resources; Appendix 20a SHPO Phase 1A; Appendix 20b SHPO Phase 1B Archeology; and Appendix 20c SHPO Phase 1B Historical, which were filed under this case number with the Secretary of the Public Service Commission on November 2, 2018.

3. Upon review of my previously filed testimony and exhibits, no further corrections to either are necessary.

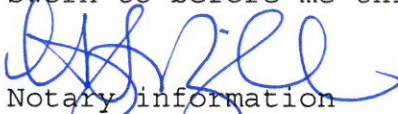
4. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written Pre-Filed Testimony is the same testimony I would give orally if

CASE 16-F-0205

I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.


Michael A. Cinquino

Sworn to before me this 14th day of August, 2019.


Notary information
signature/stamp

COURTNEY L. ZIOLKOWSKI
Notary Public, State of New York
Qualified in Erie County
Reg. No. 01Z16070853
My Commission Expires 03/11/2022

Michael A. Cinquino

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

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In the Matter of	:	
	:	
CANISTEO WIND ENERGY LLC	:	Case 16-F-0205
	:	
Application of Canisteo Wind Energy LLC for a	:	
Certificate of Environmental Compatibility and Public	:	
Need Pursuant to Article 10 for Construction of a	:	
Wind Energy Project in Steuben County.	:	
	:	
-----	X	

- 1 **Q. Please state your name, employer, and business address.**
- 2 **A. Michael A. Cinquino, Ph.D., RPA, Panamerican Consultants, Inc., 2390**
- 3 Clinton Street, Buffalo, New York 14227
- 4 **Q. For what parts of the application are you responsible?**
- 5 **A. Exhibit 20 Cultural Resources; Appendix 20a SHPO Phase 1A; Appendix**
- 6 **20b SHPO Phase 1B Archeology; and Appendix 20c SHPO Phase 1B**
- 7 **Historical.**
- 8 **Q. Please explain your educational and professional background.**
- 9 **A. A copy of my curriculum vitae is attached.**

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AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF GEORGIA)
) ss:
COUNTY OF Dekalb)

Robert A. Cleveland, being duly sworn, deposes and says:

1. I am employed as Managing Director Transmission Planning and Analysis by Leidos, 530 Ansley Street, Decatur, Georgia 30030, and I am appearing as a witness in this proceeding on behalf of Canisteo Wind Energy LLC.

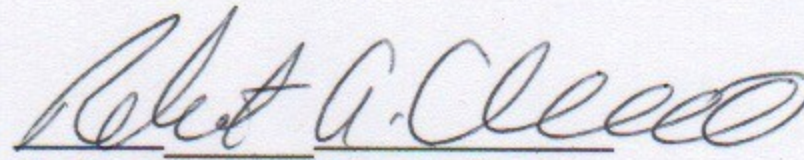
2. I previously prepared, or supervised the preparation of, written testimony labeled Pre-Filed Testimony and Exhibit 8, Electric System Production Modelling Report, which were filed under this case number with the Secretary of the Public Service Commission on November 2, 2018.

3. Upon review of my previously filed testimony and exhibits, no further corrections to either are necessary.

4. I hereby affirm that the testimony and exhibit identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written Pre-Filed Testimony is the same testimony I would give orally if

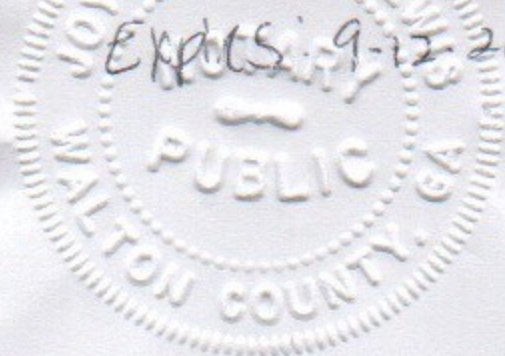
CASE 16-F-0205

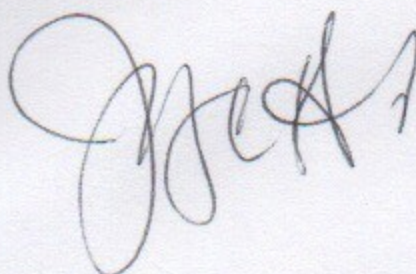
I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.


Robert A. Cleveland

Sworn to before me this 13th day of August, 2019.

Notary information
signature/stamp





Robert A. Cleveland

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBIT
Page 2

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

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In the Matter of	:	
	:	
CANISTEO WIND ENERGY LLC	:	Case 16-F-0205
	:	
Application of Canisteo Wind Energy LLC for a	:	
Certificate of Environmental Compatibility and Public	:	
Need Pursuant to Article 10 for Construction of a Wind	:	
Energy Project in Steuben County.	:	
	:	
-----	X	

- 1 **Q. Please state your name, employer, and business address.**
- 2 **A. Robert A. Cleveland, Leidos, 11955 Freedom Drive, Reston, Virginia**
- 3 20190.
- 4 **Q. For what parts of the application are you responsible?**
- 5 **A. Exhibit 8 Electric System Production Modelling Report.**
- 6 **Q. Please explain your educational and professional background.**
- 7 **A. A copy of my curriculum vitae is attached.**

Robert A. Cleveland

POWER MARKETS CONSULTANT

Rob Cleveland has over 19 years of experience in the application of detailed power market simulation software to business problems. As an expert in PROMOD™ IV nodal market production cost software, he has modeled energy markets across North America; Great Britain, Ireland, and the Philippines; and Maui, Hawaii. His areas of expertise include nodal market congestion and curtailment risk analysis, wind curtailment and integration, market benefit studies, economic transmission analysis, power market price forecasting, and generation strategy.

Mr. Cleveland understands study methods and technical approaches to assessing economic impacts of new transmission, generation asset valuation, transmission congestion, and wind curtailment risk. He has extensive project management experience and has led major consulting engagements, including working in a team environment and responding to multiple stakeholders. Mr. Cleveland has deep technical knowledge of simulation-based modeling of power systems and analytical methods for quantifying the economic impacts of future changes in energy markets.

Mr. Cleveland's work at Leidos has included over 40 studies, including congestion and LMP basis risk assessments for new generation projects in northeast markets and several wind and solar siting studies. For Clean Line Energy Partners, he estimated the economic and environmental benefits for three different high-voltage DC projects delivering wind energy from Midwestern U.S. states to demand centers further east, providing testimony in state commission applications.

EDUCATION

- › M.S. in Public Policy, Georgia Institute of Technology
- › B.S. in Mechanical Engineering, Georgia Institute of Technology

PROFESSIONAL EXPERIENCE

Managing Director, Transmission Planning and Analysis
– Leidos. Directs and performs consulting engagements with a focus on congestion dynamics, wind and solar

curtailment, economic benefit of transmission, and generator strategy in nodal markets.

Congestion and Curtailment Risk. Congestion and curtailment risk studies to support wind and natural gas generation project financing.

Economic Transmission. Electric market benefit and impact analysis of new transmission lines to support project development.

Generator Strategy. Nodal market analysis to advise generator operating / retirement strategy given future market changes.

GL Garrad Hassan

Price Forecasting. Long-term zonal market price forecasting in Southwest Power Pool, MISO, and Western Electricity Coordinating Council.

Market Participation. Benefit study and testimony to support power company decision to join MISO.

Ventyx

Consulting. Managed and provided oversight on nodal analysis consulting engagements.

Staff Management. Led North American consulting and software training staff.

Product Management. Led PROMOD IV software through period of strong growth, 30 percent increase in clients.

Modeling. Designed break-through enhancements in PROMOD IV security-constrained unit commitment logic.

NEW YORK STATE
PUBLIC SERVICE COMMISSION

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for
Construction of a Wind Energy Project in
Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ONONDAGA)

Thomas Dussing, being duly sworn, deposes and says:

1. I am employed as Director of Engineering by Environmental Design & Research Landscape, Architecture, Engineering & Environmental Services D.P.C. (EDR), 217 Montgomery Street, Suite 1000, Syracuse, New York 13202-1942, and I am appearing as a witness in this proceeding on behalf of Canisteo Wind Energy LLC.

2. I previously prepared, or supervised the preparation of, written testimony labeled Pre-Filed Testimony and Appendix 11a Preliminary Design Drawings and Appendix 23c Preliminary SWPPP, which were filed under this case number with the Secretary of the Public Service Commission on November 2, 2018.

1. Upon review of my previously filed testimony and exhibits, no further corrections to either are necessary.

2. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my

Thomas Dussing
AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

CASE 16-F-0205

knowledge, information and belief. I affirm that the written Pre-Filed Testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.



Thomas Dussing

Sworn to before me this 13th day of August, 2019.

Notary information
signature/stamp



DEBRA RUSSELL
Notary Public, State of New York
No. 01RU6061488
Qualified in Madison County
Commission Expires July 16, 2023

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

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In the Matter of	:	
	:	
CANISTEO WIND ENERGY LLC	:	Case 16-F-0205
	:	
Application of Canisteo Wind Energy LLC for a	:	
Certificate of Environmental Compatibility and Public	:	
Need Pursuant to Article 10 for Construction of a Wind	:	
Energy Project in Steuben County.	:	
	:	
-----	X	

- 1 **Q. Please state your name, employer, and business address.**
- 2 **A. Thomas Dussing, Environmental Design & Research Landscape,**
- 3 Architecture, Engineering & Environmental Services D.P.C. (EDR), 217
- 4 Montgomery Street, Suite 1000, Syracuse, New York 13202-1942.
- 5 **Q. For what parts of the application are you responsible?**
- 6 **A. Appendix 11a Preliminary Design Drawings and Appendix 23c**
- 7 Preliminary SWPPP.
- 8 **Q. Please explain your educational and professional background.**
- 9 **A. A copy of my curriculum vitae is attached.**



Thomas F.J. Dussing, PE, CPESC, V.P. Director of Engineering



Tom Dussing is the Director of Engineering at EDR. Tom has more than 30 years of professional engineering experience that has focused on municipal infrastructure engineering, commercial, residential, utility transmission, transportation and industrial site development. He is a Certified Professional Soil Erosion and Sediment Control Specialist and has extensive experience in municipal engineering, site development, and stormwater management planning and design. He has expertise in the design of storm sewers, sanitary sewers, and coordination with municipal and state regulatory agencies, permitting, sediment and erosion control, and stormwater treatment facilities. In the area of stormwater management Tom has been involved in preparation of drainage studies, municipal drainage district formation; and detention/retention basin, stormwater quality, storm sewer, and dam designs.

As a Director of Engineering with EDR, Tom is responsible for managing production of drawings and technical specifications; serving as a leader of, and contributing to, teams that include landscape architects, engineers, environmental scientists, planners, GIS analysts, and graphic artists, providing innovative, aesthetic, cost-effective and practical solutions for site development projects and maintaining knowledge of state of the art engineering, including modeling stormwater hydrology and open channel hydraulics.

education

Bachelor of Science, Civil Engineering, University at Buffalo, 1987.

registration / certifications

Professional Engineer, NY. NYS License No. 068323

Certified Professional Soil Erosion and Sediment Control Specialist.

employment history

Vice President, and Director of Engineering, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C., Syracuse, NY, 2013-present.

Sr. Managing Engineer, O'Brien & Gere Engineers, Syracuse, NY, 2005-2013.

Branch Manager, Stantec Consulting, Syracuse, NY, 1998-2005.

Sr. Project Engineer, C&S Engineers, Syracuse, NY, 1987-1998.

project experience

Welch Allyn Campus, Skaneateles Falls, Onondaga County, NY- Served as the Director of Engineering for the site/civil soil evaluations and infiltration testing for stormwater management in accordance with NYSDEC General Stormwater Permit for site improvements at the Welch Allyn Campus which included an 110,000 SF building addition, new employee entrance and an expanded parking lot. (MS4)

JMA Wireless, Onondaga County, NY- Served as the Director of Engineering for site improvements, the main project included three building expansions. EDR completed new and revised parking to improve traffic flow, and increase site efficiencies. Post-construction stormwater management including two underground detention and infiltration areas and a bioretention area. Responsible for the design of storm, water, and sanitary utility improvements on the site. Prepared SWPPP and additional reinforced turf got fire access and access to emergency generator. Attended multiple meetings at Town Planning Board and Zoning Board of appeals to obtain variances and approval for site improvements. (MS4)

Schaghticoke Switching Station, National Grid, Town of Schaghticoke, Rensselaer County, NY- Served as the Director of Engineering for SWPPP with post-construction stormwater management design for a proposed switchyard in an existing gravel quarry. Project uses new alternative cross section that provides stormwater quantity management within the station section and stormwater quality management with a vegetated filter strip. The stormwater management for the access road is provided by infiltration basins. (MS4)

Sander's Creek Corporate Center, PACE CNY, Syracuse, Onondaga County, NY- Served as the Director of Engineering for SWPPP and post-construction stormwater management design including bioretention areas and reconfiguring of existing on-site stormwater management ponds in support of site improvements necessary to provide parking, drop-off zones, and an outdoor seating area for a 38,000-square foot adult day care center. (MS4)



Thomas F.J. Dussing, PE, CPESC, V.P. Director of Engineering

Sodeman Substation, National Grid, Milton, Ulster County, NY- Served as the Director of Engineering for the design of stormwater management, specification of erosion and sedimentation controls, and Stormwater Pollution Prevention Plan (SWPPP) preparation for a 20,800 square-foot substation and 380-foot gravel access road. Stormwater management for this station is one of the first to utilize an alternate station section that provides stormwater quality and quantity management through infiltration with temporary storage within the station cross-section. (MS4)

Edic Substation Expansion, National Grid, Town of Marcy, Oneida County, NY- Served as the Director of Engineering for the completion of a stormwater modeling and design, Stormwater Pollution Prevention Plan (SWPPP) and drawing updates for an expansion and new control house at the Edic Substation. (MS4)

CNY Regional Welcome Center, City of Auburn, Cayuga County, NY- Served as the Director of Engineering for the site/civil soil evaluations and infiltration testing for stormwater management in accordance with NYSDEC General Stormwater Permit for site improvements for a welcome center within the heart of Auburn's downtown and in the South Street National Register Historic District.

Knapps Corner Substation, Central Hudson Gas & Electric, Town of Poughkeepsie, NY- Served as the Director of Engineering for site/civil services for a proposed electric substation.

Pipeline 61 Relocation, National Grid, City of Sherrill, Oneida County, NY- Served as the Director of Engineering for Erosion & Sediment Control (E&SC) SWPPP associated with the relocation of approximately 1,280 linear feet of Pipeline 61. Also managed SWPPP inspections. (MS4)

Montreign Casino Day Care Facility, Town of Thompson, Sullivan County, NY- Served as the Director of Engineering for the site/civil soil evaluations and infiltration testing for stormwater management to assist the Client in modifying the previously submitted SWPPP to the New York State Department of Environmental Conservation (NYSDEC) Stormwater General Permit.

Montreign Casino Entertainment Village, Town of Thompson, Sullivan County, NY- Served as the Director of Engineering for the stormwater analysis of the site, which assessed pre- and post-development conditions for a range of design storm events consistent with the stormwater requirements for the municipality and NYSDEC Stormwater regulations. Also assisted the client in navigating the New York State Department of Environmental Conservation Stormwater General Permit.

SUNY Canton Rehabilitation Water Distribution System, Canton, St. Lawrence County, NY- Served as the Director of Engineering for comparing pre- and post-construction hydraulic stormwater modeling for the areas of interest, designing post-construction stormwater management practices, updating the existing SWPPP report with stormwater management sizing and design documentation in accordance with the NYSDEC's SPDES General permit for Stormwater Discharges from Construction Activity.

Prattville Regional Healthcare, Prattville, Greene County, NY- Served as the Director of Engineering for site/civil services for the construction of a 7,000 SF Regional Health Care Facility building. Services included the design of access roadway, extension of water, sanitary sewers, stormwater management system, erosion and sediment control plan, and preparing SWPPP reports and drawings in accordance with the NYSDEC's SPDES General Permit for Stormwater Discharges from Construction Activity. (MS4)

Cassadaga Wind Power Project, Chautauqua County, NY- Served as the Director of Engineering for the site/civil services in support of Article 10 Application to the New York State Board on Electrical Generating Siting and the Environment for a proposed 70 wind turbine, 126 MW wind energy facility.

Baron Winds Project, Steuben County, NY- Served as the Director of Engineering for the site/civil services in support of Article 10 Application to the New York State Board on Electrical Generating Siting and the Environment for a proposed (up to) 300 MW wind energy project with up to 80 wind turbines. (MS4)

Cody Road Wind Power Project, Towns of Stockbridge, Eaton and Madison, Madison County, and the Town of Augusta, Oneida County, NY- Served as the Director of Engineering for Storm Water Pollution Prevention Plan (SWPPP) prepared in conjunction with an Erosion and Sediment Control Plan in order to be in compliance with the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for stormwater discharges from construction activity for a proposed a meteorological tower, 27 wind turbine generators, approximately 8.1 miles of gravel access road, approximately 22.7 miles of underground electric line and a substation. (MS4)

Eastover Road New Electrical Substation Project, National Grid, Rensselaer County, NY- Served as the Director of Engineering for the site/civil engineering report for compliance with the requirements of Part 102 of the Public Service Law and the NYSDEC General Stormwater Permit. Design included access road design, site grading and stormwater management, including Stormwater Pollution Prevention Plan (SWPPP) development. (MS4)

Alternate Substation Foundation/ Stormwater Treatment Study and Design, National Grid, NY- Served as the Director of Engineering for the study and design of a new substation foundation design that complies with the NYSDEC General Stormwater Permit. The design was developed to be a self contained approved treatment/ foundation practice compliant with the New York State Stormwater regulations for a 100-year design storm.



Thomas F.J. Dussing, PE, CPESC, V.P. Director of Engineering

Corporation Five Mile Road Substation, National Grid, Town of Humphrey, Cattaraugus County, NY- Served as the Director of Engineering for the study and design of a new substation foundation design that complies with the NYSDEC General Stormwater Permit. The design was developed to be a self contained approved treatment/foundation practice compliant with the New York State Stormwater regulations for a 100-year design storm.

Teall 29/31, National Grid, Syracuse and Surrounding Areas, NY- Served as the Completed Erosion and Sediment Control Stormwater Pollution Prevention Plan (SWPPP) for the refurbishment of a 4.1-mile-long electrical transmission line.

Lisbon-Heuvelton Removal, National Grid, St. Lawrence County, NY- Completed Erosion and Sediment Control Stormwater Pollution Prevention Plan (SWPPP) for the removal of an 8.6-mile-long electrical transmission line.

Gardenville Substation, National Grid, West Seneca, Erie County, NY- Served as the Director of Engineering for the stormwater design for a 10-acre electrical substation project for National Grid. Scope of work included design of stormwater management with associated grading, erosion and sedimentation controls, and Stormwater Pollution Prevention Plan (SWPPP) preparation. Stormwater management for this station was one of the first to utilize the alternate stormwater / foundation station section that provides stormwater quantity management within the station's stone foundation and stormwater quality management with a vegetated filter strip. (MS4)

Sodeman Substation, National Grid, Milton, Ulster County, NY- Served as the Director of Engineering for the civil/site portion of the project including this 20,800 square-foot substation and 380-foot gravel access. Scope of work include erosion and sedimentation controls, and Stormwater Pollution Prevention Plan (SWPPP) preparation. Stormwater management for this station was one of the first to utilize an alternate substation foundation section that provides stormwater quality and quantity management through infiltration with temporary storage within the station cross-section. (MS4)

Menands - Liberty Street #9 34.5kV Subtransmission Line Relocation Project, National Grid, Albany and Rensselaer Counties, NY- Responsible for site/civil engineering services including preparation of erosion and sediment control plans for construction activity for inclusion in a Stormwater Pollution Prevention Plan (SWPPP). (MS4)

Van Dyke Substation, National Grid, Bethlehem, Albany County, NY- Served as the Director of Engineering for the site/civil engineering services for this 36,000 square-foot substation and 720-foot gravel access road included design of stormwater management, grading, specification of erosion and sedimentation controls, site plan drawings and Stormwater Pollution Prevention Plan (SWPPP) preparation. Stormwater management for this station is one of the first to utilize an alternate station section that provides stormwater quantity management within the station cross-section and stormwater quality management with a vegetated filter strip. (MS4)

WH-1/2 Transmission Line Rebuild, Central Hudson Gas & Electric Corp, Wawarsing, Ulster County, NY- Served as the Director of Engineering for the erosion and sediment control and Stormwater Pollution Prevention Plan (SWPPP) preparation for approximately 9 miles of electrical transmission line and approximately 1.3-miles of tap line. (MS4)

G Line North Transmission Line Rebuild, Central Hudson Gas & Electric Corp, Pleasant Valley and La Grange, Dutchess County, NY- Served as the Director of Engineering for the civil/site portion which included erosion and sediment control and Stormwater Pollution Prevention Plan (SWPPP) preparation for the project to replace approximately 8-miles of electrical transmission line and approximately 1.3-miles of tap line.

A&C 115kV Transmission Line Upgrades, Central Hudson Gas & Electric Corp, Dutchess County, NY- Responsible for the development of the Environmental Management & Construction Plan (EM&CP), in support of Prime consultant, for upgrades to an existing 115 kV line in the Towns of Pleasant Valley, La Grange, Wappinger and East Fishkill.

Onondaga County Save the Rain, Syracuse, Onondaga County, NY- Served as the Director of Engineering for the study/design of three projects (McKinley Park, Garzone's Property, and South West Community Center) to reduce pollution to Onondaga Lake through the implementation of stormwater management/green technologies. Scope of work included preparing stormwater calculations/designs, road improvements, disconnection of stormwater from sanitary sewers, and underground infiltration to ensure design satisfies Amended Consent Judgment (ACJ). (MS4)

Onondaga County Westside Pump Station, Syracuse, Onondaga County, NY- Served as the Director of Engineering for the site/civil engineering services that included parking, truck access to the loading dock, security fencing, plants to screen the building and stormwater management. (MS4)

New York State Fairgrounds Redevelopment Project, Syracuse, Onondaga County, NY- Served as the Principal-In-Charge for development of conceptual design and renderings for the Equine Center, Chevy Court, Main Gate, and Expo Center. EDR also assisted the MJ Engineering Team on planning for the New York Experience, Midway, Chevy Court, and Main Gate. EDR developed standards for signage for the buildings, parking lots, gates, street signs and overall wayfinding for the Fairgrounds. (MS4)

Interstate 690 (I-690) Teall Avenue & Beech Street Interchange, Syracuse, Onondaga County, NY- Responsible for site/civil engineering stormwater management design for the NYSDOT for a bridge replacement and intersection improvement of 0.5-mile elevated highway. (MS4)



Thomas F.J. Dussing, PE, CPESC, V.P. Director of Engineering

St. Lawrence Gas Pipeline, St. Lawrence and Franklin Counties, NY- Responsible for site/civil engineering services including Stormwater Pollution Prevention Plan (SWPPP) and inspections for a 48-mile natural gas transmission line.

Work with Previous Firms

Retail / Commercial / Industrial

Mill Seat Landfill Gas Power Plant Phase II, Monroe County Department of Environmental Services, Riga, NY- Prior to EDR, Designed the Mill Seat Landfill Gas Power Plant Phase II from concept design through to final contract documents. Project elements responsible for permitting including SEQRA, architectural, structural, site/civil, plumbing, and fire detection. Coordinated with subconsultants. (MS4)

“Shovel Ready” Site Evaluations, Fort Drum Regional Liaison Organization, NY- Prior to EDR, Provided a feasibility assessment for residential developments in the Villages of Carthage and Evans Mills, and for two development areas in the City of Watertown. Tasks included research of municipal codes and municipal utility locations, conceptual subdivision planning and layout, and development of preliminary construction cost estimates. (MS4)

Corporate Center Warehouse Facility Expansion, Raymour & Flanigan Furniture, Clay, NY- Prior to EDR, Provided fast track design and approvals for a 62-acre commercial redevelopment project which included a 380,000 ft² warehouse expansion, five stormwater management areas (totaling 28 acre-feet of detention volume), parking for over 550 cars and 100 trailers, 1800 feet of fire protection mains and a backflow prevention device. Provided weekly stormwater management inspections in conformance with New York State Department of Environmental Conservation (NYSDEC) General Stormwater Permit. (MS4)

Hancock Airpark Redevelopment, Hancock Field Development Corporation, Onondaga County, NY- Prior to EDR, Completed site/civil design for the redevelopment of an abandoned military facility to upgrade drainage and sanitary sewer facilities. This federally-funded project included drainage master planning, new storm sewers, sanitary sewers, and 5,900 feet of new road construction. (MS4)

State/Federal Government

Attica Correctional West Branch Sanitary Sewer Improvements, New York State Office of General Services (OGS), Attica, NY- Prior to EDR, Provided design of 3000 feet of new sanitary sewers including a “chopper” pumping station. Project included coordination with geotechnical consultant for foundation design of pumping station and considerations for save excavation due to adverse soil conditions.

Attica Correctional Sanitary Sewer Program, New York State Office of General Services (OGS), Attica, NY- Prior to EDR, Served as Project Manager for the Sanitary sewer system evaluation for the facility, which included manhole inspections, smoke testing, coordination of cleaning and televising 25,000 feet of sanitary sewers to identify storm sewer cross connections. Development of an Investigative Findings Report and Program Report that identified recommended improvements.

Green Haven Correctional Sanitary Sewer Program, New York State Office of General Services (OGS), Stormville, NY- Prior to EDR, Served as Project Manager for the Sanitary system evaluation for the facility, which included manhole inspections, coordination of 15,000 feet of sanitary sewer cleaning and televising, and also smoke testing to identify storm sewer cross connections. Assisted with the development of an Investigative Report and Program Report that identified recommended improvements.

Great Meadow Correctional Sanitary Sewer Program, New York State Office of General Services (OGS), Comstock, NY- Prior to EDR, Served as Project Manager for the Sanitary system evaluations for the facility, which included manhole inspections, coordination of 8,600 feet of sanitary sewer cleaning and televising, and also smoke testing to identify storm sewer cross connections. Assisted with the development of an Investigative Report and Program Report that identified recommended improvements. (MS4)

Marcy Central Pharmaceutical Site Design, New York State Office of General Services (OGS), Marcy, NY- Prior to EDR, Provided site and utility design for a 15-acre development in the Town of Marcy. The design included 1,100 Ft. of sanitary sewers, 1,300 Ft. of storm sewers, 3,700 Ft. of water main, 1,100 Ft. of gas mains, a backflow prevention device and two stormwater management areas. (MS4)

Five Points Correctional Stormwater Management Review, New York State Office of General Services (OGS), Romulus, NY- Prior to EDR, Provided design document review of the stormwater management study and Stormwater Pollution Prevention Plan (SWPPP) to assist with compliance with NYSDEC General Stormwater Permit.

Watertown Correctional Stormwater Improvements, New York State Office of General Services (OGS), Watertown, NY- Prior to EDR, Provided an evaluation and design of storm water management and storm sewers, which included a hydrologic/hydraulic model in XP-SWMM to develop size a new storm sewer system to handle 100-year storm flows. Contract documents were prepared, which included over 5,000 feet of 6-inch through 36-inch storm sewers, and a 2.3±-acre feet stormwater basin in accordance with NYSDEC General Stormwater Permit. (MS4)



Thomas F.J. Dussing, PE, CPESC, V.P. Director of Engineering

Highland Residential Center, Stormwater and Pavement Improvements, New York State Office of General Services (OGS), Highland, NY- Prior to EDR, Provided stormwater management study for the Office of Children and Family Services through a contract with the Office of General Services. The study included development of hydrologic and hydraulic models for the facility using AutoCAD Sanitary and Storm Analysis modeling software. A pavement study was completed showing areas where milling and overlay were needed, as well as areas of total reconstruction. The design that was undertaken after the studies included more than 5,000 feet of 10-inch through 36-inch of new storm sewers and pavement replacement and rehabilitation for the entire campus. Also provided an analysis and design for the replacement of six major culverts under the main and only entrance to the facility. The drainage area upstream of this culvert covers more than 17 square miles. A steel girder bridge with a 75-foot span was designed to replace the culverts. Permits from NYS Department of Environmental Conservation and U.S. Army Corps of Engineers were obtained. (MS4)

Municipal Separate Storm Sewer System (MS4) Stormwater Management Plan, New York State Office of General Services (OGS), NY- Prior to EDR, Developed a Stormwater Management Plan for OGS, which addressed implementation of the six minimum measures required by the NYSDEC General Stormwater Permit for MS4s.

Mid-State Correctional Facility, Storm Sewer and Stormwater Management Design, New York State Office of General Services (OGS), Marcy, NY- Prior to EDR, Led a design team to provide a Stormwater drainage basin analysis of a 605-acre watershed, which led to the design of over 610 lf of 24-in to 42-in diameter storm sewers and a 2.5-acre-foot stormwater management area for the New York State Department of Correctional Services. (MS4)

Allen Residential Center, Stormwater and Water Distribution Improvements, South Kortright, NY- Prior to EDR, Provided study and design for Stormwater, sanitary sewer, and water distribution improvements for the Allen Residential Center and the Youth Leadership Academy. The project included development of a water distribution model for existing and future conditions, the development of a hydrologic/hydraulic model using AutoCAD Sanitary and Stormwater Analysis Software for existing and future conditions, design of sanitary sewers, storm sewers, stormwater management using green infrastructure, watermain with backflow prevention, and parking/driveway improvements in conformance with New York City Department of Environmental Protection (NYCDEP) and NYSDEC stormwater regulations.

Great Meadow Correctional Facility, Water Supply Line Evaluation, New York State Office of General Services (OGS), Comstock, NY- Prior to EDR, Served as Project Manager for the development of a program report for the replacement/rehabilitation of 8,000 feet of watermain that supplies potable water from Dolph Pond to the correctional facility's water treatment plant. The evaluation included repair/replacement alterations and recommendations. (MS4)

Stormwater Management and Water Resources

Stormwater & Hydraulic Studies, Various Locations in NY- Prior to EDR, Hydrology / Hydraulic (HEC2- HEC-RAS) / Stormwater Analysis and Report Preparation for:

- Kimber Brook, Hopper Brook, Cold Brook, and Spring Brook in Syracuse, NY.
- Volmer Creek in Cicero, NY.
- Hancock International Airport in Syracuse, NY.
- Genesee County Airport Drainage Master Plan in Batavia, NY.
- Nanticoke Landfill in Broome County, NY.
- Auburn Landfill in Auburn, NY.
- Lt. Warren Eaton Airport in in Norwich, NY.
- Wawarsing Airport in Ellenville, NY.
- Morgan Road Drainage Master Plan in Clay, NY.
- Warren County Airport Drainage Study in Queensbury, NY.
- Solar Street Drainage Master Plan in Syracuse, NY.
- Orange County Sanitary Landfill Drainage Study in Goshen, NY.
- Monroe County Water Authority, SWPPP Training, Rochester NY
- Destiny USA Expansion SWPPP revision in Syracuse, NY

Transportation

Lake Drive and South Willow Street Reconstruction, Village of Liverpool, NY- Prior to EDR, Designed 1,200 feet of village road which included 1,100 feet of storm sewers, 1,500 feet of sanitary sewers, curbs, sidewalks, and new pavement. (MS4)

5th Street Reconstruction, Village of Liverpool, NY- Prior to EDR, Rehabilitation of 5th Street and Alder Street. The project included curbs, sidewalks, sanitary sewers, storm sewers, and coordination with local utility companies. (MS4)



Thomas F.J. Dussing, PE, CPESC, V.P. Director of Engineering

Intersection Improvements, Onondaga County Department of Transportation, NY- *Prior to EDR*, Served as Project Manager for the design of West Taft Road/Allen Road Intersection improvements. The project included new traffic signal, addition of an east bound turn lane on Taft Road, and vertical/horizontal pavement alignment modifications. (MS4)

Route 57 Reconstruction, Onondaga County Department of Transportation, NY- *Prior to EDR*, Provided storm sewer system design for the reconstruction of Route 57 from Soule Road to Gaskin Road.

NYS Route 31 and County Route 57 Reconstruction, Onondaga County Department of Transportation, NY, - *Prior to EDR*, Provided storm sewer system design for the reconstruction project along Route 57 from Gaskin Road to Route 31, and along Route 31 from Route 57 to Route 481. (MS4)

West Spencer Street Reconstruction, City of Ithaca, NY- *Prior to EDR*, Served as Project Manager for the conversion of 1,700 feet of a one-way street into a two-way street. Project included construction of a roundabout to replace a complex intersection. Project tasks included significant public outreach program to mitigate safety and parking concerns. (MS4)

South Meadow Street Widening, City of Ithaca, NY- *Prior to EDR*, Served as Project Manager for the widening of two segments of highway from a four-lane section to five lanes, including widening the bridge over Six Mile Creek. South Meadow Street is NYS Route 13/34/96, and required Highway Work Permit approval from the NYS Department of Transportation (NYSDOT) Region 3. Challenges included fast-track letting schedule. (MS4)

Rosamond Gifford Zoo Reconstruction, Onondaga County Parks Department, NY- *Prior to EDR*, Designed zoo entrance road (Conservation Place). The project included new curbs, storm sewers, sidewalks, road reconstruction, and coordination with County and City agencies. (MS4)

Floyd Avenue Reconstruction, City of Rome, NY- *Prior to EDR*, Served as Project Manager for the design of storm sewers, sanitary sewers and erosion control facilities for a 1.3-mile section of road reconstruction in the City of Rome. Project challenges included stormwater management in compliance with the NYSDOT stormwater regulation in an urban setting. (MS4)

Warners Road Reconstruction, Onondaga County Department of Transportation, Camillus, NY- *Prior to EDR*, Designed 4 miles of Warners Road in the Town of Camillus. Project included intersection and vertical/horizontal realignments, new storm sewers, signage, rehabilitation of portions of the road, and total reconstruction. (MS4)

Brooktondale Bridges over Six-Mile Creek, Tompkins County, NY- *Prior to EDR*, Served as Project Manager for a Federally-funded "Pass Through" project from scoping to final design including construction observation services. Project elements included bridge replacement, approach and intersection work, vertical and horizontal alignments and drainage improvements. (MS4)

Seventh North Street Bridge Replacement, Onondaga County Department of Transportation, Salina, NY- *Prior to EDR*, Completed Hydraulic Computer Modeling (HEC-2) for Ley Creek to determine if the proposed bridge replacement would have an impact on existing flood elevations. (MS4)

Bingley Road Bridge Replacement, Madison County Department of Highways, Madison County, NY- *Prior to EDR*, Served as Project Manager for a locally-administered federal aid project involving replacement of single-span bridge over Chittenango Creek and approach work including intersection with NYS Route 13. (MS4)

NEW YORK STATE
PUBLIC SERVICE COMMISSION

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for
Construction of a Wind Energy Project in
Steuben County.

AFFIDAVIT AFFIRMING REBUTTAL TESTIMONY AND EXHIBITS

STATE OF KANSAS)
) ss:
COUNTY OF Johnson)

Zachary D. Kaiser, being duly sworn, deposes and says:

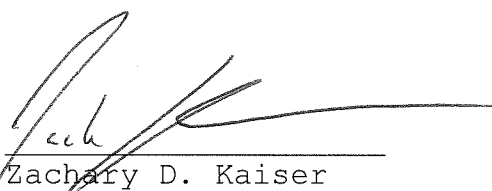
1. I am employed as a Wildlife Biologist/Permitted Bat Biologist by Ecology and Environment, Inc., 9300 West 110th Street, Suite 460, Overland Park, Kansas 66210, and I am appearing as a witness in this proceeding on behalf of Canisteo Wind Energy LLC.

2. I previously prepared, or supervised the preparation of, written testimony labeled Prepared Rebuttal Testimony of Bat Panel co-authored with Michael M. Morgante (Ecology and Environment, Inc. (Rebuttal Testimony), and Exhibit MK-R1 Kaiser Resume and Exhibit MK-R2 Curtailment Study Summary, which were filed under this case number with the Secretary of the Public Service Commission on July 31, 2019.

3. Upon review of my previously filed Rebuttal Testimony and exhibits, no further corrections to either are necessary.

4. I hereby affirm that the Rebuttal Testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written

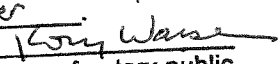
Rebuttal Testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.


Zachary D. Kaiser

Sworn to before me this 23 day of August, 2019.

Notary information
signature/stamp

State of Kansas
County of Johnson
Signed or attested before me on 8/23/19 by
Zachary D. Kaiser


Signature of notary public

KORY WAISNER
Notary Public-State of Kansas
My Appt. Expires 8/3/22

Zachary D. Kaiser

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

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In the Matter of	:	
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CANISTEO WIND ENERGY LLC	:	Case 16-F-0205
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Application of Canisteo Wind Energy LLC for a	:	
Certificate of Environmental Compatibility and Public	:	
Need Pursuant to Article 10 for Construction of a Wind	:	
Energy Project in Steuben County.	:	
	:	
-----	X	

- 1 **Q. Please state your name, employer, and business address.**
- 2 **A. Michael M. Morgante, Ecology and Environment, Inc., 368 Pleasant View**
- 3 **Drive, Lancaster, New York 14086.**
- 4 **Q. For what parts of the application are you responsible?**
- 5 **A. Exhibit 22, parts a, c, d, e, g, h, o; Appendix 22a Site Characterization**
- 6 **Study; and Appendix 22h-1 Bird and Bat Survey Reports.**
- 7 **Q. Please explain your educational and professional background.**
- 8 **A. A copy of my curriculum vitae is attached.**



Since 2002, Mike has been involved with avian and bat studies and the evaluation of potential impacts for more than 100 proposed and existing wind projects, including more than 25 in New York State, most of which included field surveys.

MICHAEL M. MORGANTE

Avian and Bat Studies

Mr. Morgante directs and provides technical support to Ecology and Environment's (E & E's) wind energy development projects nationwide. He provides quality assurance/control and expert reviews of project documentation for National Environmental Policy Act and state-required environmental impact statements (EISs); consults with various environmental and natural resource agencies to establish permitting and mitigation requirements; provides key client liaison to resolve potential problems; and ensures technical quality for all phases of E & E's wind energy planning. He has managed the preparation of several EISs for proposed wind projects in New York and third-party environmental assessments for endangered bat species and eagle incidental take permits. An avian specialist with experience nationwide, he directs and coordinates E & E's avian field studies, bird and bat conservation strategies, avian risk assessments, and permitting issues regarding eagles and threatened and endangered (T/E) avian species. He has also consulted with wind developers and agencies regarding bat issues on dozens of sites. He has regularly presented on avian/eagle issues at National Wind Wildlife Collaborative and American Wind Energy Association conferences and meetings since 2012. He was an active member of the Project Advisory Committee for the New York State Energy Research and Development Authority Energy Siting project, in collaboration with the New York Natural Heritage Program and The Nature Conservancy.

EXPERIENCE

Ecology & Environment, Inc. –
1994 to present

Noble Wind Projects, New York State. For Noble Environmental Power, Mr. Morgante was E & E's project manager and/or avian studies manager for 10 proposed windparks, five of which are now in operation. For each site, Mr. Morgante coordinated the site characterization study; conducted literature reviews for site-specific issues; prepared the work plans and survey protocol for bird and bat studies; coordinated with the involved agencies; led and participated in the surveys for raptors, migratory birds, breeding birds, and T/E species; and coordinated the study design and activities of subcontractors conducting nocturnal radar and bat acoustical monitoring studies. The bird and bat risk assessments became part of the respective project EISs. In addition, Mr. Morgante was responsible for addressing all permit issues related to birds.

Ball Hill Wind Project, Chautauqua County, New York. For Renewable Energy Systems Americas, Inc., Mr. Morgante coordinated the additional avian and bat studies needed beyond those he managed for Noble and another prior developer for the Ball Hill site. He met with New York State Department of Environmental Conservation (NYSDEC) and U.S. Fish and Wildlife Service (USFWS) officials on several occasions to discuss bird and bat issues. He designed and directed the completion of breeding bird surveys in four different years and eagle point-count surveys for two years at this site. He also served as E & E's Principal in Charge for preparation of a supplemental draft EIS and final EIS through the New York State Environmental Quality Review Act (SEQR) process for this project.

Wind Projects, New York State. For a client with two proposed wind projects in New York State, Mr. Morgante conducted site characterization studies, designed multi-year bird and bat study plans, and implemented breeding bird, avian, and eagle use surveys; T&E bird surveys; aerial eagle nest surveys; and bat acoustic monitoring. He supported the client in multiple meetings with wildlife agencies and concerned stakeholders.

Various Wind Projects, New York. For Invenergy LLC, Mr. Morgante has conducted site characterization studies, designed bird and bat study plans, and implemented various bird and bat surveys at multiple proposed wind project sites. He coordinated with USFWS and NYSDEC on an avian and bat protection plan (ABPP) for

Michael M. Morgante (Cont.)

the then-proposed Orangeville Wind Farm in Wyoming County, New York. The ABPP was initiated following USFWS concerns regarding nearby bald eagle habitat. Mr. Morgante developed conservation projects as part of the draft ABPP, coordinated an aerial search for potential bald eagle nests within 10 miles of the project area, and developed an approach for the ABPP consistent with USFWS guidance.

Troups Creek Wind Project, Steuben County, New York. For Ridgeline Energy, LLC, Mr. Morgante directed bird, bat, and habitat surveys in accordance with NYSDEC guidelines for the development of a community-scale wind project in Steuben County. He developed the proposed scope of work, coordinated with NYSDEC for work plan review, and oversaw all field studies for quality assurance.

Steel Winds Waterfront Wind Farm, Lackawanna, New York. For BQ Energy, Mr. Morgante completed a Preliminary Avian Risk Assessment as part of E & E's investigation of the feasibility of developing a 10-turbine wind energy facility on a site located along the shore of Lake Erie, just south of Buffalo Harbor at the former Bethlehem Steel complex. He compiled and evaluated existing information on the project area, including data on seasonal use and proximity to several important bird areas, and developed and implemented the avian survey plan. The project included visual surveys during the spring raptor migration season, a review to address the proximity of a nesting colony of ring-billed gulls, and confirmation of site conditions.

Ripley-Westfield Wind Farm, Chautauqua County, New York. For Pattern Renewables, Mr. Morgante was E & E's project director and avian studies manager for this proposed 125-MW wind project, located adjacent to a raptor migration pathway and in proximity to multiple bald eagle nests. He helped prepare responses to comments on the draft EIS to satisfy SEQR requirements. He prepared the scope of work for the avian studies and the field protocol for year-round bird surveys in coordination with NYSDEC and USFWS. He coordinated all field surveys and conducted several site visits to evaluate potential avian issues. He also led the compilation of comprehensive field data reports; prepared a bird and bat risk assessment and draft EIS sections; and presented the results at meetings with NYSDEC, USFWS, and the co-lead agencies. He prepared a work plan, oversaw supplemental bald eagle surveys, and coordinated with NYSDEC and USFWS regarding bald eagle issues.

Ornithological Organizations. Outside of E & E, Mr. Morgante is an active member of the Buffalo Ornithological Society (BOS) and New York State Ornithological Association (NYSOA). Since March 2000, he has been the Region 1 (Niagara Frontier) editor of NYSOA's quarterly journal, *The Kingbird*, responsible for summarizing regional bird sightings and avian occurrence, distribution, and trends. He has served as the BOS President since 2015 after seven years as Vice President. From 1996 to 2002, he was the BOS compiler of avian records and, from 2008 to present, he has been a BOS Statistician of avian records. In 1998, 2006, and 2012, he chaired the BOS committee that produced updates to the verification date guide for species in western New York and southern Ontario. He also served on a BOS committee that researched over 40 years of records and prepared a seasonal distribution checklist for species occurring in western New York in 2003. He has led birding/wildlife field trips for BOS, the Nature Conservancy, the Buffalo Audubon Society, the Hamburg Natural History Society, the Roger Tory Peterson Institute's birding festival, and NYSOA's Birders Conference. Mr. Morgante has regularly conducted volunteer breeding bird surveys to support the nationwide efforts of the U.S. Geological Survey to monitor individual species populations. He was a very active participant in Atlas 2000, a NYSDEC-sponsored survey of breeding birds in New York State. Responsible for atlasing breeding birds in more than twenty 5- by 5-km survey blocks, he was recognized by Atlas 2000 for his outstanding contributions to the project. He has been an active participant in regional bird censuses, including participating in Audubon Christmas Bird Counts since 1977.

NEW YORK STATE
PUBLIC SERVICE COMMISSION

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for
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Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF Oneida)

Gordon Perkins, being duly sworn, deposes and says:

1. I am employed as Senior Project Manager by Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR), 217 Montgomery Street, Suite 1000, Syracuse, New York 13202, and I am appearing as a witness in this proceeding on behalf of Canisteo Wind Energy LLC.

2. I previously prepared, or supervised the preparation of, written testimony labeled Pre-Filed Testimony and Exhibit 24 Visual Impacts and Appendix 24a Visual Impact Assessment Report, which were filed under this case number with the Secretary of the Public Service Commission on November 2, 2018.

3. Upon review of my previously filed testimony and exhibits, no further corrections to either are necessary.

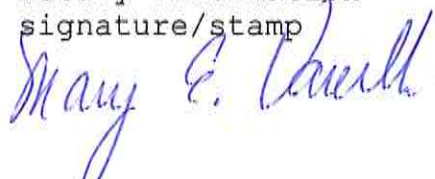
4. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written Pre-Filed Testimony is the same testimony I would give orally if

I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.


Gordon Perkins

Sworn to before me this 13 day of August, 2019.

Notary information
signature/stamp



MARY E. VANELLI
Notary Public - State of New York
No. 01VA6197320
Qualified in Madison County
My Commission Expires November 24, 2020

Gordon Perkins

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

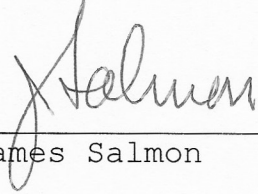
James Salmon, being duly sworn, deposes and says:

2. I previously prepared, or supervised the preparation of, written testimony labeled Pre-Filed Testimony and Appendix 15e Ice Throw Analysis, which were filed under this case number with the Secretary of the Public Service Commission on November 2, 2018.

4. I hereby affirm that the testimony and exhibit identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written Pre-Filed Testimony is the same testimony I would give orally if


Page 1

I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.


James Salmon

Sworn to before me this 19 day of August, 2019.

Notary information
signature/stamp


DAYID Z BOXEN



**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

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In the Matter of	:	
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CANISTEO WIND ENERGY LLC	:	Case 16-F-0205
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Application of Canisteo Wind Energy LLC for a	:	
Certificate of Environmental Compatibility and Public	:	
Need Pursuant to Article 10 for Construction of a Wind	:	
Energy Project in Steuben County.	:	
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- 1 **Q. Please state your name, employer, and business address.**
- 2 **A. James Salmon, Zephyr North Ltd., 850 Legion Road, Unit 20, Burlington,**
- 3 Ontario Canada.
- 4 **Q. For what parts of the application are you responsible?**
- 5 **A. Appendix 15e Ice Throw Analysis.**
- 6 **Q. Please explain your educational and professional background.**
- 7 **A. A copy of my curriculum vitae is attached.**

Zephyr North Ltd.

Jim Salmon, President and Chief Scientist

Dr. Jim Salmon is the President and Chief Scientist at Zephyr North Ltd. He is a graduate of Trent, York and Southampton Universities in physics, mathematics, meteorology and oceanography. He has been making field measurements of wind and many other meteorological and environmental parameters for more than 25 years.

He was key in the development of the internationally recognized computer software package MS-Micro for numerical modelling of wind flow in complex terrain. This software has been incorporated in a variety of present-day software packages such as ReSoft WindFarm and Environment and Natural Resources Canada's WindScope.

Jim has received the Andrew Thomson Prize in Applied Meteorology from the Canadian Meteorological and Oceanographic Society and the R.J. Templin Award "for outstanding contributions to the development of Canadian Wind Energy Technology" from the Canadian Wind Energy Association. He has also received CanWEA's Group Leadership Award "for exceptional achievement by a group or organization".

He is a Past-President of the Canadian Wind Energy Association and past board member of the Toronto Renewable Energy Co-op and the Positive Power Co-op of Hamilton. Jim was a member of the Canadian Standards Association (CSA) Committee for Site Assessment for Wind Energy Conversion Systems – Meteorological Aspects (F428-J1993) and is a former chairperson of the Canadian Meteorological and Oceanographic Society (CMOS) Professional Accreditation Committee. He is also a former chairperson of the Toronto Centre of CMOS.

Jim participated in the International Energy Agency's most recent (31st) Meeting of Experts on State of the Art on Wind Resource Estimation as Canada's representative.

He is a Consulting Meteorologist accredited by the Canadian Meteorological and Oceanographic Society.

NEW YORK STATE
PUBLIC SERVICE COMMISSION

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a
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Public Need Pursuant to Article 10 for
Construction of a Wind Energy Project in
Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ERIE)

Daniel A. Spitzer, being duly sworn, deposes and says:

1. I am employed as a Partner by Hodgson Russ LLP, The Guaranty Building, 140 Pearl Street, Suite 100 Buffalo, New York 14202, and I am appearing as a witness in this proceeding on behalf of Canisteo Wind Energy LLC.

2. I previously prepared, or supervised the preparation of, written testimony labeled Pre-Filed Testimony and Appendix 31a Identification of Local Laws, which was filed under this case number with the Secretary of the Public Service Commission on November 2, 2018.

3. Upon review of my previously filed testimony and exhibits, no further corrections to either are necessary.

4. I hereby affirm that the testimony and appendix identified above is true and correct to the best of my knowledge, information and belief. I affirm that the written Pre-Filed Testimony is the same testimony I would give orally if

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

CASE 16-F-0205

I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.



Daniel Spitzer

Sworn to before me this 13 day of August, 2019.

Notary information
signature/stamp



PATRICK SEAN DRY
No. 01DR6382676
Notary Public, State of New York
Qualified in Erie County
My Commission Expires Oct. 29, 2022

Daniel A. Spitzer

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

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In the Matter of	:	
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CANISTEO WIND ENERGY LLC	:	Case 16-F-0205
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Application of Canisteo Wind Energy LLC for a	:	
Certificate of Environmental Compatibility and Public	:	
Need Pursuant to Article 10 for Construction of a Wind	:	
Energy Project in Steuben County.	:	
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- 1 **Q. Please state your name, employer, and business address.**
- 2 **A. Daniel Spitzer, Hodgson Russ LLP, The Guaranty Building, 140 Pearl**
- 3 Street, Suite 100, Buffalo, New York 14202.
- 4 **Q. For what parts of the application are you responsible?**
- 5 **A. Appendix 31a Identification of Local Laws.**
- 6 **Q. Please explain your educational and professional background.**
- 7 **A. A copy of my curriculum vitae is attached.**

Daniel A. Spitzer, Esq.
Curriculum Vitae

Education:

B.S., cum laude, State University of New York at Oswego

J.D., magna cum laude, University at Buffalo Law School, State University of New York

Editor-in Chief, *Buffalo Law Review*

Co-Founder and Managing Editor, *Buffalo Environmental Law Review*

Pace National Environmental Moot Court, Champion Team

John N. Bennett Achievement Award Award

Judge Matthew J. Jasen Appellate Practice Award

MSC in Sustainable Development, with Merit, University of London School of Oriental and African Studies with a Specialization in Environmental Management

Work Experience:

Hodgson Russ, LLP

Associate, later Partner

9/93

Present

Adjunct Professor, UB School of Law, "Endangered Species Act" Seminar

Fall 2016

Chemung Schulyer Steuben Private Industry Council

Finance Director

6/89

8/90

City of Bullhead City Arizona

Finance Director

1/85

11/88

North & Spitzer, PC (CPA firm)

Accountant, later Partner

11/79

12/84

Admitted to Practice:

New York

Western District of NY

Northern District of NY

Southern District of NY

U.S. Tax Court

Representative Experience:

Drafted Town of Grand Island Zoning Code, Water Law, Sewer Law, Sign Code, Subdivision regulations

Drafted Town of Clinton Wind Energy Facilities Law

Drafted Town of Altona Wind Energy Facilities Law

Drafted Town of Ellenburg Wind Energy Facilities Law

Drafted Town of Allegany Wind Energy Facilities Law

Drafted Town of Albion Zoning Ordinance and Wind Law

Drafted Town of Lancaster Right-to-Farm and zoning amendments

Drafted Town of Ridgeway Junkyard Law

Drafted Town of Hamlin Wind Energy Facilities Law
 Drafted Town of Ashford Wind Law
 Represented City of Lackawanna in Steel Winds Project
 Drafted Town of Shelby Zoning Amendments
 Drafted Town of Yates Wind Energy Facilities Law
 Drafted Town of Hanover Wind Law
 Drafted Town of Villanova Zoning Amendments
 Drafted Town of Yates Wind Energy Facilities Law
 Drafted Village of Angelica Drainage Law
 Represented Village of Angelica in Casella Landfill Gas-to-Energy and Village Powerline Replacement Project
 Drafted Town of Mayfield Waste Management Facilities law
 Drafted Town of Niagara Sewer Law and Zoning Amendments
 Drafted Town of Arkwright Wind Energy Facilities Law
 Drafted Town of Fremont Wind Energy Facilities Law
 Drafted Town of Malone Wind Energy Facilities Law
 Drafted Town of Brandon Wind Energy Facilities Law

Representative Publications and Presentations:

New York Zoning Law and Practice, 4th, Author of Initial Draft and Updates of Chapter on Sustainable Design and Green Buildings
 New York Zoning Law and Practice, 4th, Author of Initial Draft of Chapter on Annexation
 Environmental Principles in U.S. and Canadian Law (co-author), in Principles of Environmental Law, Edward Elgar Publishers 2018
 New York Solar Projects –The Municipal Perspective, HR Municipal Law Seminar, Cheektowaga, May 17, 2018
 Regulatory Policy Updates, EUCI REV Summit, New York, April 1, 2018
 Challenges & Success of Solar Adoption Panel, 2018 Advanced Energy Conference
 New York, New York, March 27, 2018
 Court of Appeals Upholds Town Board Discretion in Delivering Fire Protection Services, HR Municipal Law Alert, July 26, 2018
 US Cleantech Market Intelligence Webinar, March 15, 2018 Urban Mobility & the Industrial Internet of Things (IIoT) Forum: New Models for Deployment in Smart Cities
 New York City, December 1, 2017
 Are Environmental Issues Intrinsically Linked to New York's Energy Policy? A Renewable Siting Overview, 2017 New York Business Council Annual Environment Conference
 The Gideon Putnam, November 16, 2017
 Opportunities Arising from Decarbonizing and Deregulating the Economy in the U.S., Webinar, November 8, 2017
 Hodgson Russ/CO2logic Webcast - Opportunities Arising From Decarbonizing and Deregulating the Economy in the U.S., October 31, 2017
 Winery and Vineyard Law CLE: Zoning and Regulatory Issues, Buffalo, NY, June 22, 2017

Real Property Tax Exemption and PILOTS Under Real Property Tax Law §487 for Solar Energy Programs, 32nd Annual School Client Conference, Cheektowaga, New York, January 13, 2017

Opportunities for Building Owners and Property Developers from the Reforming the Energy Vision (REV) Program, Buffalo, NY, June 1, 2016

Lawmaking Through Litigation Panel, Northeast Oil and Gas Awards, Pittsburgh, PA, March 30, 2016

Microgrid Financing, Wall Street Green Summit, New York, NY, March 14, 2016

The Future Transformation of the Energy Grid, GridMarket Panel Discussion, New York, NY, September 29, 2015

Financing Renewables Today, Wall Street Green Summit, New York, NY, March 23, 2015

Moving Sustainable Energy Projects Forward in Uncertain Times, TBLI Conference, New York, NY, June 17, 2013

Outlook for the Renewable Energy Sector: Who is better poised for renewable growth in the coming years, the U.S. or Europe?, European American Chamber of Commerce New York Energy Forum, New York, NY, March 14, 2013

FTC Ramps Up Enforcement Actions Under Revised Green Guides to Include Deceptive Biodegradable Plastics Claims, Legal & Tax Newsletter, a publication of the German American Chamber of Commerce, Fall 2013

Agrion Panel: Financing Onshore Wind Projects, New York, NY, March 13, 2013

Agrion Energy Summit and Sustainability Meeting, New York, NY, February 19, 2013

Can Municipalities Enact Local Laws Regulating the Oil and Gas Industry, HR Environment & Energy Alert, January 13, 2012

Navigating Municipal Environmental and Energy Issues: Municipal Law Experts on Meeting New Compliance Standards, Addressing Land Use and Redevelopment Concerns, and Prioritizing Environmental Policies (co-author), Thomson Reuters, 2010

Avoiding Minefields in "Green" Real Estate Leases and Contracts, 9th International Healthy Buildings 2009 Conference, Syracuse, NY, September 14, 2009

Current Trends in Planning Law, American Planning Association NY Chapter Webinar, June 5 2009

Host Community Agreements for Wind Farm Development, New York Zoning Law and Practice Report, March/April 2009

APA's Annual Planning Law Review National Webcast, June 25, 2008

A Guide to Regulating Big Box Stores, Franchise Architecture, and Formula Businesses (co-author), New York Zoning Law and Practice Report, January/February 2007

Regulation of Recreational Land Uses, Municipal Lawyer, Summer 2003

Boards and Professional Associations

New York Solar Energy Industries Association Policy Committee

Village of Kenmore Planning Board, Former Member and Chairman

Lake George Land Commission, Former Member

New York State Bar Association, State and Local Government Section Executive Committee,
Land Use Committee Co-Chair

New York State Bar Association, Committee on Transportation

American Bar Association Section of Environment, Energy, and Resources, Climate Change,
Sustainable Development, and Ecosystems Committee

NEW YORK STATE
PUBLIC SERVICE COMMISSION

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 for Construction of a Wind Energy Project in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

Douglas A. Teator, being duly sworn, deposes and says:

1. I am employed as a Project Manager by Creighton Manning Engineering, LLP, 2 Winners Circle, Suite 201, Albany, New York 12205, and I am appearing as a witness in this proceeding on behalf of Canisteo Wind Energy LLC.

2. I previously prepared, or supervised the preparation of, written testimony labeled Pre-Filed Testimony and Appendix 25b Road Survey, which were filed under this case number with the Secretary of the Public Service Commission on November 2, 2018.

3. Upon review of my previously filed testimony and exhibits, no further corrections to either are necessary.

4. I hereby affirm that the testimony and appendix identified above is true and correct to the best of my knowledge, information and belief. I affirm that the written Pre-Filed Testimony is the same testimony I would give orally if

CASE 16-F-0205

I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.


Douglas A. Teator

Sworn to before me this 27th day of August, 2019.

Notary information
signature/stamp



HILLARY M. FOSTER
Notary Public, State of New York
No. 01F06245668
Qualified in Albany County
Commission Expires August 1, 2023

Douglas A. Teator

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

Page 2

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

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In the Matter of	:	
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CANISTEO WIND ENERGY LLC	:	Case 16-F-0205
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Application of Canisteo Wind Energy LLC for a	:	
Certificate of Environmental Compatibility and Public	:	
Need Pursuant to Article 10 for Construction of a	:	
Wind Energy Project in Steuben County.	:	
	:	
-----	X	

- 1 **Q. Please state your name, employer, and business address.**
- 2 **A. Douglas A. Teator, Creighton Manning Engineering, LLP, 2 Winners**
- 3 Circle, Suite 201, Albany, New York 12205.
- 4 **Q. For what parts of the application are you responsible?**
- 5 **A. Appendix 25b Road Survey.**
- 6 **Q. Please explain your educational and professional background.**
- 7 **A. A copy of my curriculum vitae is attached.**

Douglas Teator

309 Presidential Way ~ Guilderland, NY 12084 ~ 518.929.0354 ~ teat1918@gmail.com

Profile

I am a New York State licensed Professional Engineer with 12 years of experience.

As a Project Manager, I am responsible for managing staff in order to deliver a high quality product that meets both the Client's needs and company's profit goal. I consider effective communication and a results oriented management style as two of my biggest strengths and am successful in utilizing these strengths to deliver on time and on budget projects. I take pride in being a team player and am continually striving for improvement. From a technical standpoint, I am well versed in transportation engineering, with a focus on highway and transit design.

Objective: To manage my own business unit or group.

Experience in:

- Client Management
- Customer Service
- Business Development
- Marketing and Advocacy
- Company Innovation
- Staff Planning
- Highway Design
- Transit Design & Planning
- FTA Process and Coordination
- Proposal writing
- Scope and Fee Development
- NYSDOT & LAFA Projects
- NYSDOT/Local Specifications
- Environmental Compliance & ROW

Relevant Training: *PSMJ Project Management Bootcamp, Dale Carnegie Skills for Success, New York State Public Transit Association: Public Transit Leadership Institute (PTLI), Innovation Team*

Professional Experience

Creighton Manning Engineering LLP – Albany, NY

Project Manager (June 2016 – Present), Associate (2018)

Responsibilities include preparing proposals and walking the Client and project through every step of the process, including, but not limited to, preparing the scope of work and fee, completing negotiations with clients, coordinating with project stakeholders, including NYSDOT and municipalities, staff planning, technical training, leading progress meetings with Clients, managing internal project tasks lists and completing project monthly invoices. Internally, I actively participate and contribute to Business Development and Innovation Teams and am also a functional manager.

Selected Projects

- **CDTA River Corridor and Washington Western Bus Rapid Transit Corridors, Albany and Troy, NY:** Responsible for the planning, design and implementation of \$40M and \$100M bus rapid transit systems, which includes over fifty bus stations, two transit center building, segments of dedicated busway, the expansion of two bus garages and right of way acquisition. As part of this project, I coordinate and manage three sub consultant firms on our design team who are responsible for architectural, structural and FTA grant application efforts on the project. In total, between internal staff and sub-consultants the project team approaches 40 staff.
- **PIN 1760.59 Washington Avenue Transit/Ped Improvements, CDTA, City of Albany, NY:** Responsible for managing internal staff to design the proposed improvements with the purpose of improving transit operations, upgrading and expanding passenger waiting areas and amenities and addressing pedestrian safety concerns. Throughout the construction process, I am the liaison to the Client, communicating project progress and working with the Client to resolve construction-related issues.

- **PIN 8812.78 Traffic Signal Improvements, NYSDOT Term Assignment, Dutchess, Orange, Rockland and Westchester Counties:** Responsible for scope and fee negotiations with NYSDOT for this thirty-nine location signal improvement project which focuses on pedestrian signalization and ADA compliance upgrades. I manage a team of 10 internal staff to complete the design approval document, design and bid the proposed improvements, identify and complete right of way acquisitions and I oversee the quality control of the design work.
- **PIN 8761.79 Lake and Stage Road Improvements, Village of Monroe, NY:** Responsible for scope and fee negotiations with NYSDOT for this thirty-nine location signal improvement project which focuses on pedestrian signalization and ADA compliance upgrades. I manage a team of internal staff to complete the design approval document, design and bid the proposed improvements and I oversee the quality control of the design work.
- **PINs 8761.72/8761.87 Main Street and Station Road Pedestrian Improvements, Village of Irvington, NY:** Responsible for scope and fee negotiations with the Village for this pedestrian improvement project which focuses on ADA compliance and upgrades at seven intersections and the installation of a sidewalk along a constrained urban roadway. I manage a team of internal staff to complete the design approval document, design and bid the proposed improvements and I oversee the quality control of the design work.
- **PIN 1760.57 Brandywine Avenue Pedestrian Safety Improvements, City of Schenectady, NY and PIN 8761.85 Transit District Bike/Ped Improvements, City of White Plains, NY:** Project manager responsible for scope and fee negotiations for these locally administered federal aid projects, which are in the early stages.

Project Engineer (June 2006 – June 2016)

As a member of the transportation group, responsibilities included developing and producing design plans, technical specifications, contract documents, estimate and letting, conforming to design standards, delegating tasks to staff, determining and adhering to project schedules, project implementation and construction support. Project responsibilities also included coordinating with municipal agencies, including the NYSDOT, for the review and permitting of design plans.

Selected Projects

- **Hudson Avenue and Broad Street Reconstruction Projects, Glens Falls, NY:** Responsible for the design of both NYSDOT LAFA project. The projects totaled \$6M and reconstructed the roadway pavement and sidewalk, replaced of five (5) traffic signals, installed green infrastructure stormwater management practices and bicycle infrastructure.
- **CDTA NY 5 Bus Rapid Transit, Albany to Schenectady, NY:** Responsible for the design, permitting, construction administration and construction oversight of 18 bus stations.
- **New York State Department of Transportation, Hurricane Irene Emergency Restoration Work, various counties (PINS 1808.95 & 1808.96):** Led a team of eight in performing field inspections of damage to roadways, assessing damage, and issuing work orders for nearly 200 locations in a five county area.
- **Hardscrabble and Roaring Brook Wind Farms; Herkimer and Lewis Counties:** Led the effort for design of two wind farms which combined, totaled over 70 wind turbines. Supported the construction phase, SWPPP compliance and addressed contractor RFIs.
- **State Street Rehabilitation, Albany, NY:** Responsible for the design and letting of this \$5M rehabilitation of State Street in downtown Albany, NY.

Education

Rensselaer Polytechnic Institute, Troy, NY

Bachelor of Science, Civil Engineering (2006)

Professional Memberships and Licensure

New York State Licensed Professional Engineer (LIC # 090993)

Associate Member of ASCE

New York State Public Transit Association (NYPTA)

NEW YORK STATE
PUBLIC SERVICE COMMISSION

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for
Construction of a Wind Energy Project in
Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF Ontario)

Ray M. Teeter, being duly sworn, deposes and says:

1. I am employed as a Consulting Geotechnical Engineer, P.O. Box 316, Canandaigua, New York 14424, and I am appearing as a witness in this proceeding on behalf of Canisteo Wind Energy LLC.

2. I previously prepared, or supervised the preparation of a report titled Preliminary Geotechnical Engineering Investigation, Proposed Canisteo Wind Energy Center, Multiple Towns, Steuben County, New York, Earth Dimensions Project Number 15F18 RMT-12948. The report was filed with the Secretary of the Public Service Commission on November 2, 2018, as Appendix 21a to the Application and was accompanied by a single page of written pre-filed testimony.

3. Upon review of my previously filed testimony and exhibits, no further corrections to either are necessary.

RAY M. TEETER
AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

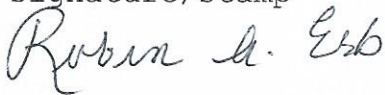
4. I hereby affirm that the pre-filed testimony and appendix identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written Pre-Filed Testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.



Ray M. Teeter

Sworn to before me this 13th day of August, 2019.

Notary information
signature/stamp



ROBIN A. ERB
Notary Public, State of New York
Ontario County Reg. #01ER4893395
Commission Expires 09/21/11/22/2021

RAY M. TEETER

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

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	:	
In the Matter of	:	
	:	
CANISTEO WIND ENERGY LLC	:	Case 16-F-0205
	:	
Application of Canisteo Wind Energy LLC for a	:	
Certificate of Environmental Compatibility and Public	:	
Need Pursuant to Article 10 for Construction of a	:	
Wind Energy Project in Steuben County.	:	
	:	
-----	X	

- 1 **Q. Please state your name, employer, and business address.**
- 2 **A. My name and business address are Ray M. Teeter, P.E., Consulting**
- 3 Geotechnical Engineer, P.O. Box 316, Canandaigua, New York 14424. I
- 4 am self-employed.
- 5 **Q. For what parts of the application are you responsible?**
- 6 **A. Appendix 21a Preliminary Geotech Report.**
- 7 **Q. Please explain your educational and professional background.**
- 8 **A. My resume and a sheet titled Areas of Practice are attached.**

RAY M. TEETER, P.E.

CONSULTING GEOTECHNICAL ENGINEER

1772

EXPERIENCE AND SERVICES

More than 40 Years Experience
More than 2,000 Projects
Subsurface Exploration
Field Testing
Laboratory Testing
Analyses
Reports

Peer Review
Design
Specifications
Construction Consultation
Performance Monitoring
Failure Investigations
Remedial Consultation

CLIENTS

Architects
Attorneys
Civil/Site Engineers
Contractors

Developers
Environmental Engineers
Forensic Engineers
Geologists

Geotechnical Engineers
Hydrogeologists
Owners
Structural Engineers

AREAS OF EXPERTISE

Shallow Foundations
Deep Foundations
Retaining Structures
Soil and Rock Slopes
Earth and Rockfill Dams
Concrete Dams

Groundwater
Dewatering
Excavation Support
Fill Placement
Soil/Rock Stabilization
Grouting

Underpinning
Instrumentation
Underground Structures
Pavement
Landfills
Slurry Trench Cutoff Walls

TYPICAL PROJECTS

Airports
Apartment Buildings
Banks
Bins and Silos
Bridges
Churches
Communications Towers
Dams and Dikes
Hospitals
Hotels

Houses
Industrial Plants
Office Buildings
Parking Facilities
Ponds
Pools
Power Plants
Pump Stations
Reservoirs
Restaurants

Retail Facilities
Roads and Railroads
Schools
Stadiums
Tanks
Treatment Plants
Warehouses
Water and Sewer Lines
Waterfront Structures
Wind Turbines

EDUCATION

Ph.D., Syracuse University

M.S., Clarkson College

B.S., Clarkson College

CURRENT PROFESSIONAL REGISTRATION

New York

P.O. BOX 316
CANANDAIGUA, NEW YORK 14424

PHONE 585-393-4762

Products and Services Provided to Clients

Reports • Peer review • Design • Specifications • Consultation during construction

Site Investigation and Characterization

Coordination of subsurface exploration programs • Test borings • Test pits • Soil and rock sampling • Groundwater observation wells • In-place testing of soil and rock • Laboratory testing for index/classification, strength, compressibility, permeability, and construction-control properties

Foundations

Spread footings • Mats • Slab-on-grade floors • Stiffened foundation systems over poor materials • Drilled piers • Driven piles • Grouted minipiles • Drilled-in helical piers • Resistance to upward forces (structural and hydrostatic), lateral forces, and overturning moments • Dynamics • Load Tests

Earth-Retaining Structures

Permanent walls • Temporary systems for excavation support • Basement walls • Loading docks • Bridge abutments • Bin walls • Crib walls • Gabions • Geosynthetic-reinforced systems • Waterfront structures • Sheetpiling • Soldier piles and lagging • Cantilever, braced, anchored, and tied-back systems

Slopes

Slopes in soil and rock • Natural, cut, and fill slopes • Geosynthetic-reinforced systems • Stabilization techniques • Erosion control

Dams and Dikes

Earth, rockfill, gravity, buttress, and arch dams • Stabilization techniques including drainage, grouting, and tiedown anchors • Erosion control • Instrumentation

Groundwater

Construction dewatering techniques including sumps, wellpoints, and deep wells • Long-term drainage of foundations, walls, slopes, and dams • Water supply • Hydraulic barriers including landfill liners and caps, pond and lagoon liners, and slurry trench cutoff walls

Excavation, Earthwork

Excavation support systems • Construction dewatering • Rock blasting • Subgrade preparation • Placement and compaction of fill • Pipe bedding and backfill

Ground Modification, Site Improvement

Dynamic densification techniques • Preloading • Surcharging • Wick drains • Grouting • Stabilizing additives • Geosynthetics

Pavement

Flexible (asphalt) pavement • Rigid (concrete) pavement • Roadways • Parking areas • Airports • Design of new pavement • Investigation of existing pavement • Geosynthetics

Instrumentation for Performance Monitoring

Settlement • Heave • Lateral displacement • Tilt • Loads and stresses • Groundwater levels and pressures

Investigations of Damage or Failure

Settlement of foundations • Hydrostatic Uplift • Frost heave • Displacement or tilting of walls • Slope movements • Excessive seepage, distress, or failure of dams • Construction-related damage • Vibrations

Remedial and Special Geotechnical Construction

Concrete pit underpinning • Grouted minipiles • Drilled-in helical piers and anchors • Grouted anchors in rock and soil • Pressure grouting • Lightweight fill

NEW YORK STATE
PUBLIC SERVICE COMMISSION

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 to Construct
a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF New York)
) ss:
COUNTY OF Monroe)

I, Michael Saviola, being duly sworn, deposes and says:

1. I am employed as an Associate Environmental Analyst by the New York State Department of Agriculture and Markets, and I am appearing as a witness in these cases on behalf of the Department of Agriculture and Markets.

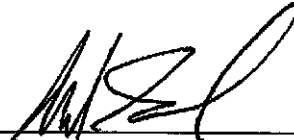
2. I previously prepared, or supervised the preparation of, written testimony labeled Direct Testimony of Michael Saviola and exhibits labeled DAM-1, DAM-2, DAM-3, DAM-4 and DAM-5, which were filed under these case numbers with the Secretary of the New York State Board on Electric Generation Siting and the Environment on July 12, 2019.

3. Upon review of my previously filed testimony and exhibits, no further corrections to either are necessary.

4. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I

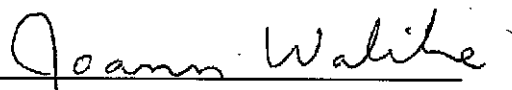
CASE 16-F-02505 Canisteco Wind

appeared in person at the hearing scheduled in this case. I
adopt that testimony as my sworn testimony in these proceedings.



Michael Saviola

Sworn to before me this 26th day of
August, 2019.



Joann Walike

Notary information
signature/stamp

JOANN WALIKE
Notary Public, State of New York
Qualified in Monroe County
No. 01WA6007907
Commission Expires May 26, 7/1/22

NEW YORK STATE BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

In the Matter of

Application of Canisteo Wind Energy, LLC for a Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 to construct a Wind Energy Project.

Case No. 16-F-0205

July 12, 2019

Prepared Testimony of:

Michael Saviola
Associate Environmental Analyst
New York State Department of
Agriculture & Markets
1530 Jefferson Rd.
Rochester, NY 14623
P: (585) 427-0221

Albany Office:
10B Airline Dr.
Albany, NY 12235
P: (518) 457-1059

Witness Introduction

Q: Please state your name, employer and business address.

A: Michael Saviola, New York State Department of Agriculture and Markets (the Department), 1530 Jefferson Rd., Rochester, NY 14623.

Q: In what capacity are you employed by the Department?

A: I am an Associate Environmental Analyst in the Division of Land and Water Resources.

Q: Please summarize your educational background and professional experience.

A: I received B.S. and M.S. degrees in Natural Resources Management from the SUNY College of Environmental Science and Forestry in Syracuse, NY. Prior to working for the Department, I worked for several private consulting engineering firms. I also worked as professional staff of the Westchester County Department of Planning and the Westchester County Soil and Water Conservation District, in which capacity I worked on a variety of projects designed to manage environmental and other impacts related to agricultural land. I began working for the Department approximately 13 years ago.

Q: Please describe your duties with the Department.

A: I specialize in agricultural land use issues. I am responsible, among other things, for reviewing the impact of a variety of major utility-scale construction projects on agricultural lands. As relevant to this proceeding, I am responsible for evaluating the potential impact of generation and electric collection project infrastructure on agricultural lands. My primary responsibilities include the review, evaluation, and necessary follow-up (Certification and Compliance) pertaining to proposed commercial wind energy generating facilities, commercial solar electric generating facilities and high voltage electric transmission line right-of way projects pursuant to Article 7 and Article 10 of the

1 NYS Public Service Law. When reviewing these projects, I focus on identifying possible
2 impacts to agricultural resources and the farming operations in the vicinity. When a
3 proposed project appears to have a negative impact on agriculture, as a Statutory Party
4 under Article 7 and Article 10, I advise the project applicant and/or approving
5 Commission or Board of the possible alternatives, construction techniques, and
6 mitigation measures that would reduce or eliminate such impacts.

7 **Q: Do you have any professional certifications?**

8 **A:** In addition to an advanced degree in Natural Resources Management, I am certified by
9 the North American Lake Management Society as a Certified Lake Manager.

10 **Q: Have you testified before the Public Service Commission before?**

11 **A:** Yes, I testified in Case numbers 11-T-0534, 13-T-0077, 14-F-0490, and 16-F-0328. I
12 have also been an active participant in dozens of utility-scale projects involving natural
13 gas pipelines, and high voltage overhead electric transmission lines regulated under
14 Article VII of the NYS Public Service Law. On behalf of the Department, I have been
15 involved in the review of construction monitoring and restoration of nine commercial
16 wind energy generation facilities in Western NY and the southern tier. I am also
17 currently involved in the review of approximately sixteen (16) other actively proposed
18 wind energy projects, and approximately sixteen (16) commercial solar electric
19 generating facilities pursuant to Article 10 of the NYS Public Service Law.

20
21 **Exhibits Sponsored**

22 **Q: Are you sponsoring any exhibits?**

23 **A:** Yes.

1 **Q: Which exhibits are you sponsoring?**

2 **A:** I am sponsoring five exhibits, labeled for preliminary identification as exhibits DAM-1
3 through DAM-5.

4 **Q: Please describe the first exhibit labeled DAM-1 for identification.**

5 **A:** The first exhibit is an Interrogatory/Document Request (IR) made by the Department to
6 the Applicant regarding the Golden Nematode Quarantine Restrictions. The applicant
7 submitted responses to the request on June 27, 2019. According to the Applicant's
8 response, there are no identified fields located in the Project Area that are subject to
9 Golden Nematode quarantine restrictions.

10 **Q: Please describe the second exhibit labeled DAM-2 for identification.**

11 **A:** The second exhibit is a second Interrogatory/ Document Request (IR) made by the
12 Department to the Applicant. This IR pertains to resource protection measures associated
13 with the installation of the buried 34.5 kV electrical collection system. The applicant
14 submitted their response to the request on June 28, 2019.

15 **Q: Please describe the third exhibit labeled DAM-3 for identification.**

16 **A:** The third exhibit is a third Interrogatory/ Document Request (IR) made by the
17 Department to the Applicant. This IR pertains to topsoil resource protection measures
18 associated with temporary crane build areas. The applicant submitted their response to
19 the request on June 28, 2019.

20 **Q: Please describe the fourth exhibit labeled DAM-4 for identification.**

21 **A:** The fourth exhibit is a Diversion terrace repair specification.

22 **Q: Please describe the fifth exhibit labeled DAM-5 for identification.**

23 **A:** The fifth exhibit is a Diversion Terrace Protection and Matting specification.

1 **Q: What is the purpose of including DAM-4 and DAM-5 with your testimony?**

2 **A:** There are numerous locations whereby project components, namely buried collection
3 cables, cross diversion terraces. The applicability of these standards will be described in
4 more detail in my direct testimony provided below.

5

6 **Direct Testimony**

7

8 **Q: What are your responsibilities in this proceeding?**

9 **A:** My responsibilities in this proceeding include reviewing the Article 10 Application and
10 supporting pre-construction drawings and other documents submitted by the Applicant,
11 Canisteo Wind Energy, LLC (CWE) during the phases of project review under Article
12 10. I visited the proposed site of the project in the fall of 2018.

13 **Q: What was the purpose of your review and evaluation in this proceeding?**

14 **A:** To determine the nature and scope of potential impacts of the proposed project on
15 agricultural land.

16 **Q. What are the primary agricultural impacts associated with the construction of a**
17 **commercial wind energy generation facility on agricultural lands?**

18 **A.** The primary agricultural impact associated with the construction of a commercial wind
19 energy generation facility is the permanent conversion of farmland to a non-agricultural
20 use. This conversion is the result of the construction of project-related infrastructure
21 including access roads, the siting of wind turbines, the underground electric collection
22 system and other components.

1 **Q. How does the siting of wind project-related infrastructure impact agricultural**
2 **operations?**

3 **A.** There are several potential impacts. As dairy and cash crop farming operations become
4 larger, the equipment used for planting and harvesting has become larger as to achieve
5 efficiencies in crop production. Often, this equipment can include two pieces of
6 harvesting or tillage equipment pulled by a single tractor. As the size of the farming
7 equipment has increased over the years, the turning radius for the equipment has also
8 increased. The location of access roads and other project-related infrastructure in an
9 agricultural field creates an obstacle which the farmer has to avoid during field cropping
10 operations. Placement of project-related infrastructure in agricultural fields can result in
11 a loss of productive acreage as well as a decrease in field operation efficiency with the
12 larger planting and harvesting equipment because of the increased turning radii required.
13 Depending on the location of project-related infrastructure such as junction boxes, access
14 roads, turbine locations, crane pads and laydown areas, the loss of acreage available to
15 farming, and the loss of farming efficiency can be significant.

16 **Q. Explain how the location of access roads can impact an agricultural operation.**

17 **A.** The construction of access roads in agricultural fields may, in some cases, divide larger
18 fields into smaller, less workable fields. This could potentially result in a loss of
19 efficiency navigating equipment around project infrastructure. In most cases, properly
20 planned and constructed access roads can benefit farming operations by providing
21 enhanced field access for farming equipment. In most cases, the construction of access

1 roads adjacent to active farm fields enhances farm viability by affording more efficient
2 and safe access into fields by mechanized farming equipment.

3 **Q. What are the potential negative impacts from the construction of access roads in**
4 **agricultural lands?**

5 **A.** In some cases, access roads can sever or divide fields into less viable or workable smaller
6 field units. Modern mechanized farming equipment keeps getting larger to gain
7 efficiency through time. Divided smaller fields created by improper access road planning
8 and design are less efficient from a farming standpoint.

9 **Q. Have you reviewed the exact locations where the Applicant proposes to construct**
10 **access roads adjacent to and through agricultural fields?**

11 **A.** Yes. I have conducted a desktop analysis of the project layout, in addition to the site visit
12 conducted in September of 2018.

13 **Q: What can be done to reduce or eliminate potential agricultural impacts from access**
14 **roads adjacent to or through agricultural lands?**

15 **A:** In accordance with Department Guidelines, the Applicant should construct access roads
16 in a manner that does not divide larger fields into smaller fields. Access roads should be
17 constructed 'at grade', meaning the stone surface should be level with the surrounding
18 adjacent field or slightly crowned. This will allow for enhanced field access and reduce
19 or eliminate potential damage to mechanized farming equipment. In accordance with our
20 Windfarm Construction Guideline, access roads should follow field edges or utilize
21 existing farm access roads or tractor paths in order to reduce agricultural impacts. In

1 some cases, site topography, and other environmental constraints are the primary driver
2 for deviating from the Department's Windfarm Construction Guidelines.

3 **Q: Does the facility layout follow the Department's Guidelines for Agricultural**
4 **Mitigation for Wind Power Projects?**

5 **A:** The layout and preliminary design of this project follows the Department's Guidelines for
6 Agricultural Mitigation for Wind Power Projects with the exception of proposed access
7 road locations I will discuss in more detail in my testimony.

8 **Q: Are there any access roads you have concerns regarding potential agricultural**
9 **impacts?**

10 **A:** Yes

11 **Q: Please describe the access roads and turbine locations you have concerns about and**
12 **what are your suggested changes and why?**

13 **A:** The access road leading to T-7 should be moved approximately 400 feet south and follow
14 the edge of the field. This will prevent this field from being bisected by the access road
15 and splitting this rectangular field into two smaller fields.

16 The access road leading to T-27 should be moved approximately 250 feet north and run
17 adjacent to an existing small hedgerow in order to avoid bisecting this field into two
18 smaller fields.

19 The access road to T-32 should be shifted to the north directly adjacent to the hedgerow.
20 This will avoid severing the corner of the field making it inaccessible.

21 The access road to T-66 and T-67 should be moved approximately 300 feet east and
22 follow the edge of the woods in order to avoid dividing the field into two smaller fields.

1 The access road to T-128 should be shifted slightly to the west and follow the edge of the
2 existing wooded hedgerow. This will prevent the corner of the corner of the field from
3 becoming abandoned from farming.

4 **Q: Are there any areas where underground collection could have an impact on**
5 **engineered drainage features constructed on agricultural land?**

6 **A:** Yes. I have identified several diversion terraces along the proposed buried collection
7 lines in several locations, including a stretch southwest of T-8 in Jasper where the buried
8 collection crosses a diversion terrace east of North Road, directly east of the Access Road
9 to T-24 in Jasper, adjacent to T-42 in Canisteo, and west of T-54 in Cameron. In
10 addition, there are likely other locations that may not have been readily apparent during
11 my desktop and field review of the Project.

12 **Q: Please describe diversion terraces and indicate why they are relevant to this**
13 **proceeding.**

14 **A:** Diversion terraces are engineered water management features intended to reduce soil
15 loss, erosion and are intended to safely convey runoff from fields having steep slopes to a
16 suitable outlet. They are grassed, berm-like structures typically installed along the
17 contour of steep slopes. Diversion terraces are very common in this region of the State
18 due to the hilly nature of the topography of the Allegheny Plateau physiographic province.
19 Based on my experience from other utility-scale (Natural Gas Pipeline and Commercial
20 Wind Energy) projects in the region, it is always best to completely avoid disturbance to
21 diversion terraces because they can be very difficult to restore properly. The Department
22 typically recommends that underground collection lines and natural gas pipelines be

1 installed beneath diversion terraces via trenchless methods, or Horizontal Directional
2 Drill (HDD). However, if diversion terraces are penetrated for the installation of
3 underground collection, specialty repair techniques are required to restore these structures
4 to retain the hydraulic integrity of the diversion. The Department has developed general
5 specifications for diversion terrace crossing and repair which should be utilized during
6 diversion terrace repair where applicable. These specifications are presented as
7 sponsored Exhibits DAM-4 and DAM-5. Although originally prepared for natural gas
8 pipeline construction, the same principles apply to trenching and installation associated
9 with the buried collection system.

10 **Q:** Is there an alternative to conducting the repair activities associating with open cutting or
11 trenching through diversion terraces for buried collection installation?

12 **A:** The Department typically recommends that underground collection lines and natural gas
13 pipelines be installed beneath diversion terraces via trenchless methods, or Horizontal
14 Directional Drill (HDD). However, if diversion terraces are conventionally open cut or
15 trenched using a trencher for the installation of underground collection, specialty repair
16 techniques shown in Exhibits DAM-4 and DAM-5 will be required to fully restore the
17 hydraulic integrity of each diversion crossed.

18 **Q:** **Are there other engineered water management features which are common within**
19 **the Project Area?**

20 **A:** Yes, there is likely a substantial amount of subsurface drain tiles that will be encountered
21 when excavating for turbine foundations and for the buried collection system.

1 **Q: What are subsurface drain tiles and what are their relevance to farming?**

2 **A:** In agriculture, tile drainage is a type of drainage system that removes excess water from
3 soil below the surface. Too much subsurface water can be counterproductive to
4 agriculture by preventing root development and by inhibiting the growth of some crops.
5 In addition, too much water can also limit access to the land, particularly by farm
6 machinery, because vehicles and trailers tear up the wet ground and may become stuck
7 due to overly saturated soil conditions. Field access matters because most modern
8 agriculture depends on the use of large machinery—tractors and implements—to prepare
9 the seedbed, plant the crop, carry out any cultivation and fertilizer/herbicide/pesticide
10 applications during the growing season, and ultimately, to harvest the crop. Drain tiles
11 allow access to fields earlier in the spring and remove excess “perched” groundwater
12 which would otherwise inhibit crop growth and pose a soil rutting hazard. This region of
13 the State is underlain by very dense, poorly drained glacial till soils. Mostly Mardin and
14 Volusia soils which are notoriously seepy due to them both having a dense fragipan
15 which restricts vertical water movement. Penetration of the fragipan by excavating for
16 the buried collection system will require specialized artificial subsurface drainage in
17 order to alleviate groundwater spring seeps and waterboils at level breaks in topography.
18 Drain tiles help to offset this condition by artificially draining fields which would
19 otherwise be saturated and be in a much less workable condition.

1 **Q: Is there anything that can be done to help reduce or mitigate potential impacts to**
2 **fragipan restricted soils and subsurface drain tiles?**

3 **A:** If drain tiles are severed via trenching during underground collection trenching and
4 installation, they must be repaired immediately by a qualified agricultural drainage
5 specialist in accordance with the Department's drain tile repair illustration as contained in
6 our Pipeline Right-of-Way Construction Guidelines. Due to nature of the fragipan
7 restricted soil types common in the Project area and the known presence of subsurface
8 drain tiles and "pattern-drain" systems present, we recommend that the Applicant develop
9 a detailed Drain Tile Repair Plan specific to this Project and retain the services of a
10 qualified agricultural drainage specialist during construction and site restoration

11 **Q: Have you reviewed the proposed location of the Collection Substation?**

12 **A:** Yes. In the Fall of 2018 I observed the proposed location of the Collection Substation.

13 **Q: Please describe the suitability of this site for use as a Collection Substation.**

14 **A:** It is my opinion that the proposed site for the Collection Substation on Jackson Hill
15 Road in Jasper is an acceptable location to use for a Collection Substation.

16 **Q: Please explain why?**

17 **A:** The northern portion of the site is comprised of abandoned or fallow farmland. It was
18 likely abandoned due to the high rock content and poor-quality soils present. The site is
19 comprised mostly of Volusia and Lordstown soils. Although the Volusia soils are
20 designated as Prime Farmland, and the Lordstown soils are designated as Farmland of
21 Statewide Importance, these soil types are constrained by a shallow depth to lithic
22 bedrock (Lordstown) and a distinct drainage restrictive fragipan layer ranging from 10 to

22-inches below the ground surface (Volusia). This field is likely seldom utilized for rotation cropping and is was mostly utilized as a permanent grass hay field because of the constraints described above. This is confirmed by a review of historic aerial photography dating back to 1994. This is a preferred site as compared to siting a similar facility on highly productive, well-drained rotation cropland.

Q: Please describe the need for a designated, qualified, full time agricultural monitor and agricultural drainage specialists for projects of this nature.

A: This project has the potential to permanently impact a large amount of agricultural land if restoration is not overseen by a qualified agricultural resource professional. I have extensive knowledge of soils in this region of the state from our involvement with the construction and restoration of three utility-scale windfarms in Steuben County. This region of New York is complicated by soils having a very thin layer of topsoil, underlain by a dense layer of glacial till, most of which is restricted by a dense fragipan, shallow depth to lithic bedrock, or perched high water table. These unique and complex soil characteristics will require the services of a qualified agricultural professional or agricultural drainage specialist who has a degree or professional background in soil conservation, hydrology and/or agronomy. I have been involved with similar wind projects where the Applicant's tried unsuccessfully to use terrestrial ecologists, transportation engineers or wetland consultants to serve in this role and in those cases, topsoil resource protection measures and agricultural restoration activities were not initially conducted in accordance with Department Guidelines. They just don't have the same skillset needed to solve complex drainage issues in an agricultural setting. For a

1 project of this scale, you need the skillset of a full time, qualified agricultural drainage
2 specialist to assist the Project Environmental Monitor.

3 **Q: Did the Department prepare guidelines for Agricultural Mitigation for Wind**
4 **Power Projects?**

5 **A:** Yes. They were updated in 2012.

6 **Q: What is the importance of these guidelines being followed by an applicant?**

7 **A:** It is important to follow the guidelines in order to reduce and/or eliminate impacts to
8 agricultural lands to the fullest extent practicable. These guidelines were developed
9 based upon the Department's experience with other utility-scale construction projects
10 affecting farmlands. In order to reduce or eliminate adverse impacts to agricultural
11 lands, the siting and routing of project infrastructure in relation to agricultural resources
12 must be taken into account. In addition, soil resource protection measures during
13 construction are outlined in the Department's Guidelines as are provisions for
14 restoration and follow-up monitoring. Proper siting, soil resource protection during
15 construction, agricultural restoration and follow-up monitoring are essential in order to
16 reduce or eliminate project impacts on affected agricultural lands.

17 **Q: Does this conclude your testimony?**

18 **A:** Yes.

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

Theodore N. Loukides, being duly sworn, deposes and says:

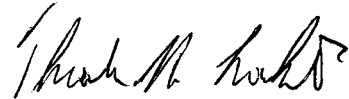
1. I am employed by the New York State Department of Environmental Conservation (NYSDEC) as the Chief of the Oil and Gas Compliance and Enforcement Section, Division of Mineral Resources, in the NYSDEC Central Office in Albany, New York, and I am appearing as a witness in this proceeding on behalf of NYSDEC.

2. I prepared written testimony labeled "Direct Testimony of Theodore N. Loukides and Linda Collart" and one exhibit Marked NYSDEC-LC-1, which were filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony and exhibits, I note the following correction: the applicant's name, "Canisteo Wind Energy LLC", was added to the testimony caption. Revised filings incorporating this correction were filed under this case number with the Secretary of the Public Service Commission on August 9, 2019.

4. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I appeared in person at the

hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.



Theodore N. Loukides

Sworn to before me this 12th day of August, 2019.



Notary information
signature/stamp

Drew A. Wellette
Notary Public, State of New York
Qualified in Schenectady Co.
No. 01WE6089074
Commission Expires 03/17/ 2023

NEW YORK STATE
PUBLIC SERVICE COMMISSION

1792

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF LIVINGSTON)

Linda Collart, being duly sworn, deposes and says:

1. I am employed by the New York State Department of Environmental Conservation (NYSDEC) as the Regional Mineral Resources Supervisor, Division of Mineral Resources, in the NYSDEC Region 8 in Avon, New York, and I am appearing as a witness in this proceeding on behalf of NYSDEC.

2. I prepared written testimony labeled "Direct Testimony of Theodore N. Loukides and Linda Collart" and one exhibit Marked NYSDEC-LC-2, which were filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony and exhibits, I note the following correction: the applicant's name, "Canisteo Wind Energy LLC", was added to the testimony caption. Revised filings incorporating this correction were filed under this case number with the Secretary of the Public Service Commission on August 9, 2019.

4. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I appeared in person at the

hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.


Linda Collart

Sworn to before me this 12th day of August, 2019.

Notary information
signature/stamp



KIMBERLY T SHUTTS
Notary Public, State of New York
Qualified in Livingston County
Commission Expires March 14, 2022
Registration No. 01SH4924364

**NEW YORK STATE BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT**

In the Matter of the Application of

Canisteo Wind Energy LLC

Case No.: 16-F-0205

for a Certificate of Environmental Compatibility
and Public Need Pursuant to Article 10 to
Construct a Wind Energy Project.

**DIRECT TESTIMONY OF
THEODORE N. LOUKIDES AND LINDA COLLART**

Division of Mineral Resources
New York State Department of Environmental Conservation

July 12, 2019

WITNESS INTRODUCTION

Q. Will the witness please state his name, employer, title and business address?

A. My name is Theodore N. Loukides. I have been employed by the Department of Environmental Conservation (Department or NYSDEC) in the Division of Mineral Resources for approximately 17 years and I have served in the Bureau of Resource Development and Reclamation as the Chief of the Oil and Gas Compliance and Enforcement Section for approximately 7 years. I currently work in the DEC's Central Office, Albany, New York.

Q. Will the first witness please describe his educational background and professional certifications?

A. Please see a copy of my resume, attached hereto as NYSDEC-LC-1.

Q. Will the second witness please state her name, employer, title and business address?

A. My name is Linda Collart. I have been employed by the Department in the Division of Mineral Resources for more than 21 years and have been in my current position as the Regional Mineral Resources Supervisor for almost 16 years. Previously, I worked for more than 4 years as a Mined Land Reclamation Specialist 1 in the Region 8 Mined Land Reclamation Program. I currently work in the NYSDEC's Region 8 Office in Avon, New York.

Q. Will the second witness please describe her educational background and professional certifications?

1 A. Please see a copy of my resume, attached hereto as NYSDEC-LC-2.

2 **Q. What are your collective responsibilities at the Department?**

3 A. As Mineral Resources Specialists, we regulate the development, production and
4 utilization of oil and gas in the State in a manner as will prevent waste, provide for a greater
5 ultimate recovery of oil and gas. Similarly, we regulate underground gas storage wells,
6 solution salt mining wells, and stratigraphic and geothermal wells drilled deeper than 500
7 feet. We also regulate how wells are drilled and plugged to prevent pollution and migration
8 of fluids in the subsurface.

9 **Q. Mr. Loukides, what is your experience regarding oil and gas infrastructure?**

10 A. As Chief of the Oil and Gas Compliance and Enforcement Section, I supervise six
11 professionals and technical staff. I oversee the Department's programs pertaining to the
12 filing and maintenance of administrative documentation for oil, gas and solution mining
13 activities within the state. I also oversee the Department's orphaned well program, which
14 incorporates a multi-layered approach to locating, verifying, and scoring wells that were
15 abandoned by their original/former owners or operators without being plugged. My
16 industry experience includes petroleum exploration in the south-central and midwestern
17 U.S. and geophysical prospecting in the Rocky Mountains.

18 **Q. Mr. Loukides, what is your experience regarding oil and gas compliance and**
19 **review of proposed wind energy projects?**

20 A. I review proposed wind energy projects, including projects proposed pursuant to
21 Article 10 of the Public Service Law (Article 10), for potential impacts to existing oil and

1 gas infrastructure. While the review of proposed wind energy projects is relatively new to
2 our regulatory program, my experience regarding oil and gas compliance and review of
3 proposed wind energy projects parallels my experience reviewing a wide variety of State
4 Environmental Quality Review Act (SEQRA) issues as they pertain to oil and gas
5 infrastructure.

6 As a professionally-trained geologist, my knowledge and understanding of both the
7 geologic framework and the anthropogenically-derived elements (roads, buildings, dams,
8 landfills) that mantle the geologic framework forms the basis of my review and analysis. I
9 draw from my long and varied professional background, which includes oil and gas
10 exploration, geophysical prospecting, hydrogeologic consulting, and construction
11 management. Further, my section has been tasked with researching technologies that are
12 being developed and have been implemented for use in locating orphaned oil and gas wells.
13 Toward that end, we have collaborated on several projects with researchers flying over
14 areas with plugged and unplugged oil and gas wells using unmanned aerial system (UAS
15 or drones) equipped with alkali-earth (primarily cesium and rubidium) vapor
16 magnetometers. In addition, my staff and I participate in monthly roundtable discussions
17 with UAS researchers and developers around the country.

18 **Q. Ms. Collart, what is your experience regarding oil and gas infrastructure?**

19 **A.** As Regional Mineral Resources Supervisor, I am responsible for overseeing the
20 Department's regulation of oil, gas and other types of regulated wells in Regions 6, 7, and
21 8 overseeing five professional and technical staff members. Specific responsibilities

1 include well permit processing, record keeping, assignment and oversight of field work,
2 and enforcement of regulatory requirements. Staff performs well drilling and plugging
3 inspections, compliance inspections associated with existing wells, complaint
4 investigations, and inspections to look for orphaned/abandoned wells. Through our field
5 experience, my staff and I are very familiar with oil and gas wells including how they are
6 constructed in the subsurface as well as ancillary production equipment at the surface. As
7 a geologist, I have knowledge of the subsurface formations and oil and gas reservoirs in
8 the State and principles related to subsurface fluid migration. I represent the Division of
9 Mineral Resources when interacting with cooperating agencies, industry representatives,
10 the public, and other NYSDEC programs in the region. I also have 9 years of experience
11 as a petroleum exploration geologist and field operations supervisor for independent oil
12 and gas producers in Ohio and New York.

13 **Q. Ms. Collart, what is your experience regarding oil and gas compliance and**
14 **review of proposed wind energy projects?**

15 A. I am responsible for compliance associated with oil and gas wells in NYSDEC
16 Regions 6, 7, and 8 and have had this responsibility since working in my current position
17 as Regional Mineral Resources Supervisor. Wind energy projects have only recently been
18 proposed in areas where there has been considerable gas and oil well drilling and active,
19 inactive and abandoned wells are prevalent. My review of proposed wind energy projects
20 with respect to impacts to existing oil and gas infrastructure is very similar to my
21 experience reviewing for projects where potential impacts to the environment as the result

1 of subsurface construction activity are assessed. Any project, including a wind energy
2 project, proposed to be sited in an area containing existing oil and gas infrastructure, risks
3 potentially encountering or disturbing unknown subsurface oil and gas infrastructure. With
4 any type of well permitting, my office is responsible for reviewing projects and assessing
5 the potential for environmental impacts associated with drilling, constructing, and plugging
6 wells.

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

8 A. The purpose of our testimony is to provide an overview of the Department's oil and
9 gas regulatory program, and the State statutes, regulations, and guidance regarding oil and
10 gas infrastructure that should be applied when evaluating the impacts of wind energy
11 projects on such infrastructure. Our testimony will provide background regarding the oil
12 and gas wells and associated infrastructure in the Project area and a discussion of the
13 potential effects of impacting such infrastructure during Project construction.

14 **Q. What information has provided the basis for your testimony?**

15 A. Our testimony is based on the Project application - specifically Exhibit 21 and
16 supporting Appendices - submitted by Canisteo Wind, LLC (Applicant) on November 2,
17 2018, together with Exhibit 21 related supplemental filings filed on January 28, 2019 and
18 May 24, 2019, (collectively, the Application). We have reviewed all the above-referenced
19 materials in the context of ensuring the Application and Project adequately address oil and
20 gas infrastructure.

21 **OIL AND GAS INFRASTRUCTURE**

1 **Q. Please provide a general description of oil and gas infrastructure in New York**
2 **State.**

3 A. Based on historic industry and academic publications, and supplemented by
4 anecdotal information, the Department believes that over 75,000 wells have been drilled in
5 the State since the first gas well was drilled in Fredonia in 1821 and the first oil well was
6 drilled in Limestone in 1865. The Department's database currently contains some 42,000
7 well records; therefore, there are likely tens of thousands of undocumented wells whose
8 location and condition are unknown. Many of these wells were drilled prior to the existence
9 of a regulatory agency in the State. Orphaned oil and gas wells exist in all states where oil
10 and/or gas exploration and development has occurred. They are legacies of our historical
11 energy production, and they present a range of environmental concerns that has been
12 exacerbated by society's expansion into areas where these wells exist.

13 **Q. What records does the Department keep regarding the locations of oil and gas**
14 **infrastructure in New York State?**

15 A. As stated earlier, the Department's database currently contains some 42,000 well
16 records. These records are based on historic industry and academic publications,
17 supplemented by anecdotal information and, of course, the records created and maintained
18 by the Department since the inception of the state's oil and gas regulatory program in 1963.

19 **Q. Why are the Department records not adequate to identify all oil and gas**
20 **infrastructure?**

1 A. The Department's records of oil and gas infrastructure do not adequately identify
2 all oil and gas infrastructure in the state because many thousands of wells and associated
3 infrastructure were emplaced long before the existence of a regulatory framework in New
4 York State.

5 **Q. Approximately how much oil and gas infrastructure could be in this Project**
6 **area?**

7 A. Oil and gas infrastructure onsite could include wells, meters, tanks (petroleum bulk
8 storage, and brine), pump jacks, rods, tubing, separators and drips, pipelines (gathering,
9 distribution, transmission), well pads, compressor stations, and gas storage. There could be
10 as many as 250 wells of varying type and status within the Project area, and this would
11 include wells characterized as active, inactive, plugged, unplugged, and orphaned or
12 abandoned.

13 **Q. What does an abandoned well mean?**

14 A. Abandoned wells are unplugged wells (primarily oil or gas wells) that have not
15 been operated and maintained in accordance with prevailing statute and regulation. Many
16 abandoned wells have fallen into advanced states of disrepair.

17 **Q. What does an orphaned well mean?**

18 A. Orphaned wells are a subset of abandoned wells. They are abandoned wells for
19 which no owner can be determined. In most instances, these wells were drilled prior to the
20 existence of a regulatory framework in New York.

21 **Q. Why do orphaned and abandoned wells need to be plugged?**

1 A. Due to their advanced age and the lack of comprehensive well information, these
2 wells may present significant public safety and environmental hazards. Unplugged
3 orphaned and abandoned wells can also provide a potential route for subsurface methane
4 to escape into the atmosphere, thereby increasing levels of greenhouse gases and
5 contributing to climate change. To address these threats, these wells must be plugged.

6 **Q. How are wells plugged, generally?**

7 A. Well plugging involves the mobilization of a drilling or service rig to a well
8 location, followed by the establishment of a stable working platform for labor and
9 materials. The plugging process is initiated by the placement of cement at discrete depth
10 intervals in a wellbore to seal off hydrocarbon-bearing zones and prevent the pollution of
11 aquifers and surface waters. If left unplugged, orphaned and abandoned wells can provide
12 unimpeded conduits for oil, gas, and other fluids to migrate between different geologic
13 formations, into aquifers, and/or to the land surface.

14 **Q. Are there regulations or guidance regarding the plugging of wells?**

15 A. Yes. 6 NYCRR § 555.5 governs well plugging and further guidance is provided in
16 the Generic Environmental Impact Statement on the Oil, Gas and Solution Mining
17 Regulatory Program finalized in 1992.

18 **Q. Why is it important to maintain setbacks to oil and gas infrastructure?**

19 A. Access needs to be maintained to wells that are not properly plugged or if it is
20 unknown if they are plugged to bring a service rig and ancillary equipment such as pipe
21 tubs or racks, water trucks, cement trucks, and other tanks to contain fluids. Not only is a

1 setback necessary but there must be sufficient access from a roadway to the well to bring
2 in and set up the equipment. For active gas or oil wells, setbacks and access must be
3 maintained to allow a rig to set up on site to service or repair a well. For underground oil
4 and gas lines, access must be maintained for maintenance and repair of the lines.

5 **Q. What are possible effects of impacting oil and gas infrastructure during**
6 **Project construction?**

7 A. Damaging or destroying an oil or gas well or pipeline could potentially cause
8 contamination of soils, surface water and/or groundwater through an uncontrolled release
9 of crude oil, natural gas (primarily methane) and/or brine, thereby threatening public safety
10 and the environment. Although methane is not toxic, its release could cause a fire or
11 explosion hazard.

12 **Q. How should these effects be accounted for?**

13 A. Preliminary desktop review of available oil and gas well datasets, supplemented by
14 field reconnaissance of the proposed project areas (preferably using aerial technology with
15 magnetometers) would be the best initial approach. Plans, including well plugging, spill
16 response and blasting, should be developed to ensure that any impacts to oil and gas wells,
17 their associated infrastructure, and/or public safety and the environment are adequately
18 addressed.

19 **PROPOSED CERTIFICATE CONDITIONS**

20 **Q. What would your recommended Proposed Certificate Conditions include with**
21 **respect to impacts to oil and gas infrastructure?**

1 A. To ensure that the Project complies with the requirements of Environmental
2 Conservation Law, including Article 23, implementing regulations, including 6 NYCRR
3 Parts 550 – 559, and addresses oil and gas infrastructure, in any Article 10 Certificate
4 ultimately issued for the Project, the Siting Board should include the proposed Certificate
5 Conditions 131-136 as set forth in the document entitled “Canisteo Wind Energy LLC
6 Proposed Certificate Conditions Revision 1” that was submitted and filed by the Applicant
7 on July 10, 2019. Further, we support the Applicant filing a Blasting Monitoring Plan (see
8 proposed Certificate Condition 56 and Package 17 of Attachment A in “Canisteo Wind
9 Energy LLC Proposed Certificate Conditions Revision 1”), however, the Blasting
10 Monitoring Plan should include acceptance and consultation by NYSDEC Staff.

11 **Q. Do you hold your opinions to a reasonable degree of scientific certainty?**

12 A. Yes, we do.

13 **Q. Does this conclude your direct testimony on these topics?**

14 A. Yes, it does.

NEW YORK STATE
PUBLIC SERVICE COMMISSION

1805

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF LIVINGSTON)

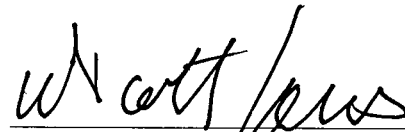
W. Scott Jones, being duly sworn, deposes and says:

1. I am employed by the New York State Department of Environmental Conservation (NYSDEC) as the Regional Bureau of Ecosystem Health Manager, Division of Fish and Wildlife, in the NYSDEC Region 8 in Avon, New York, and I am appearing as a witness in this proceeding on behalf of NYSDEC.

2. I prepared written testimony labeled "Direct Testimony of W. Scott Jones" and one exhibit Marked NYSDEC-SJ-1, which were filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony and exhibits, no corrections to either are necessary.

4. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.



W. Scott Jones

Sworn to before me this 12th day of August, 2019.

Notary information
signature/stamp



KIMBERLY T SHUTTS
Notary Public, State of New York
Qualified in Livingston County
Commission Expires March 14, 2022
Registration No. 01SH4924364

**NEW YORK STATE BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT**

In the Matter of the Application of

Canisteo Wind LLC

Case No.: 16-F-0205

for a Certificate of Environmental Compatibility
and Public Need Pursuant to Article 10 to
Construct a Wind Energy Project.

**DIRECT TESTIMONY OF
W. SCOTT JONES**

Regional Bureau of Ecosystem Health Manager
Division of Fish and Wildlife
New York State Department of Environmental Conservation

July 12, 2019

Case No. 16-F-0205

JONES

1 **WITNESS INTRODUCTION**

2 **Q. Will you please state your name, employer, title and business location?**

3 A. My name is Scott Jones. I am employed by the New York State Department of
4 Environmental Conservation (NYSDEC or Department), Division of Fish and Wildlife, as
5 the Regional Bureau of Ecosystem Health Manager in the NYSDEC Region 8
6 Headquarters in Avon, New York. I have been in this position for the past 3 years. Prior to
7 that, I was employed by the Department as a Biologist 1 (Ecology) for approximately 15
8 years.

9 **Q. Will you please describe your educational background and professional**
10 **certifications?**

11 A. Please see a copy of my resume marked as NYSDEC-SJ-1.

12 **Q. What are your responsibilities in your position at the Department?**

13 A. In my position, I am responsible for programmatic oversight of the State's statutory
14 and regulatory Freshwater Wetland Protection and Protection of Waters programs in
15 NYSDEC Region 8, which includes Steuben County. In this capacity, I oversee the
16 implementation of Article 15 of the Environmental Conservation Law (ECL) (Article 15)
17 and associated State regulations, Article 24 of the ECL (Article 24) and associated State
18 regulations, and, as applicable, State water quality standards applicable to section 401 of
19 the Federal Water Pollution Control Act (CWA) and associated State regulations. Included
20 in this oversight is my responsibility to review Article 15, Article 24, and CWA permit
21 applications, including State water quality certificates, for projects that involve potential

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JONES

1 impacts to protected waters of the State as well as ensuring proper delineation of State-
2 regulated wetland boundaries.

3 **Q. Will you please summarize your experience regarding wetlands and review of**
4 **proposed wind farm projects?**

5 A. I have delineated several hundred wetlands and reviewed the permit applications
6 for activities in and near wetlands that were associated with the above-referenced
7 delineations. I have also conducted stream surveys and reviewed many permit applications
8 for activities in and near streams. I have reviewed several wind farm projects that required
9 Article 15, Article 24 and/or a State water quality certificate, or must meet the
10 corresponding statutory and regulatory standards, in order to be constructed. Such projects
11 include those subject to Article 10 of the Public Service Law (Article 10), such as the
12 Canisteo Wind project (Project), and those which were reviewed pursuant to the State
13 Environmental Quality Review Act (SEQRA).

14 **Q. What is the purpose of your testimony today?**

15 A. The purpose of my testimony is to provide an overview of the Department's
16 implementation of Article 15 and Article 24 and the State water quality program pursuant
17 to section 401 of the CWA, including the associated regulations found at Title 6 of the
18 Official Compilation of Codes, Rules and Regulations of the State of New York (6
19 NYCRR) Parts 608, 663, 664, 701 702, 703, 704 and 750. In that context, I will discuss:
20 (i) the factors the Department considers in making regulatory determinations pursuant to
21 the applicable statutes and regulations; (ii) how these factors apply to the Project; and (iii)

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JONES

1 whether the Project has met the applicable State statutory and regulatory standards. I am
2 advised by Department Counsel that the wetlands and stream programs, with each
3 respective attendant statutory and regulatory authority, as well as State water quality
4 standards, apply to the Project, as proposed, and to the deliberations by the New York State
5 Board on Electric Generation Siting and the Environment (Siting Board) pursuant to
6 Article 10. Accordingly, my testimony discusses how the Siting Board must apply statutory
7 and regulatory programs outlines above to its deliberations under Article 10 to ensure the
8 Project's compliance therewith, should it decide to approve the Project.

9 **Q. What information has provided the basis for your testimony?**

10 A. My testimony is based on the Project application (Application), submitted by
11 Canisteo Wind, LLC (Applicant) on November 2, 2018, specifically Exhibits 22 and 23
12 and corresponding Appendices, together with Exhibit 22 and 23 related supplemental
13 filings filed on January 28, 2019 and May 24, 2019. Additionally, I have reviewed the
14 revised Invasive Species Control Plan as set forth in the document entitled "Invasive
15 Species Control Plan" that was submitted and filed by the Applicant on July 11, 2019. I
16 have also conducted a site visit of the Project site on June 19, 2019. I have reviewed all the
17 above-referenced materials in the context of compliance with above-referenced statutory
18 and regulatory programs.

19 **STATUTORY AND REGULATORY OVERVIEW**

20 **Q. What is the Department's policy with respect to freshwater wetlands?**

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JONES

1 A. As articulated in Article 24, the State's policy regarding wetlands is to preserve,
2 protect, and conserve freshwater wetlands and the benefits that wetlands provide, to
3 prevent the despoliation and destruction of freshwater wetlands, and to regulate use and
4 development of such wetlands to secure the natural benefits of freshwater wetlands,
5 consistent with the general welfare and beneficial economic, social and agricultural
6 development of the State. The Department must take this public policy into consideration
7 with respect to any proposed project that may impact regulated freshwater wetlands, or the
8 associated regulated adjacent areas (being the area within 100 feet of a State-regulated
9 wetland). Accordingly, if the Department determines that a project with potential adverse
10 impacts to freshwater wetlands does not satisfy an economic or social need and does not
11 meet specific permit issuance standards, the Department may find that the project does not
12 meet statutory and regulatory standards.

13 **Q. How is Article 24 implemented?**

14 A. The Department's regulations contain the standards that implement the Freshwater
15 Wetlands Act [*see, e.g.*, 6 NYCRR Parts 663 and 664]. Through Part 663, the Department
16 has established procedures and standards to guide the review of permit applications for
17 projects which propose to construct in, or adjacent to, freshwater wetlands. Part 664
18 contains the mapping and classification standards and procedures of all wetlands protected
19 under Article 24.

20 **Q. How is a regulatory review of proposed activities within a State-regulated**
21 **wetland, or the associated regulated adjacent area, conducted?**

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JONES

1 A. The burden is on an applicant to demonstrate that any proposed activity within a
2 State-regulated wetland, or the associated regulated adjacent area, will comply with
3 implementing regulations (see above), and all other applicable laws and regulations (6
4 NYCRR § 663.5(a)).

5 **Q. What information must an applicant provide for the Siting Board to conduct**
6 **its review regarding consistency with the State's freshwater wetlands program?**

7 A. I have been advised by Department Counsel that activities regulated by Article 10
8 do not require an Article 24 freshwater wetlands permit. However, the standards in 6
9 NYCRR § 663.5(e) must be applied in determining whether to issue a certificate of
10 environmental compatibility and public need pursuant to Article 10. In order for the
11 Department to conduct a technical review of any project that will occur, in part or in its
12 entirety, within a State-regulated wetland, or the associated regulated adjacent area, an
13 applicant must provide detailed project plans of sufficient scale, including, at minimum:
14 (1) a delineated boundary for all wetlands on or near the project site; (2) the precise location
15 of all temporary and permanent structures; and (3) the extent of all temporary and
16 permanent disturbances, including clearing and grading. This information is not exhaustive
17 – on a case-by-case basis, additional project information may be required for the Siting
18 Board, as well as the Department, to complete its respective reviews and make regulatory
19 determinations, including whether the project has met State statutory and regulatory
20 standards.

1 Under the Department's review process, once all the necessary information has
2 been submitted, the examination of the project continues with a consultation of the
3 Department's mapped regulatory wetlands, as well as those unmapped wetlands that meet
4 state criteria for jurisdiction, and geographical information systems data to determine if a
5 protected wetland is located within 100 feet of the proposed project. If a regulated wetland
6 is likely located on or near the project, the Department then considers the proposed
7 activities associated with the project in relation to the delineated boundary of the wetlands,
8 the activities listed in 6 NYCRR § 663.4(d), and the standards set forth in 6 NYCRR §
9 663.5(e), before making an ultimate determination whether the project meets statutory and
10 regulatory standards.

11 **Q. What do you mean by "delineated boundary" of a wetland?**

12 A. A "delineated boundary" is a wetland boundary that Department Staff has
13 determined will accurately represent the actual extent of the wetlands. This should not be
14 confused with the extent of wetlands shown on the Department's wetlands maps or on the
15 National Wetlands Inventory Maps, which is a comprehensive master geodatabase of the
16 nation's wetlands maintained by the United States Fish and Wildlife Service. The
17 Department's wetlands maps approximate the extent of the wetlands and inform
18 landowners, potential applicants, and the public regarding the approximate extent of
19 wetlands regulated under Article 24. The maps were developed using 1970's-era aerial
20 photography and were not intended to depict actual wetlands boundaries to the extent
21 provided by on-site inspection or delineation.

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1 In fact, I have seen many situations where the actual extent of wetlands was
2 underestimated by the maps. Field inspections are always required for projects such as this
3 to refine the approximations shown on wetlands maps and to accurately determine the
4 extent of wetlands near proposed projects. A surveyed boundary of field-delineated
5 wetlands must be included on project plans. Without such information on the precise
6 location of wetlands, Department Staff cannot determine the full extent of proposed project
7 impacts on identified State-regulated wetlands, or the associated regulated adjacent areas.

8 **Q. In general, what are the 6 NYCRR Part 663 standards applicable to proposed**
9 **activities within a State-regulated wetland, or the associated regulated adjacent area?**

10 A. The standards under 6 NYCRR § 663.5(e) apply to determine if the proposed
11 project meets regulatory standards. The first step in determining the applicable standards
12 is identifying which activity or activities apply to the proposed project (*see* activities list in
13 6 NYCRR § 663.4(d)). This step will, in turn, determine which standards must be
14 considered in the review of the project.

15 **Q. What type of activity applies to the Project?**

16 A. This Project involves the construction of an industrial use facility, which is defined
17 as “any building or *facility associated with the* manufacturing, production, processing or
18 assembly of goods or materials, or the *production of power.*” 6 NYCRR § 663.2(q)
19 (emphasis added). Industrial use facilities are considered incompatible with a wetland and
20 its functions and benefits (6 NYCRR § 663.4(d)(43)). Thus, pursuant to 6 NYCRR §

1 663.5(e), this Project must be reviewed in accordance with the weighing standards
2 contained in 6 NYCRR § 663.5(e)(2).

3 **Q. What are the weighing standards?**

4 A. In general terms, the weighing standards require an applicant to first demonstrate
5 that any activities in, and impacts to, a wetland and its adjacent area cannot be avoided
6 entirely. If avoidance is impossible, impacts on the functions or benefits of a wetland must
7 be minimized. Finally, any remaining loss of wetland acreage or function, or both, must
8 be mitigated, unless it can be shown that the losses are inconsequential or that, on balance,
9 economic or social need for the project outweighs the loss.

10 The degree of balancing required is commensurate with the classification of an
11 affected wetland and the severity of the remaining impacts. The higher the class of wetland
12 or the greater the impact to a wetland or its adjacent area, the greater the burden upon an
13 applicant to demonstrate an over-riding need not to fully compensate for unavoidable
14 impacts. The standards that must be demonstrated as set forth in the implementing
15 regulations at 6 NYCRR § 663.5 are “compelling” need for Class I wetlands and “pressing”
16 need for Class II wetlands. More specifically, the standards are organized into two tiers,
17 varying according to the class of the wetland. The first tier requires avoidance and
18 minimization of impacts. For wetland Classes I, II, III and IV, the proposed activity must
19 be compatible with the public health and welfare, be the only practicable alternative that
20 could accomplish the applicant’s objectives and have no practicable alternative on a site
21 that is not a freshwater wetland or adjacent area. For wetland Classes I, II, and III, the

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1 proposed activity must minimize degradation to, or loss of, any part of the wetlands or
2 adjacent areas and must minimize any adverse impacts on the functions and benefits that
3 the wetland provides. For wetland Class IV, the proposed activity must make a reasonable
4 effort to minimize degradation to, or loss of, any part of the wetland or its adjacent area.
5 The second tier of conditions only applies once the first tier of conditions has been satisfied.
6 These conditions vary with the class of wetlands as follows:

7 Class I Wetlands: Class I wetlands provide the State's most critical wetland
8 benefits. Alteration of a Class I wetland is acceptable only in the most unusual
9 circumstances – only if a determination is made that the proposed activity satisfies a
10 compelling economic or social need that clearly and substantially outweighs the loss of or
11 detriment to the wetland benefits. (*See* 6 NYCRR § 663.5(e)(2)).

12 Class II Wetlands: Class II Wetlands provide important benefits. An alteration of
13 a Class II wetland is acceptable only in limited circumstances. A proposed activity meets
14 applicable standards, and the Department would issue a permit, only if the Department
15 determines that the proposed activity satisfies a pressing economic or social need that
16 clearly outweighs the loss of or detriment to the wetland benefits. (*See* 6 NYCRR §
17 663.5(e)(2)).

18 Class III Wetlands: Class III Wetlands supply wetland benefits. An alteration of a
19 Class III wetland is acceptable only after the exercise of caution and discernment. A
20 proposed activity meets applicable standards, and the Department would issue a permit,
21 only if the Department determines that the proposed activity satisfies a pressing economic

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1 or social need that outweighs the loss of or detriment to the wetland benefits. (*See* 6
2 NYCRR § 663.5(e)(2)).

3 Class IV Wetlands: Class IV Wetlands provide some wildlife and open space
4 benefits and may provide other benefits cited in the Freshwater Wetlands Act. Therefore,
5 wanton or uncontrolled degradation or loss of Class IV wetlands is unacceptable. A
6 proposed activity meets applicable standards, and the Department would issue a permit,
7 only if the Department determines that the activity is the only practicable alternative which
8 could accomplish the applicant's objectives. (*See* 6 NYCRR § 663.5(e)(2)).

9 **Q. What criteria does the Department use to base its decision as to whether a**
10 **project meets wetlands-related statutory and regulatory standards?**

11 A. The regulations (6 NYCRR Part 663) provide a step by step process that requires
12 projects to:

- 13 1) avoid wetland impacts by keeping all regulated activities landward of the regulated
14 adjacent area;
- 15 2) minimize impacts by maximizing setbacks within the regulated adjacent area; *and*
- 16 3) provide mitigation for all unavoidable impacts to wetlands.

17 Once the Department reviews its mapped regulatory wetlands, as well as those unmapped
18 wetlands that meet State criteria for jurisdiction and confirms the presence of a State-
19 regulated wetland, the Department checks its classification sheet to determine if a particular
20 wetland is a Class I, II, III, or IV. Based on the wetland class, the Department uses the

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1 appropriate weighing standards to determine whether a proposed project or activity meets
2 applicable standards to issue a permit.

3 **Q. If it is determined that impacts to wetlands are unavoidable, what information**
4 **must the Applicant provide regarding wetland mitigation to demonstrate compliance**
5 **with Department's requirements?**

6 A. A plan that meets the regulatory requirements of 6 NYCRR § 663.5(g) and the
7 Department's Guidelines on Compensatory Mitigation. For example, the plan must include
8 the following details:

- 9 • A detailed mitigation site relative to proposed wetland impact areas and other state-
10 jurisdictional freshwater wetlands;
- 11 • A Project construction timeline;
- 12 • Documentation of ownership of the mitigation site, or a conservation easement with
13 participating landowners unless such an agreement can be shown to not be practical,
14 in which case, a deed restriction may be employed;
- 15 • A monitoring plan including at least five years of monitoring, quarterly the first
16 year and twice per year thereafter. The monitoring may need to be extended if
17 problems arise;
- 18 • A commitment to maintain an 85% survival rate of tree and shrub plantings with
19 replacements in kind when the survival rate is not met; and
- 20 • An invasive species management plan.

1 **Q. Can you describe the Department's policy with respect to protection of the**
2 **State's waters?**

3 A. Yes. The policy of New York State, set forth in Article 15, recognizes that New
4 York is rich with valuable water resources, and directs us as stewards of the environment
5 to preserve and protect certain lakes, rivers, streams, and ponds. These rivers, streams,
6 lakes, and ponds are necessary for fish and wildlife habitat; drinking and bathing; and
7 agricultural, commercial and industrial uses. In addition, New York's waterways provide
8 opportunities for recreation; education and research; and aesthetic appreciation. Certain
9 human activities can adversely affect, even destroy, the delicate ecological balance of these
10 important areas, thereby impairing the uses of these waters.

11 **Q. How is Article 15 implemented with respect to stream protection?**

12 A. To implement this policy, NYSDEC created the Protection of Waters program (*see*
13 6 NYCRR Part 608) to prevent undesirable activities on water bodies by establishing and
14 enforcing regulations that: (1) are compatible with the preservation, protection and
15 enhancement of the present and potential values of the water resources; (2) protect the
16 public health and welfare; and (3) are consistent with the reasonable economic and social
17 development of the State. The objectives of the Department's Protection of Waters
18 Program are to (i) minimize the disturbance of streams and water bodies and (ii) prevent
19 unreasonable erosion of soil; increased turbidity of the waters; irregular variations in
20 velocity; temperature and level of waters; the loss of fish and aquatic wildlife; the
21 destruction of natural habitat; and the danger of flood or pollution. The activities regulated

1 under this Program include but are not limited to: modification or disturbance of the bed
2 or banks of “protected streams” (6 NYCRR § 608.2) and excavation and fill in navigable
3 waters or wetlands adjacent to and contiguous to the navigable waters (6 NYCRR § 608.5).

4 **Q. What are considered protected streams?**

5 A. Protected streams are defined in 6 NYCRR § 608.1(aa) as streams or portions of
6 streams that have any of the following water quality classifications or standards (in
7 declining order of water quality): AA, AA(T), AA (TS), A, A(T), A(TS), B, B(T), B(TS),
8 C(T), or C(TS). The designation of “T” means that the waters provide habitat in which
9 trout can survive and grow; “TS” means that the waters provide conditions in which trout
10 eggs can be deposited, fertilized, develop, hatch, and grow.

11 **Q. Are streams other than those defined as protected in 6 NYCRR § 608.1(aa)**
12 **regulated?**

13 A. Yes, Article 15 also regulates excavation from, or the placement of fill in, any
14 navigable waters of the State (as defined in 6 NYCRR §608.1(u)).

15 **Q. What are the standards applicable to proposed activities that would impact**
16 **State streams?**

17 A. Part 608.8 requires a determination that the proposed activity is in the public
18 interest, in that the Applicant has shown that the proposal:

19 1) is reasonable and necessary;

20 2) will not endanger the health, safety, and welfare of the people of the State of New

21 York; and

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1 3) will not cause unreasonable, uncontrolled or unnecessary damage to the natural
2 resources of the State, including soil, forests, water, fish, shellfish, crustaceans, and
3 aquatic and land-related environment.

4 The State must consider the following factors in reviewing each proposal:

- 5 a. the environmental impacts of the proposal, including effects on fish and
6 wildlife habitat, water quality, hydrology, and watercourse and water body
7 integrity;
8 b. the adequacy of project design and construction techniques;
9 c. operational and maintenance characteristics;
10 d. safe commercial and recreational use of water resources;
11 e. the water dependent nature of a use;
12 f. the safeguarding of life and property; and
13 natural resource management objectives and values.

14 **Q. Are there any other applicable standards related to wetlands that would apply**
15 **to the Project?**

16 A. Yes. The Project will require a Water Quality Certification (WQC) pursuant to
17 Section 401 of the CWA. State water quality standards are set forth in 6 NYCRR § 608.9,
18 with related regulations at 6 NYCRR Parts 701, 702, 703, 704 (Qualifications and
19 Standards) and 750 (State Pollutant Discharge Elimination System (SPDES) Permits).

20 **Q. What are the standards for issuing a Section 401 WQC?**

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1 A. The CWA requires that any applicant for a federal license or permit to conduct an
 2 activity that may result in a discharge into navigable waters must obtain a water quality
 3 certification from the State where the activity occurs. The standards for issuing a WQC
 4 are contained in 6 NYCRR § 608.9, with the burden placed on the applicant to demonstrate
 5 compliance with the following:

- 6 1) New York State effluent limitations and standards,
- 7 2) New York State water quality standards and thermal discharge criteria,
- 8 3) New York State new source standards,
- 9 4) New York State prohibited discharges, and
- 10 5) other New York State regulations and criteria otherwise applicable.

11 These standards mandate that the certifying agency require compliance with the
 12 Department's water quality regulations set forth at 6 NYCRR Parts 701, 702, 703, 704 and
 13 applicable provisions of Part 750.

14 **ENVIRONMENTAL IMPACTS**

15 **Wetlands**

16 **Q. Are there State-regulated wetlands within this Project's proposed boundary?**

17 A. Yes. Based on my desktop review of the Application, using the Department's GIS,
 18 and the site visit I conducted on June 19, 2018, the following wetlands identified in the
 19 Project's wetland delineation report were determined to be State-regulated wetlands
 20 delineated for the Project:

- 21 • NYS Regulated Freshwater Wetland SC-1, Class 2

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- 1 • NYS Regulated Freshwater Wetland RX-4, Class 2
- 2 • NYS Regulated Freshwater Wetland RX-3, Class 2
- 3 • NYS Regulated Freshwater Wetland CM-7, Class 2
- 4 • NYS Regulated Freshwater Wetland TR-1, Class 3

5 **Q. Will the Project, as proposed, involve activities regulated by Article 24?**

6 A. Yes. The Project involves activities that would be regulated by Article 24, and by
7 regulatory definition, is incompatible with a wetland and its functions and benefits because
8 the entire project is an industrial facility (6 NYCRR §§ 663.4(d)(43) and 663.2(q)).

9 **Q. Can you describe Project, as proposed, impacts State-regulated wetlands?**

10 A. The Project, as proposed, will not temporarily or permanently impact State
11 regulated wetlands and adjacent areas.

12 **Q. Will the Project, as proposed, entirely avoid State-regulated wetlands and**
13 **adjacent areas?**

14 A. Yes.

15 **Q. Does the Project, as proposed, meet its statutory and regulatory burden under**
16 **Article 24 and Part 663?**

17 A. Yes. The Applicant has shown that the Project, as proposed, can and will avoid
18 impacts to State regulated wetlands and adjacent areas.

19 **Streams**

20 **Q. Are there waterbodies within the proposed Project site?**

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1 A. Yes. There are 8 Class C streams in the facility area (Troups creek, Tuscarora creek,
2 Milwaukee creek, Dennis creek, Red Spring creek, Rock Run creek, Brickyard creek and
3 Peak creek). There is also one Class C(t) stream, Bennetts creek. The Applicant also
4 identified seven intermittent streams, and several small ponds and numerous un-named
5 ephemeral and perennial streams that are not considered navigable.

6 **Q. Can you describe the Project's negative impacts on State-regulated**
7 **waterbodies?**

8 A. The Applicant has estimated a total of 2,891 feet of linear temporary impacts, as a
9 result of 42 crossings. I understand this to mean a linear distance following the course of
10 the stream bed. The Applicant has estimated a total of 1,362 linear feet of permanent stream
11 impacts, none of these impacts occurring in NYSDEC regulated Class C(t) or above
12 streams. Direct impacts include: 1) the direct placement of fill in surface waters to
13 accommodate road crossings, causing suspension of sediments and turbidity; 2)
14 disturbance of stream banks and/or substrates resulting from buried cable installation; 3)
15 an increase in water temperature and conversion of cover type due to clearing of vegetation;
16 and 4) siltation and sedimentation due to earthwork, such as excavating and grading
17 activities. These impacts directly and adversely affect the best usages of a stream, such as
18 for fish propagation and survival, pursuant to 6 NYCRR § 701.8.

19 **Q. Has the Applicant demonstrated that the Project, as proposed, meets the**
20 **permitting standards described above?**

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1 A. Yes, so long as the proposed certificate conditions outlined in the following section
2 are included in any Article 10 Certificate ultimately issued by the Siting Board.

3 **Q. Does the revised Invasive Species Control Plan filed and submitted by the**
4 **Applicant on July 11, 2019 meet the standards of ECL Article 9 and implementing**
5 **regulations set forth in 6 NYCRR Part 575?**

6 A. Yes.

7 **PROPOSED CERTIFICATE CONDITIONS**

8 **Q. What would your recommended Proposed Certificate Conditions include with**
9 **respect to State-regulated freshwater wetlands and streams?**

10 A. To ensure that the Project complies with the requirements of Environmental
11 Conservation Law, including Article 15 and Article 24, the State water quality program
12 pursuant to section 401 of the CWA, and implementing associated regulations, including
13 the Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New
14 York (6 NYCRR) Parts 608, 663, 664, 701 702, 703, 704 and 750, in any Article 10
15 Certificate ultimately issued for the Project, the Siting Board should include the following
16 proposed Certificate Conditions 87- 94, 98-103, 107, and 113-118 as set forth in the
17 document entitled “Canisteo Wind Energy LLC Proposed Certificate Conditions Revision
18 1” that was submitted and filed by the Applicant on July 10, 2019.

19 **Q. Do you recommend additional Proposed Certificate Conditions with respect**
20 **to State-regulated freshwater wetlands and streams?**

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1 A. Yes. Based on the foregoing, to ensure compliance with the applicable State
2 statutory and regulatory standards I previously described in my testimony, and subject to
3 Applicant avoiding impacts to State-regulated wetlands and adjacent areas to the maximum
4 extent practicable, I recommend the following proposed Certificate Conditions related to
5 State-regulated freshwater wetlands and streams and State water quality standards be
6 included in any Article 10 Certificate ultimately issued by the Siting Board:

7 1. The Certificate Holder shall perform all construction, operation and maintenance
8 in a manner that first avoids then minimizes adverse impacts to waterbodies,
9 wetlands, and the one hundred (100) foot adjacent areas associated with all State-
10 regulated wetlands. The Certificate Holder shall ensure the provisions to protect
11 wetlands, waterbodies, and adjacent areas are followed as specified in the
12 approved SEEP and Certificate.

13 2. The Certificate Holder shall notify DEC within two (2) hours if there is a discharge
14 to a wetland or waterbody resulting in a violation of New York Water Quality
15 Standards.

16 3. Unless otherwise specified in the approved SEEP, all in-stream work is prohibited
17 from October 1 through May 31 in cold water fisheries, and from March 1 through
18 July 31 in warm water fisheries.

19 4. Dates for the seasonal work period restrictions on in-stream work during
20 Facility construction, shall be included in the plans filed in the Compliance Filing
21 and noted on final construction detail drawings.

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- 1 a. Except where crossed by permitted access roads or through use of
2 temporary matting, streams shall be designated “No Equipment Access”
3 (or similar wording) on the final Facility construction drawings and ROW
4 clearing plans and marked in the field. The use of motorized equipment
5 shall be prohibited in these areas.
- 6 5. All work in streams shall be conduct in dry conditions, using appropriate water
7 handling measures to isolate work areas and direct stream flow around the work
8 area, unless otherwise specified in the approved SEEP.
- 9 6. To the extent practicable, buried utilities shall be installed using trenchless
10 methods when traversing wetland and waterbodies. If a trenchless installation
11 method is not practicable, the buried utility shall be installed in accordance with
12 the approved SEEP (see Steam Construction- (Trenching Details).
- 13 7. Open cut trenching (Excavation, installation ad backfilling) for the installation of
14 underground pipelines and electric cables in wetlands and waterbodies shall be
15 conducted in one continuous operation and shall not exceed the length that can be
16 completed in one day.
- 17 8. There shall be no substantial increase in visible contrast in water clarity or
18 variation of flow volume due to construction activities between upstream reaches
19 of work areas and downstream reaches of work areas.
- 20 9. Disturbed streams shall be restored to equal width, depth, gradient, length and
21 character as the pre-existing stream channel and tie in smoothly to the profile of

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1 the stream channel upstream and downstream of the disturbance. All disturbed
2 stream banks shall be mulched within (2) days of final grading, stabilized with
3 100% natural/biodegradable fiber matting, and seeded with an appropriate riparian
4 seed mix specified in the approved SEEP. Disturbed vegetation shall be replaced
5 with appropriate native shrubs, live stakes, and/or tree plantings as site conditions
6 and facility design allow, as appropriate for consistency with existing land uses.
7 (See Stream Stabilization and Restoration Details)

8 10. Following disturbance of soils within wetlands and State-regulated wetland

9 adjacent areas shall be stabilized within 48 hours of final backfilling of the trench
10 and restored to pre-construction contours as soon as practicable, but no later than
11 14 days of final backfilling. Immediately upon completion of grading, and as
12 consistent with existing land uses, the area shall be seeded with a seed mix of
13 native plants specified in the approved (EM&CP/SEEP) that is appropriate for
14 wetlands and upland areas adjacent to wetlands. Overall vegetative cover in
15 restored areas shall be monitored for a minimum of 5 years or until an 80% cover
16 of plants with the appropriate wetland indicator status has been reestablished over
17 all portions of the restored area. Invasive species growth in the restored areas shall
18 be monitored for a minimum of 5 years. The proportion of invasive species in the
19 wetlands and State-regulated wetland adjacent areas cannot exceed the proportion
20 that existed immediately prior to the start of construction as described in the
21 baseline invasive species survey. If, after one complete growing season, the 80%

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1 cover requirement has not been established or the proportion of invasive species
2 has increased, the Certificate Holder shall consult with NYSDEC and prepare a
3 Wetland Planting Remedial Plan (WPRP) in accordance with the approved
4 (EM&CP/SEEP) and shall submit the WPRP to NYSDEC and DPS for
5 acceptance prior to implementation (See below Wetland Restoration Details
6 below).

7 11. Cut vegetation in wetlands may be left in place (i.e. drop and lop or piled in dry or
8 seasonally saturated portions of freshwater wetlands and 100-foot adjacent areas
9 to create wildlife brush piles).

10 12. To control the spread of invasive insects, the Certificate Holder shall provide
11 training for clearing and construction crews to identify the Spotted Lanternfly,
12 Asian Longhorned Beetle, the Emerald Ash Borer sirex woodwasp and Hemlock
13 Wooley Adelgid and other invasive insects of concern as a potential problem at
14 the project site. If these insects are found, they must be reported to the DEC
15 regional forester within 2 business days.

16 13. Concrete batch plants and concrete washout areas shall be located a minimum of
17 300 feet away from any wetland or waterbody and shall be installed to minimize
18 impacts to water resources. If the minimum setback cannot be achieved, the
19 approved SEEP shall provide justification and demonstrate that impacts to
20 wetlands and waterbodies from concrete batch plants and concrete washout areas
21 shall be avoided or minimized to the maximum extent practicable.

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- 1 14. In-stream work shall only be conducted in dry condition during times of no flow
2 or when the stream is bypassed, using appropriate water handling measures to
3 isolate work areas and allow work in the dewatered section of the stream.
- 4 15. All erosion control fabric or netting must be 100% biodegradable natural product,
5 excluding silt fence.
- 6 16. If necessary, construction and access through wetlands shall be on matting. Matting
7 shall be removed as soon as possible once site work is complete and vegetation and
8 hydrology restored to existing conditions.
- 9 17. All necessary precautions shall be taken to preclude contamination of any wetland
10 or waterbody by suspended solids, sediments, fuels, solvents, lubricants, epoxy
11 coatings, paints, concrete, leachate or any other environmentally deleterious
12 materials associated with the Project.
- 13 18. Notifications : The Certificate Holder shall notify the NYSDEC Region 8 Regional
14 Supervisor of Natural Resources via e-mail one week prior to the start of (i) ground
15 disturbance in each state-regulated wetland or adjacent area, or (ii) any clearing
16 within 100 feet of streams and/or installation of temporary or permanent stream
17 crossing for access or travel routes.
- 18 19. Water Quality Standards: There shall be no visible contrast in water clarity between
19 the upstream reaches of the construction areas and downstream of construction
20 areas.

- 1 20. Work areas shall be isolated from flowing streams by use of sandbags, cofferdam,
2 piping or pumping around the work area. Waters accumulated in the isolated work
3 area shall be discharged to an upland settling basin, field or wooded area to provide
4 for settling and filtering of solids and sediments before water is returned to the
5 stream. Return waters shall be as clear as the flowing water upstream from the work
6 area. Temporary dewatering structures (i.e., cofferdams, diversion pipes, etc.) and
7 associated fill shall be completely removed, and the disturbed area shall be regraded
8 and restored immediately following the completion of work.
- 9 21. Disposal of waste concrete or concrete wash water shall occur greater than 300 feet
10 from any wetland or waterbody in a designated clean-out area. Waste concrete,
11 leachate, concrete from truck clean out activity, and/or any wash water from trucks,
12 equipment or tools, shall be contained to prevent discharge to any wetland or
13 waterbody.
- 14 22. Equipment operation in the water is prohibited. With heavy equipment, the bucket
15 may enter the water provided water clarity is not impacted.
- 16 23. Spills: Fuel or other chemical storage tanks shall be contained and located at all
17 times in an area greater than 300 feet landward of the regulated wetland. If the
18 above requirement cannot be met by the Certificate Holder, then the storage areas
19 must be designed to completely contain any and all potential leakage. Such a
20 containment system must be approved by NYSDEC staff in writing prior to
21 installation of the storage tank.

- 1 24. All equipment used within bed or banks of streams or in regulated wetlands and
2 100-foot adjacent areas must be inspected daily for leaks of petroleum, other fluids,
3 or contaminants; equipment may only enter a stream channel if found to be free of
4 any leakage. A spill kit must be available at the immediate work site and any
5 equipment observed to be leaking must be removed from the work site, and leaks
6 must be contained, stopped and cleaned up immediately.
- 7 25. Waste and Debris: Root wads must be disposed of outside of the wetland and
8 adjacent area.
- 9 26. Pre-construction Requirements: Markers used to delineate/define the boundary of
10 regulated freshwater wetlands, their associated adjacent areas, as well as streams,
11 and the demarcated limits of disturbance for the project shall be left in place and
12 remain undisturbed until completion of construction activities and restoration of the
13 impacted area.
- 14 27. Legible “protected area” signs, exclusionary fencing, and erosion controls pursuant
15 to the approved Storm Water Pollution Prevention Plan (SWPPP) shall be installed
16 along the approved work area to protect and clearly identify the boundaries of non-
17 work areas associated with wetlands, waterbodies, and wetland/waterbody setbacks
18 (e.g., Additional Temporary Work Space setbacks, refueling restrictions, etc.).
19 This shall be done prior to any disturbance or vehicular traffic through such areas.
20 Signs, fencing, and silt fence must be removed following completion of the project

1 and after all disturbed areas are appropriately stabilized and planted as described in
2 the SWPPP and in certificate conditions.

3 28. A final NYSDEC-approved *Storm Water Pollution Prevention Plan (SWPPP)* shall
4 be prepared as part of the State Pollutant Discharge Elimination System General
5 Permit for Construction Activities and in accordance with the 2016 New York State
6 Standards and Specifications for Erosion and Sediment Control (Blue Book). In
7 addition to the general requirements contained in the Blue Book, the SWPPP shall
8 include the following protocols:

9 29. A final *Spill Prevention, Containment and Counter Measures (SPCC) Plan* to
10 minimize the potential for unintended releases of petroleum and other hazardous
11 chemicals during Facility construction and operation shall be filed in the
12 Compliance Filing. The SPCC Plan must be consistent with NYSDEC Spill
13 Reporting and Initial Notification Requirements Technical Field Guidance. The
14 SPCC Plan shall be applied to all relevant construction activities and contain
15 information about water bodies, procedures for loading and unloading of oil,
16 discharge or drainage controls, procedures in the event of discharge discovery, a
17 discharge response procedure, a list of spill response equipment to be maintained
18 on-site (including a fire extinguisher, shovel, tank patch kit, and oil-absorbent
19 materials), methods of disposal of contaminated materials in the event of a
20 discharge, and spill reporting information. Any spills shall be reported in
21 accordance with State and/or federal regulations.

- 1 30. A *Facility Vegetation Management and Herbicide Use Plan*
- 2 31. Wetland and stream drawings, showing areas where roads, electric collection lines,
3 or transmission lines cross wetlands or streams, indicating topographic contours,
4 delineated wetlands and streams, and specifying access and construction measures
5 and crossing method (e.g., culvert or bridge; trenchless or trenched installation,
6 etc.); and any designated streamside “protective or buffer zones” in which
7 construction activities will be restricted. 1”=50’ scale.
- 8 32. A Tables listing (where applicable) wetland and stream impacts, with the following
9 for each impact: area, type of wetland, type of impact.
- 10 33. Map showing where HDD is planned for installation of buried cables under
11 wetlands or streams.
- 12 34. A *site-specific Stream Crossing Plan* shall be developed for each permanent stream
13 crossings and shall include detailed plan, profile and cross-sectional view plans;
14 drainage area and flow calculations; and location, quantity and type of fill. Bridges
15 that span the stream bed and banks should be utilized where practicable. If a bridge
16 is not practicable, an alternative analysis shall be provided, including written
17 justification for why a bridge is not practicable.
- 18 35. A *site-specific Underground Utility Stream Crossing Plan* shall be developed for
19 each underground utility crossing where a trenchless crossing is not practicable.
20 The Underground Utility Stream Crossing Plan shall include the following:

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- 1 a. An alternative analysis conducted by professional engineer licensed in New
2 York State. The alternative analysis shall include a detailed explanation of
3 the site-specific conditions that lead to the conclusion that a trenchless
4 crossing method is not constructible or feasible at the stream crossing;
- 5 b. A Vertical Adjustment Potential (VAP) analysis and a Lateral Adjustment
6 Potential (LAP) analysis for each underground stream crossing to determine
7 that the separation between the top of the buried cable/pipeline and the
8 stream bed is sufficient to prevent exposure of the line from stream erosion
9 both vertically and horizontally for the life of the pipeline. The VAP and
10 LAP analysis shall be conducted and certified by professional engineer
11 licensed in New York State and must include all calculations associated
12 with the VAP and LAP analysis as well as a definitive statement by the
13 engineer that the separation will prevent exposure of the line at each stream
14 crossing as a result of stream erosion;
- 15 c. Plan view and cross-sectional view drawings which depict the extent of
16 clearing and disturbance; and
- 17 d. Water handling plan describing the measures to direct stream flow around
18 the work area and measures to dewater the isolated work area.
- 19 36. A plan to restore streams, including the following requirements:
- 20 e. The restored stream channel shall be equal in width, depth, gradient, length
21 and character as the pre-existing stream channel and tie in smoothly to

- 1 profile of the stream channel upstream and downstream of the project area.
- 2 The planform of any stream shall not be changed;
- 3 f. Any instream work or restoration shall not result in an impediment to
- 4 passage of aquatic organisms;
- 5 g. Any in-stream work (excluding dewatering practices associated with dry
- 6 trench crossings) and restoration shall be constructed in a manner which
- 7 maintains low flow conditions and preserves water depths and velocities
- 8 similar to undisturbed upstream and downstream reaches necessary to
- 9 sustain the movement of native aquatic organisms. Any in-stream habitat
- 10 structures shall not create a drop height greater than 6-inches;
- 11 h. All disturbed stream banks below the normal high-water elevation must be
- 12 graded no steeper than 1 vertical to 2 horizontal slope, or to the original
- 13 grade as appropriate, and adequately stabilized;
- 14 i. All other areas of soil disturbance above the ordinary high-water elevation,
- 15 or elsewhere, shall be stabilized with natural fiber matting, seeded with an
- 16 appropriate perennial native conservation seed mix, and mulched with straw
- 17 within two (2) days of final grading. Mulch shall be maintained until
- 18 suitable vegetation cover is established; and
- 19 j. Destroyed bank vegetation shall be replaced with appropriate native shrubs,
- 20 live stakes, and/or tree plantings as site conditions, as appropriate.

1 37. If Applicable, a *State Wetland Mitigation Plan* for impacts to state wetlands,
2 addressing impacts to wetland benefits described in ECL § 24-0105(7) A final
3 Wetlands Mitigation Plan addressing impacts to federal and State-regulated
4 wetlands, if applicable, shall be developed in coordination with DEC, DPS Staff,
5 and the Corps to satisfy applicable federal and State regulations. If mitigation of
6 State-regulated wetlands is required, the plan shall separately address impacts to
7 each of the wetlands benefits described in Environmental Conservation Law § 24-
8 0105(7).

9 38. At a minimum, the Wetland Mitigation Plan shall include the following:

- 10 k. The creation of compensatory wetlands at a ratio that is consistent with state
11 and federal regulations;
- 12 l. Project construction timeline;
- 13 m. Construction details for meeting all requirements contained in these
14 proposed certificate conditions;
- 15 n. Performance standards that meet state and federal requirements for
16 determining wetland mitigation success;
- 17 o. Specifications for post construction monitoring for at least 5 years after
18 completion of the wetland mitigation;
- 19 p. After each monitoring period the Certificate Holder shall take corrective
20 action for any areas that do not meet the above referenced performance

1 standards to increase the likelihood of meeting the performance standards
2 after 5 years; and

3 39. In the event that, after a period of five years following construction of the Facility
4 and the implementation of the Wetland Mitigation Plan, all wetland performance
5 standards have not been achieved, the Certificate Holder shall develop a “*Wetland*
6 *Mitigation Remedial Plan*” in coordination with DEC, DPS Staff, and the Corps (if
7 applicable), and submit it to the Secretary for approval. The “Wetland Mitigation
8 Remedial Plan” must describe the likely reasons for not achieving performance
9 standards, describe the actions necessary to correct the situation to ensure a
10 successful mitigation, and the schedule for conducting the remedial work. Once
11 approved, the “Wetland Mitigation Remedial Plan” will be implemented according
12 to the approved schedule.

13 40. If mitigation is provided through an approved in-lieu fee program, a final letter of
14 credit availability from an approved wetland mitigation bank, along with document
15 of payment, will be provided, pursuant to 16 NYCRR 1002.4.

16 41. If applicable, site- *specific wetland crossing plan* with the alignment for each
17 crossing and the extent of clearing and ground disturbance; proposed location of
18 temporary access roads; and description of methods used to minimize soil
19 compaction.

20 42. A plan to restore wetlands, including the following requirements:

- 1 q. Contours shall be restored to pre-construction conditions within 48 hours of
2 final backfilling of the trench within wetlands and state-regulated adjacent
3 areas;
- 4 r. Immediately upon completion of grading, wetland and adjacent areas shall
5 be seeded and/or replanted with native shrubs and herbaceous plants at pre-
6 construction densities. Seeding with an appropriate native wetland species
7 mix (e.g. Ernst Wetland Mix (OBL-FACW Perennial Wetland Mix, OBL
8 Wetland Mix, Specialized Wetland Mix for Shaded OBL-FACW), or
9 equivalent) or , shall be completed to help stabilize the soils;
- 10 s. Wetland restoration areas shall be monitored for a minimum of 5 years or
11 until an 80% cover of plants with the appropriate wetland indicator status
12 has been reestablished over all portions of the restored area. At the end of
13 the first year of monitoring, the Certificate Holder shall replace lost wetland
14 and/or wetland adjacent area plantings if the survival rate of the initial
15 plantings is less than 80%; and
- 16 t. If at the end of the second year of monitoring, the criteria for restoration
17 plantings (80% cover, 80% survival of plantings) are not met, then the
18 Certificate Holder must evaluate the reasons for these results and submit an
19 approvable Wetland Planting Remedial Plan (WPRP) for DEC and DPS
20 approval. The WPRP shall include an analysis of poor survival; corrective
21 actions to ensure a successful restoration; and a schedule for conducting the

1 remedial work. Once approved, the WPRP will be implemented according
2 to the approved schedule.

3 43. A “*Wetland Crossing Plan (Underground Cables)*” that includes a site-specific
4 plan for each underground wetland crossing. At a minimum, the “Wetland
5 Crossing Plan (Underground Cables)” shall include the following information:

6 u. A site-specific assessment of constructability for all crossings that cannot
7 use trenchless methods. The assessment shall be conducted by an
8 experienced and qualified, professional engineer licensed in New York
9 State and shall include a detailed analysis of the site-specific conditions that
10 lead to the conclusion that all trenchless crossing methods are not
11 constructible or not feasible at the particular wetland crossing; A detailed
12 description of the crossing method of each wetland that describes the
13 following:

- 14 i. Specific plans with the alignment for each wetland crossing and the
15 extent of clearing and ground disturbance; and
16 ii. Construction details for meeting all requirements contained in these
17 proposed certificate conditions.

18 44. A “*Wetland Crossing Plan (Aboveground Cables)*” that includes a site-specific
19 plan for each above ground wetland crossing. At a minimum, the “Wetland
20 Crossing Plan (Above Ground Cables)” shall include the following information:

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- 1 v. Specific plans with the alignment for each wetland crossing and the extent
- 2 of clearing and ground disturbance;
- 3 w. Proposed location of temporary access roads;
- 4 x. Description of methods used to minimize soil compactions; and
- 5 y. Construction details for meeting all requirements contained in these
- 6 proposed certificate conditions.

7 45. All construction activities completed within regulated wetlands shall adhere to the
8 following requirements;

- 9 a. Excavation, Installation, and backfilling must be done in one continuous
- 10 operation.
- 11 b. Work should be conducted during dry conditions without standing water
- 12 or when the ground is frozen, where practicable.
- 13 c. In areas containing amphibian breeding areas, work in wetlands or
- 14 adjacent areas should not occur during the peak amphibian breeding
- 15 season (April 1 to June 15).
- 16 d. Before trenching occurs, upland sections of the trench shall be backfilled
- 17 or plugged to prevent drainage of possible turbid trench water from
- 18 entering the stream or wetland.
- 19 e. Trench breakers/plugs shall be used at the edges of wetlands as needed to
- 20 prevent wetland draining during construction.

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- 1 f. If there is an inadvertent puncturing of a hydrologic control for a wetland,
2 then the puncture shall be immediately sealed, and no further activity shall
3 take place until NYSDPS and NYSDEC staff are notified and a
4 remediation plan to restore the wetland and prevent future dewatering of
5 the wetland has been approved by the agency staff.
- 6 g. Only the excavated wetland topsoil and subsoil shall be utilized as
7 backfill.
- 8 h. In wetland areas, the topsoil shall be removed and stored separate from
9 subsoil. The top 12 inches of wetland top soil shall be removed first and
10 temporarily placed onto a geo-textile blanket running parallel to the
11 trench, if necessary.
- 12 i. Wide-track or amphibious excavators shall be used for wetland
13 installations.
- 14 j. Subsoil dug from the trench shall be sidecast on the opposite side of the
15 trench on another geo-textile blanket running parallel to the trench, if
16 necessary.
- 17 k. The length of the trench to be opened shall not exceed the length that can
18 be completed in one day. This length of trench generally should not
19 exceed 1,500 feet in a wetland.
- 20 l. Trench shall be backfilled with the wetland subsoil and the wetland top
21 soil shall be placed back on top.

1 m. When backfilling occurs, the subsoil shall be replaced as needed, and then
2 covered with the top soil, such that the restored top soil is the same depth
3 as prior to disturbance.

4 46. Construction access within regulated wetlands shall adhere to the following;

- 5 a. Swamp mats must be used to minimize soil compaction and erosion in
6 regulated freshwater wetlands for construction activities.
- 7 b. Where any temporary or permanent access roads are to be constructed
8 through wetlands, a layer of geotextile fabric shall be placed across the
9 wetland after removal of vegetation and before any backfilling occurs. The
10 final road surface shall be covered with a minimum 1-inch depth of gravel
11 in the area of the wetland crossing.
- 12 c. Prior to installation in state-regulated wetlands and adjacent areas, as
13 applicable, swamp mats must be cleaned of invasive species following
14 protocols described in the final approved "Invasive Species Control Plan."
- 15 d. Swamp mat removal must be conducted from adjacent mats (i.e., removal
16 equipment always stationed on a mat) as soon as practicable, but no later
17 than four months following installation structure or other project component
18 requiring temporary construction access. Notification shall be provided to
19 the NYSDEC Region 8 Natural Resources Supervisor and the NYSDEC
20 Chief of the Major Project Management, Division of Environmental

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1 Permits, 625 Broadway, Albany, NY when compliance with this condition
2 has been achieved.

3 47. This certificate does not authorize any permanent alteration of wetland hydrology.

4 48. Regulated wetlands shall be restored as follows:

- 5 a. Contours shall be restored to pre-construction conditions within 48 hours of
6 final backfilling of the trench within the wetland and state-regulated
7 adjacent area boundary.
- 8 b. Immediately upon completion of grading, the area shall be replanted with
9 native shrubs and herbs at densities as existed prior to construction. Seeding
10 with an appropriate native wetland species mix such as an Ernst Wetland
11 Mix (OBL-FACW Perennial Wetland Mix, OBL Wetland Mix, Specialized
12 Wetland Mix for Shaded OBL-FACW, or equivalent) shall be completed to
13 help stabilize the soils. Replanted areas shall be monitored for 5 years and
14 an 85% cover of native species has been reestablished over all portions of
15 the replanted area. At the end of the first year of monitoring, the certificate
16 holder shall replace lost wetland and/or wetland adjacent area plantings if
17 the survival rate of the initial plantings is less than 80%. If at the end of the
18 second year of monitoring, the criteria for restoration plantings (85% cover,
19 80% survival of plantings) are not met, then the Certificate Holder must
20 evaluate the reasons for these results and submit an approvable "Wetland
21 Planting Remedial Plan" for NYSDEC and NYSDPS approval. The

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1 “Wetland Planting Remedial Plan” must describe the reasons for poor
2 survival, describe the actions necessary to correct the situation to ensure a
3 successful restoration, and the schedule for conducting the remedial work.
4 Once approved, the “Wetland Planting Remedial Plan” will be implemented
5 according to the approved schedule. Performance requirements contained
6 in the approved “Invasive Species Control Plan” must also be achieved.

7 c. Replanted areas shall also be monitored for invasive species to ensure there
8 is zero percent net increase in areal coverage of invasive species compared
9 with pre-construction conditions. If at any time during the monitoring the
10 invasive species criteria above are not met, the certificate holder shall take
11 immediate action to ensure control of the invasive species. Such actions
12 shall be part of the approved “Invasive Species Control Plan.”

13 d. Disturbed areas will be monitored for 5 years following installation to
14 assure an 85% cover of native species, unless the invasive species baseline
15 survey indicates a smaller percentage of native species exists prior to
16 construction. If after one complete growing season the pre-construction
17 percentage of native species is not achieved, the Certificate Holder must,
18 consult with NYSDEC and evaluate the reasons for these results, obtain
19 NYSDEC approval for remediation steps, and submit a “Wetland Planting
20 Remedial Plan” to the Secretary for review and approval. The “Wetland
21 Planting Remedial Plan” must describe the reasons for the achieved level of

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1 survival, describe the actions necessary to correct the situation to ensure a
2 successful restoration, and the schedule for conducting the remedial work.
3 Once approved, the “Wetland Planting Remedial Plan” will be implemented
4 according to the approved schedule.

5 49. If a one-time crossing of a stream occurs as part of an installation of a temporary
6 bridge and a tire mat is used, the following restrictions apply;
7 a. The mat must follow the contour of the streambed and allow for a low flow
8 channel and not change the flow path of the stream thalweg.
9 b. The mat shall be removed immediately after the crossing of the stream
10 occurs.

11 50. Certificate holder shall utilize free span temporary equipment bridges to cross all
12 streams with flow at the time of the proposed crossing with a classification of A,
13 AA, A-S, B or C, with or without a standard of (T) or (TS). Temporary stream
14 crossings are not authorized at waterbodies utilizing trenchless pipeline installation
15 techniques. All structures must be placed at bankfull elevation or higher and be
16 able to pass no less than a Q5 flow interval and be capable of withstanding any
17 higher flow intervals likely to be experienced within a specific waterbody without
18 causing damage to the stream bed or banks. Bridges may not be dragged through
19 the stream and must be suitably anchored to prevent downstream transport during
20 a flood. Fill may not be placed within the stream channel below bankfull elevation
21 and placement of abutments or fill is authorized only above and outside bankfull

1 boundaries. Geotextile fabric must be placed below and extending onto the bank
2 and suitable side rails built into the bridges to prevent sediment from entering the
3 waterbody. Bridges with a total length of 20' or less must be installed only from
4 one side of the stream. Bridges greater than 20' long may be installed with
5 equipment from both sides of the stream. Center supports may be used on bridges
6 30' or greater and placed no closer than 15' to one another and may use solid
7 materials or a single round culvert.

8 51. In-stream work not associated with either Stream Crossing Plan (Bridges &
9 Culverts) or Stream Crossing Plan (Cables) shall only occur in the dry. Trenchless
10 methods or dewatering measures (e.g., dam and pump or flume) must be used. If
11 approved measures fail to divert all flow around the work area, in-stream work must
12 immediately stop until dewatering measures are in place and properly functioning
13 again.

14 52. The restored stream channel shall be equal in width, depth, gradient, length and
15 character as the pre-existing stream channel and tie in smoothly to profile of the
16 stream channel upstream and downstream of the project area. The planform of any
17 stream shall not be changed.

18 53. All disturbed stream banks below the normal high-water elevation must be graded
19 no steeper than 1 vertical to 2 horizontal slope, or to the original grade as
20 appropriate, and adequately stabilized. All other areas of soil disturbance above
21 the ordinary high-water elevation, or elsewhere, shall be stabilized with natural

1 fiber matting, seeded with an appropriate perennial native conservation seed mix,
2 and mulched with straw within two (2) days of final grading. Mulch shall be
3 maintained until suitable vegetation cover is established. Destroyed bank
4 vegetation shall be replaced with shrub willow or silky dogwood planting, native
5 trees, or other suitable species.

6 54. If any trees and shrubs growing within 50 feet of streams need to be cut in the
7 process of constructing overhead power line crossings, they shall be cut off with at
8 least two feet of the stump remaining. Stumps and root systems shall not be
9 damaged to facilitate stump sprouting. All trees and shrubs cut within the 50-foot
10 buffer area shall be left on the ground.

11 55. Clearing of natural vegetation shall be limited to that material which poses a hazard
12 or hindrance to the construction activity. Snags which provide shelter in streams
13 for fish shall not be disturbed unless they cause serious obstructions, scouring or
14 erosion.

15 56. To reduce thermal impacts to exposed streams, native woody plants such as shrub
16 willows, dogwoods, appropriate native trees, or other native riparian species will
17 be planted at all stream crossings, which have less than 50% cover due to
18 construction impact of any such vegetation and is to be restored following a
19 temporary impact, to shade the project area. Planting may be done at top of bank
20 and/or among rocks along toe of slope.

1 57. All instream work requiring trenching (see Site Specific Constructability
2 Assessment) will comply with the following;

3 a. All stream crossings shall be done in the dry. Intermittent and ephemeral
4 streams must be crossed during times of no flow, while perennial streams
5 must be crossed using a temporary water control device such as a dam and
6 pump or cofferdam to isolate the work area and redirect the water around
7 the work site.

8 b. Trenches shall be opened for the installation and backfilled in one
9 continuous operation.

10 58. All Temporary water control devices/cofferdams must adhere to the following:

11 a. Any temporary cofferdam shall be constructed of clean materials such as
12 sheet piling, jersey barriers, inflatable dams, or sandbags that will not
13 contribute to turbidity or siltation of the waterbody or wetland, and non-
14 erodible materials, so that failure will not occur at Q10 or lower flow
15 conditions. Where practicable, an upstream or interior membrane shall be
16 installed to control percolation and erosion. Sandbags shall be of the filter
17 fabric type, double bagged and individually tied to prevent sand leakage and
18 only clean sand (e.g. free of debris, silt, fine particles or other foreign
19 substance) shall be used as fill. They shall be placed and removed manually
20 to prevent spillage. Straw bale sediment control basins are prohibited;

21 b. Fill materials must not come from the waterbody or wetland;

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- 1 c. The water control structure/cofferdam shall not impair downstream water
- 2 flow in the waterbody or water flow into and/or out of a wetland;
- 3 d. Sufficient flow of water shall be maintained at all times to sustain aquatic
- 4 life downstream. At no time shall more than one half the stream be blocked
- 5 off;
- 6 e. If exposed for an extended period of time, excavated or temporarily
- 7 stockpiled soils or other materials should be covered and protected to reduce
- 8 runoff of fines which may cause a turbidity problem and to prevent
- 9 rainwater from soaking the materials and rendering them unsuitable for
- 10 backfill;
- 11 f. The work area shall remain isolated from the rest of the stream or wetland
- 12 until all work in the streambed or bank, or wetland is completed, concrete
- 13 is thoroughly set and the water clarity in the coffered area matches that of
- 14 the open water;
- 15 g. If a dam and pump diversion is used as part of a dry open-cut crossing, the
- 16 pump and diversion must be monitored continuously from time of
- 17 installation until crossing is completed, streambed restored, and diversion
- 18 is removed;
- 19 h. Dewatered sections of stream cannot exceed 50 linear feet (measured from
- 20 the inside edges of the cofferdams) for each stream crossing unless the
- 21 Certificate Holder has prior written approval from the NYSDEC Region 8

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1 Supervisor of Natural Resources, which approval shall not be unreasonably
2 delayed, conditioned or withheld and shall be subject to the terms of the
3 dispute resolution procedures contained in this Certificate;

4 i. All temporary water control structures shall be removed in their entirety
5 upon completion;

6 j. All fish trapped within the cofferdam shall be netted and returned, alive and
7 unharmed, to the water outside the confines of the cofferdam, in the same
8 stream, before the dewatering process;

9 i. Dewatering within the coffer(s) shall be performed so as to
10 minimize siltation and turbidity. Water taken from the coffered area
11 will be passed through settling basins, filter bag, or well-vegetated
12 upland areas more than 100 feet from the stream bank to prevent the
13 discharge of turbid water into any wetland, stream or river. The
14 pump discharge must be directed against a solid object (concrete
15 slab, stone or steel container), or other effective method to prevent
16 erosion by dissipating energy.

17 59. All trenchless crossings must adhere to the following;

18 a. Erosion and sediment control will be used at the point of horizontal
19 directional drilling, so that drilling fluid shall not escape the drill site and
20 enter streams or wetlands. The disturbed area will be restored to original
21 grade and reseeded upon completion of directional drilling;

- 1 b. Drilling fluid circulation for horizontal directional drilling installations shall
2 be maintained to the extent practical. If inadvertent surface returns occur in
3 upland areas, the fluids shall be immediately contained and collected. If the
4 amount is not enough to allow practical collection, the affected area will be
5 diluted with freshwater and allowed to dry and dissipate naturally. If the
6 amount of surface return exceeds that which can be collected using small
7 pumps, drilling operations shall be suspended until surface volumes can be
8 brought under control; and
- 9 c. A “Frac-Out Risk Assessment and Contingency Plan” shall be prepared that
10 addresses the inadvertent drilling fluids surface returns in or within 100 feet
11 of any environmentally sensitive area (i.e. wetlands and water bodies). The
12 Certificate Holder will maintain a horizontal directional drilling spill
13 response plan and the necessary response equipment will be kept on-site for
14 the duration of the drilling. In the event a “frac-out” does occur, the returns
15 shall be monitored and documented as described in the “Frac-Out Risk
16 Assessment and Contingency Plan.” Drilling operations must be suspended
17 if the surface returns pose a threat to environmentally sensitive areas or to
18 public health and safety. Removal of released fluids from environmentally
19 sensitive areas will take place only if the removal does not cause additional
20 adverse impacts to the resource. If inadvertent drilling fluids surface returns
21 occur in an environmentally sensitive area the NYSDEC Region 8

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1 Supervisor of Natural Resources and NYSDPS shall be notified
2 immediately (or as soon as practicable considering internet and cell phone
3 coverage in the area) and a monitoring report summarizing the location of
4 surface returns, estimated quantity of fluid and summary of cleanup efforts
5 shall be submitted within 48 hours of the occurrence.

6 **Q. Do you hold your opinions to a reasonable degree of scientific certainty?**

7 A. Yes, I do.

8 **Q. Does this conclude your direct testimony on these topics at this time?**

9 A. Yes, it does.

NEW YORK STATE
PUBLIC SERVICE COMMISSION

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CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

Carl J. Herzog, being duly sworn, deposes and says:

1. I am employed by the New York State Department of Environmental Conservation (NYSDEC) as a Wildlife Biologist, Division of Fish and Wildlife, in the NYSDEC Central Office in Albany, New York, and I am appearing as a witness in this proceeding on behalf of NYSDEC.

2. I prepared written testimony labeled "Direct Testimony of Brianna Denoncour and Carl J. Herzog" and two exhibits marked NYSDEC-DH-2 and NYSDEC-DH-3, which were filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. I prepared a response to the information request from Canisteo Wind Energy LLC labeled CWE-DEC-7, which was sent to the active party list on August 5, 2019.

4. Upon review of my previously filed testimony and exhibits, I note the following corrections to my testimony:

- i. P. 11, L. 10: Changed "14" to "12", and "13" to "11";
- ii. P. 11, LL. 13-14: Deleted "Two of the 13 roost trees were previously known to the Department, and", and

added "All" before "11" and "unique roost tree locations" after "11"; and

iii. P. 17, LL. 18-21

- a. Changed 248.5 to 246.5
- b. Changed 60.1 to 58.1
- c. Changed 48.3 to 46.3
- d. Changed 36.6 to 34.6

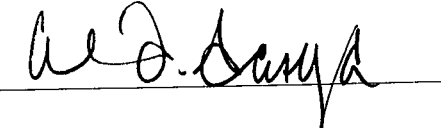
Revised filings incorporating this correction were filed under this case number with the Secretary of the Public Service Commission on August 9, 2019.

5. I hereby affirm that the testimony, exhibits, and the response to the information request identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.


Carl J. Herzog

Sworn to before me this 14 day of August, 2019.

Notary information
signature/stamp



MARK D. SANZA
Notary Public, State of New York
No. 02346010701
Qualified in Albany County
Commission Expires July 20, 2022

NEW YORK STATE
PUBLIC SERVICE COMMISSION

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CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF MONROE)

Michael W. Mishook, being duly sworn, deposes and says:

1. I am employed as a Sr. Civil Engineer/Civil Regional Manager by LaBella Associates DPC, and I am appearing as a witness in this proceeding on behalf of the towns of Canisteo, Cameron, Greenwood, West Union, Jasper, and Troupsburg.

2. I previously prepared, or supervised the preparation of, written testimony labeled Direct Testimony of Michael W. Mishook and exhibit Towns-MM-1, which were filed under this case number with the Secretary of the Public Service Commission on July 15, 2019. On the matter master, my testimony is entitled "Towns Decommissioning Testimony."

3. Upon review of my previously filed testimony and exhibits, no corrections to either are necessary, but I do note that the Towns have now filed the report that they were waiting on from Energy Ventures Analysis. Revised filings incorporating the information about that report are attached hereto

4. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I

I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.

Michael W. Mishook

Signature

Michael W. Mishook

Sworn to before me this 16TH day of August, 2019.

Notary information

signature/stamp

Michael A. Simon
MICHAEL A. SIMON
Notary Public, State of New York
No. 01516236902
Qualified in Monroe County
Commission Expires March 7, 2023

BEFORE THE
STATE OF NEW YORK
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

In the Matter of

Canisteo Wind Energy LLC

Case No. 16-F-0205

July 12, 2019

Direct Testimony of

Michael W. Mishook,
LaBella Associates

Witness for the Towns of Canisteo,
Cameron, Jasper, Troupsburg,
Greenwood, and West Union

1 WITNESS INTRODUCTION

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

3 A. Michael W. Mishook, LaBella Associates DPC, Sr. Civil Engineer/Civil Regional
4 Manager, 100 West Water Street, Suite 101, Elmira, NY 14901.

5 Q. Please describe your educational background and professional certifications.

6 A. I am a licensed Professional Engineer in the State of New York and Commonwealth of
7 Pennsylvania with over 15 years of experience as a civil engineer. I graduated with a Bachelor of
8 Science in Civil Engineering Technology from the Rochester Institute of Technology in 2004,
9 and obtained my Masters in Business Administration from the University of Massachusetts in
10 2017. My entire career has been as a consultant. A resume that includes my project experience is
11 attached as Exhibit Towns-MM-1.

12 Q. Are there any prior Decommissioning Cost estimates or analysis that you have reviewed
13 in order to arrive at the opinions that you express in this testimony?

14 A. In addition to my professional experience, my testimony relies upon review of the
15 Cassadaga Wind Farm Decommissioning Cost Estimate prepared by GHD in July of 2017 and
16 the Dakota Range Wind Project Decommissioning Cost Analysis prepared in December 2017 by
17 DNV GL.

18 Q. Have you reviewed the Decommissioning proposal submitted by the Applicant?

19 A. Yes.

20 Q. Are you satisfied with the proposal submitted by the Applicant?

21 A. No, there is not enough information provided to support the estimated cost or that the
22 Plan will adequately provide for Decommissioning funds. As to the cost, even if \$109,000 per

1 turbine is an accurate amount, the Applicant is only proposing to provide security in the amount
2 of \$10,000 per turbine at the beginning of the project; further, if the security is not renewed, the
3 town could only “draw 50% of the funds.” Five thousand dollars is not adequate security. It is
4 also unclear how WTG resale values were arrived at, and only 20 years are estimated, although a
5 useful life of 30 years is estimated. Resale values and scrap sale prices seem highly speculative.

6 A. What is your recommendation?

7 Q. That the Applicant be required to provide detailed factual support for the estimates it
8 arrived at in a compliance filing, including a breakdown of estimates for the disassembly,
9 removal, and disposal of all items and an estimate for removing the access roads and restoring
10 the access road areas; that the Applicant obtain the Towns’ consent to the amount and type of
11 security; and that the Applicant post the security at least two weeks before beginning
12 construction.

13 Q. Do the Towns expect to provide additional support for their position?

14 A. Yes, the Towns received an intervenor funding award today that allows them to be able to
15 commission a study from Energy Ventures Analysis (“EVA”). The Towns’ intent is to reserve all
16 rights that they have to supplement testimony in this regard after they have receive and review
17 the EVA report.

18 Q. Does this conclude your testimony at this time?

19 A. Yes.

1861

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

Skylar Drennen, being duly sworn, deposes and says:

4. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.

Skyler Drennen



Sworn to before me this 16th day of August, 2019.



Donna M. Wilson, Notary



My commission expires: May 31, 2023.



John J. Coughlin

Notary Public

BEFORE THE
STATE OF NEW YORK
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

In the Matter of

Canisteo Wind Energy LLC

Case No. 16-F-0205

August 13, 2019

Direct Testimony of

Skylar Drennen,
Energy Ventures Analysis

Witness for the Towns of Canisteo,
Cameron, Jasper, Troupsburg,
Greenwood, and West Union

1 WITNESS INTRODUCTION

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

3 A. My name is Skylar Drennen. I am a Senior Analyst with Energy Ventures Analysis
4 (“EVA”). My office is located at 1901 N. Moore St., Suite 1200 Arlington, VA 22209-1706.

5 Q. Please describe your educational background and professional certifications.

6 A. I earned a B.A. in International and Global Studies with a focus on East Asian Studies
7 and Economics from Middlebury College 2014. I received an M.A. in International Relations
8 and International Economics with a Concentration in Energy, Resources, and the Environment
9 from the Johns Hopkins School of Advanced International Studies. My professional resume with
10 highlights of recent projects is attached as Exhibit Towns-SD-1.

11 Q. Have you reviewed the decommissioning plan submitted by the Application in the
12 Canisteo Wind Energy project?

13 A. Yes.

14 Q. Do you believe that the plan is sufficient to ensure that the project will be properly
15 decommissioned?

16 A. No.

17 Q. Did you conduct an analysis of your own?

18 A. Yes.

19 Q. Please explain how your findings differed from the plan that was proposed by the
20 Applicant.

21 A. We found that the plan proposed by the Applicant: (1) may underestimate the cost of
22 decommissioning; (2) may overestimate the salvage value of the project; (3) does not provide for

1 cost contingencies; (4) has not adequately accounted for the additional cost of removal of
2 meteorological towers, removal of access roads, or the removal of the operations and
3 maintenance building if required; and (5) fails to provide the towns significant financial
4 assurances that the project will be decommissioned in the event that CWE cannot decommission
5 it.

6 Q. Are your full findings contained in a study?

7 A. Yes, it is the study entitled Canisteo Wind Farm Decommissioning Assessment. The
8 study is dated August 13th 2019. It is attached as Exhibit Towns-SD-2.

9 Q. Please give a synopsis of why you believe the cost of decommissioning has been
10 underestimated.

11 A. First and foremost, costs have been underestimated because CWE did not include
12 estimates for all aspects of decommissioning the project. As stated, CWE did not provide
13 estimates for the cost of decommissioning the access roads, the meteorological towers, or the
14 operations and maintenance building. Other decommissioning studies list these costs, and find
15 these components to contribute significantly to the overall cost of decommissioning. EVA's
16 methodology involved assessing a number of decommissioning studies and then generating data
17 to simulate potential cost outcomes for the CWE project. EVA found that it is likely to cost
18 \$156,000 per wind turbine to decommission CWE. Moreover, because EVA utilized a
19 probability-based approach, EVA estimates that there is a 90% chance that the cost of
20 decommissioning a single turbine will lie between roughly \$102,000 and \$209,000. Based on the
21 premise that construction costs are uncertain, particularly those that are far out in the future,
22 other projects often include line items for "contingency" and "indirect costs" in their
23 decommissioning estimates for similar power projects. Based on the wide range of cost

1 outcomes, and the fundamental uncertainty about what decommissioning a wind turbine will cost
2 in 20-30 years, EVA incorporated these line items in our estimate.

3 Q. Your findings discuss a potential range of salvage values. Please identify what you
4 believe are conservative estimates for the prices of salvageable steel and copper.

5 A. Based on my findings from the report, I estimate that a conservative salvage value would
6 be roughly \$30,000 per turbine, however, this value could be higher or lower depending on the
7 market conditions. EVA simulated the likely salvage value of the turbines based on an analysis
8 of commodity price volatility. EVA found that 95 percent of scenarios led to turbines having a
9 salvage value greater than roughly \$30,000. Stated another way, there is a very good chance that
10 the salvage value will be worth at least \$30,000 per turbine. EVA's salvage analysis found that
11 the average salvage scenario yielded an average of roughly \$72,000. I am much less confident
12 that the scrap metal will be worth this much money when decommissioning occurs.

13 Q. Please give a synopsis of items 3-5 above and explain where more information related to
14 them can be found in your report.

15 A. My report is structured with 3 main sections: a project overview that discusses
16 decommissioning, an estimate of the cost of decommissioning, and an estimate of the potential
17 salvage value. Within the section where I estimate the decommissioning cost there is also a
18 subsection dedicated to sensitivity analysis. To read about our methodology for assessing the
19 potential cost of decommissioning the CWE project I direct you to page 5. Based on my firm's
20 study, our main conclusion is that the Wind Developer has not sufficiently mitigated the Towns'
21 risk. In brief, the current proposed financial arrangement for decommissioning is insufficient by
22 the 20th year even without including the cost to decommission access roads, the operations and
23 maintenance building, and the meteorological towers. Even using CWE's own assumptions in

1 the 20th year, with the \$10,000 bond, the Towns would face a loss of roughly \$17,000 per turbine
2 if they had to decommission the project.

3 Another key aspect that I detail in my report is that the current arrangement for how the Towns
4 would access funding to decommission wind turbines is not ideal. Under the proposed structure,
5 the burden of action lies on the Towns. (This burden is defined as the actions the Towns must
6 pursue to access funding. CWE's decommissioning study notes that the bonding will include
7 "Conditions under which the town can draw on the funds," and, "A provision that the host town
8 could draw 50% of the funds if CWE does not renew the security instrument prior to its
9 expiration date." This provision burdens the towns by forcing the towns to organize, prove to
10 CWE that they need to access the funds, and then are only allotted up to 50%. The state
11 decommissioning panel elaborated on this issue further.) It would be preferred if the structure
12 allowed the Towns full access to the decommissioning funding, unless the Wind Company was
13 able to prove that it was making good faith efforts to repair or take down any damaged or
14 inoperative turbines. Finally, I discuss the impact of including roads, meteorological towers, and
15 the O&M building in the decommissioning estimate. My professional assessment is that these
16 costs should be considered and included in the decommissioning estimate and the financial
17 security instrument before the project is permitted to begin construction so that the Towns are
18 protected financially, even if future Town leaders and landowners decide at the time that access
19 roads, meteorological towers and the O& M building should remain in place.

20 Q. You also include a "one off" estimate as Figure 11 in the report. Can you explain what
21 that is?

22 A. Yes, although I believe that the best way to estimate the cost on a project like this is
23 arrived at by utilizing the data from other projects and applying an extrapolation of that data to

1 our project, I utilized the “one off” approach to also give a snapshot of what some of the line-
2 item costs that are expected to occur might look like. As I stated, we are not engineers, but we
3 did utilize relevant industry data in order to arrive at the figure that we did.

4 Q. Does this conclude your testimony at this time?

5 A. Yes.

NEW YORK STATE
PUBLIC SERVICE COMMISSION

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF STEBEN)

Kathleen Spencer, being duly sworn, deposes and says:

1. I am employed as a Principal Environmental Analyst by LaBella Associates, and I am appearing as a witness in this proceeding on behalf of the towns of Canisteo, Cameron, Greenwood, West Union, Jasper, and Troupsburg.

2. I previously prepared, or supervised the preparation of, written testimony labeled Direct Testimony of Kathleen Spencer and exhibit Towns-KS-1, which were filed under this case number with the Secretary of the Public Service Commission on July 15, 2019. On the matter master, my testimony is entitled "Towns Lighting and Setback Direct Testimony."

3. Upon review of my previously filed testimony and exhibits, no corrections to either are necessary, although I do add this: the Applicant has now submitted some information regarding potential cost of an aircraft detection lighting system; however, the new information filed does not change my overall opinion on the issue related to whether a proper feasibility analysis has been conducted.

4. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written

testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.



Signature

Kathleen Spencer

Sworn to before me this 19th day of August, 2019.

Notary information
signature/stamp



ELIZABETH A. OKLEVITCH
Notary Public, State of New York
Qualified in Steuben County
No. 02OK6320499
My Commission Expires March 9, 2023

ELIZABETH A. OKLEVITCH
Notary Public, State of New York
Qualified in Steuben County
No. 02OK6320499
My Commission Expires March 9, 2023

BEFORE THE
STATE OF NEW YORK
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

In the Matter of

Canisteo Wind Energy LLC

Case No. 16-F-0205

July 12, 2019

Direct Testimony of

Kathleen Spencer,
LaBella Associates

Witness for the Towns of Canisteo,
Cameron, Jasper, Troupsburg,
Greenwood, and West Union

1 WITNESS INTRODUCTION

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

3 A. Kathleen Spencer, Principal Environmental Analyst, LaBella Associates, 300 State
4 Street, Suite 201, Rochester NY 14614.

5 Q. Please describe your educational background and professional certifications.

6 A. I have a Bachelor in Science in Biology from Bucknell University and a Masters in
7 Environmental Studies from the Yale School of Forestry & Environmental Studies. I have
8 worked in the environmental field for more than 30 years. A resume with highlights of recent
9 projects is attached as Exhibit Towns-KS-1.

10 Q. Please describe these exhibits.

11 A. Have you compared the Town of Greenwood's Local Law No. 1 of 2017, "A local law to
12 Regulate Wind Energy Facilities" to the Application?

13 A. Yes.

14 Q. Is that law included in the Application?

15 A. Yes, it is included in Appendix 31a.

16 Q. What are the lighting standards in Section 12 of that law?

17 A. It says "No WTG shall be lit except to comply with FAA requirements, lights will be red
18 or orange of color. Developers of Wind Energy Facilities shall install an aircraft detection
19 lighting system if feasible and approved by the FAA."

20 Q. Does the Application propose using an aircraft detection lighting system?

21 A. There is no definitive commitment to use such a system.

1 Q. Does the Application contain a feasibility analysis of installing an aircraft detection
2 lighting system?

3 A. No, not that I am aware of.

4 Q. Do you have any recommendations related to this?

5 A. Yes, I recommend that the Applicant either commit to install an aircraft detection lighting
6 system or explain why it is not feasible.

7 Q. Have you compared the Application to Towns' setbacks?

8 A. Yes.

9 Q. Does the Application contain sufficient information to establish compliance?

10 A. No, information is not provided to establish that those who are claimed to be participating
11 landowners are actually participating. Additionally, there may be structures that have not been
12 properly classified as the most appropriate "type" of residence, as those residence types are
13 described in the Application.

14 Q. What would your recommendation be in that regard?

15 A. I recommend that any certificate that is issued require the Applicant to prove project
16 participation, and that final setback compliance be definitively established.

17 Q. Does this conclude your testimony at this time?

18 A. Yes.

**NEW YORK STATE BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT**

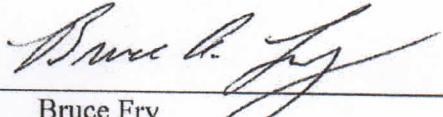
CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct A Wind Energy Facility.

AFFIDAVIT AFFIRMING PREFILED TESTIMONY

STATE OF NEW YORK)) ss:
COUNTY OF STEUBEN)

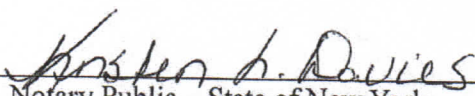
Bruce Fry , being duly sworn, deposes and says:

1. I am member of CMORE (Citizens for Maintaining Our Rural Environment) and a property owner within the Canisteo Wind Energy LLC Project area. My address is: 2145 Alvord Hill Road, Greenwood, New York 14839.
2. I previously prepared written testimony entitled CWE CMORE Bruce Fry Testimony, filed under Case No: 16-F-0205 with the Secretary of New York State Board on Electric Generation Siting and the Environment on July 12, 2019.
3. I hereby affirm that the testimony identified above is true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.



Bruce Fry

Sworn to me this 29th
day of ~~August~~ 2019
July



Notary Public - State of New York

Kristen Davies
NOTARY PUBLIC-STATE OF NEW YORK
No. 01DA6281203
Qualified in Steuben County
My Commission Expires May 13, 2021

STATE OF NEW YORK
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

In re the Matter of:

Application of Canisteo Wind Energy LLC
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 to Construct
a Wind Energy Project.

CASE 16-F-0205

PRE-FILED TESTIMONY OF:

BRUCE A. FRY

2145 ALVORD HILL RD

GREENWOOD, NY 14839

MEMBER OF:

CITIZENS FOR MAINTAINING OUR RURAL ENVIRONMENT

P.O. BOX 102

CANISTEO, NY 14823

CASE 16-F-0205

BRUCE A. FRY

1 Q: Please state your name and home address.

2 A: Bruce A. Fry, 2145 Alvord Hill Road, Greenwood, NY, 14839.

3 Q: On whose behalf are you submitting this testimony?

4 A: I submit this testimony on behalf of myself, my wife, children and grandchild.

5 Q: What is the purpose of your testimony?

6 A: To address concerns of shadow flicker, noise, impact on myself and family, clarify the
7 non-participation of our property and lack of notification from Invenergy regarding this
8 project.

9 Q: How will your property be affected?

10 A: According to the reports posted on the project it is “predicted” our home will be
11 subjected to 44 dba and 60 hours per year of shadow flicker. This will negatively effect
12 my families wellbeing and decrease the value and marketability of the property.

13 Q: Have you researched the pros and cons of projects like CWE?

14 A: I have and believe although renewable energy is good and a chosen few do profit from
15 them the negative effects they have on the environment, wildlife and human health out
16 weight the positive.

17 Q: How many wind turbines will be near your home?

18 A: Three wind turbines, a distance of 1500’, 2000’ and 2200’ from our home.

19 Q: When did you first learn of this project?

20 A: I first heard about CWE and Invenergy from a letter and survey sent in January 2019 by
21 CMORE .

CASE 16-F-0205

BRUCE A. FRY

1 Q: Did You receive any mailings from CWE?

2 A: I only received the mailing for the Public Hearing for April 16, 2019.

3 Q: Did you receive any mailings for open houses in 2016 and 2017 or in January 2019?

4 A: I did not receive mailing for open houses in 2016 and 2017 or in January 2019.

5 Q: Did you receive any mailings/postcards regarding the submission of the application on
6 November 2, 2019?

7 A: I did not receive any mailings/postcards regarding the submission of the application on
8 November 2, 2019.

9 Q: Has CWE ever been in discussion with you regarding a lease on your property?

10 A: No, the only contact ever made was a business card left in the screen door of our home
11 by Michael Mulcahey on June 11, 2019 and that was only after posting a complaint on
12 the DPS/DMM website on June 3, 2019. There was no actual communication with
13 CWE.

14 Q: Has CWE made any contact with you since leaving the business card?

15 A: Same business card was left in the door this past Monday July 8th, like the previous
16 without a note.

17 Q: Are you a participating land Owner?

18 A: No

19 Q: Have you ever been a participating land owner?

20 A: No

21 Q: Do you ever plan to be a participating land owner?

22 A: No

CASE 16-F-0205

BRUCE A. FRY

- 1 Q: On the maps and charts are you listed as a participating or non- participating property?
- 2 A: Originally, we were listed as non-participating, however, in the amended shadow flicker
3 analysis and charts and in the tax parcel maps from May 24, 2019, we are now listed as
4 participating.
- 5 Q: Have you expressed concern about this to CWE?
- 6 A: Yes, we have posted 2 comments on DPS/ DMM and requested CWE post a formal
7 retraction of this fact on DMM.
- 8 Q: Has CWE honored your request?
- 9 A: No
- 10 Q: Has CWE ever discussed a setback waiver or "good neighbor "agreement with you for
11 compensation of over 30 hours of shadow flicker on your property?
- 12 A: No
- 13 Q: Does this conclude your testimony?
- 14 A: Yes.

**NEW YORK STATE BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT**

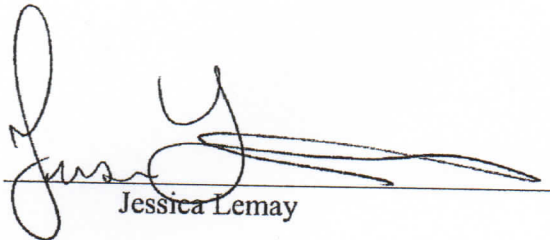
CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct A Wind Energy Facility.

AFFIDAVIT AFFIRMING PREFILED TESTIMONY

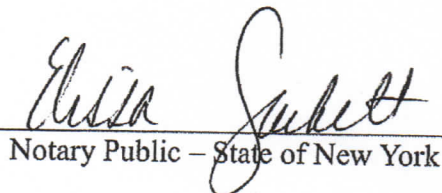
STATE OF NEW YORK)) ss:
COUNTY OF STEUBEN)

Jessica Lemay , being duly sworn, deposes and says:

1. I am member of CMORE (Citizens for Maintaining Our Rural Environment) and a property owner within the Canisteo Wind Energy LLC Project area. My address is: 3072 Prutsman Road, Troupsburg, New York 14885
2. I previously prepared written testimony entitled CWE CMORE Jessica Lemay Testimony, filed under Case No: 16-F-0205 with the Secretary of New York State Board on Electric Generation Siting and the Environment on July 12, 2019.
3. I hereby affirm that the testimony identified above is true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.


Jessica Lemay

Sworn to me this 13th
day of August 2019


Notary Public – State of New York

ELISSA SACKETT
NOTARY PUBLIC-STATE OF NEW YORK
No. 01SA6281561
Qualified in Steuben County
My Commission Expires 05/13/2021

STATE OF NEW YORK
BOARD ON ELECTRICAL GENERATION
SITTING AND THE ENVIRONMENT

In re the Matter of:

Application of Canisteo Wind Energy LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 to Construct
a Wind Energy Project

CASE 16-F-0205

PRE-FILED TESTIMONY OF:

JESSICA LEMAY

3072 PRUTSMAN ROAD

TROUPSBURG, NY 14885

MEMBER OF:

CITIZENS FOR MAINTAINING OUR RURAL ENVIRONMENT (CMORE)

P.O. BOX 102

CANISTEO, NY 14823

1. **Q: Please state your name and home address.**
2. A: Jessica Lemay, 3072 Prutsman Road, Troupsburg, New York,
3. 14885.
4. **Q: Are you employed? If yes, by whom are you employed and in**
5. **what capacity.**
6. A: I am employed at Alstom in Hornell, New York. I work as a Project
7. Contract Manager.
8. **Q: When did you first become aware of this project?**
9. A: I first became aware of this project in early November 2017 when
10. I received a letter in the mail from Invenergy contacting me and
11. providing a phone number to call to speak more of the project.
12. **Q: Did you call the phone number, who did you speak to, and what**
13. **was the subject of the call?**
14. A: I called the phone number provided in the letter and spoke with
15. Tim Bizzaro of Invenergy. I was contacted with the purpose of
16. signing a setback waiver.
17. **Q: Did Invenergy provide any information of the payment you**
18. **would receive if the setback waiver was signed.**
19. A: Yes. Tim Bizzaro of Invenergy stated that if I was to sign the
20. setback waiver I would receive \$4,000 for 40 years with an
21. interest of 1.5%.
22. **Q: Were you sent a copy of the setback waiver?**
23. A: Yes on November 13, 2017.
24. **Q: Did the waiver state that you would be compensated \$4,000 for**
25. **40 years with an interest of 1.5% ?**
26. A: No. The waiver stated drastically lower numbers.
27. **Q: Did you raise this discrepancy to Invenergy?**
28. A: Yes, during a face to face meeting with Tim Bizzaro on November
29. 14, 2017. At this time Tim Bizzaro acted unaware that his
30. statement of \$4,000 for 40 years was incorrect. I asked

1. if others have signed under this false information and false
2. promise, and he stated that others have signed waivers. I asked
3. for the correct information regarding what I would be
4. signing, and Tim Bizzaro could not answer this question at the
5. time of our meeting and said he would get back to me.

6. **Q: Did Invenery respond to your finding of misinformation?**

7. A: Yes. In an email from Invenery's Tim Bizzaro, Tim stated "Jessica,
8. you are correct in that, there will be 16 years of payments to get
9. the 'money' to you quicker on the 40 year agreement." My
10. question was responded to, but the amount I would receive as
11. stated from Invenery for signing the setback waiver was
12. incorrect. The money term was shortened from the stated 40
13. years to 16 years per the waiver, drastically changing the
14. total sum I would receive, over 500% difference.

15. **Q: Are you considered a stakeholder for this project?**

16. A: Yes, per Invenery's Public Involvement Plan Rev 2 dated March
17. 16, 2017 section 4.14.

18. **Q: Were you notified by Invenery of the 2016 Open House?**

19. A: No.

20. **Q: Were you notified by Invenery of the 2017 Open Hours?**

21. A: No.

22. **Q: Were you notified by Invenery of the 2017 Preliminary Scoping
23. Statement?**

24. A: Yes, I was notified on December 28, 2017.

25. **Q: Were you notified by Invenery of company's intent to file the
26. Article 10 application?**

27. A: No.

28. **Q: Were you notified by Invenery of any other items other than
29. what is listed above?**

30. A: No.

1. **Q: Will the turbines cause a visual impact?**

2. A: Yes. Both my home and business will be affected by the
3. construction of these turbines. The closest turbines that will cause
4. a visual impact to my viewpoint numbered 197 are turbines 111
5. and 112 although these were not documented in Invenergy's
6. submittal of Appendix 24a pages 71-73 dated May 22, 2019. On
7. March 18, 2018 I posted on the DMS website that turbines 111
8. and 112 were incorrectly left out of the report, the new revision
9. has not made the correction to become accurate.

10. **Q: What is your business and does your business include customers**
11. **coming to the location?**

12. A: My husband and I own a NYS Farm Brewery. Customers frequent
13. the location and our views are a main draw to keep customers
14. coming back as well as stay longer. We also rent out or venue for
15. events. The view is a necessity of our business.

16. **Q: Will you experience shadow flicker?**

17. A: Yes. According to updated Appendix 24b - Shadow Flicker Report
18. my home (Receptor ID 488) will receive 57 hours annually. Within
19. their same document Invenergy states that "However, the New
20. York State Department of Public Service (NYSDPS) has used a
21. maximum of 30 hours annually at any non-participating
22. residential receptor (NYSDPS, 2018)." My home will receive
23. almost double the maximum amount. This study does not
24. take into account my business on the property that will be
25. affected by this as well. This documents also states that "Turbines
26. not Visible under Vegetation Viewshed Analysis", but viewpoint
27. 197 under Appendix D for the simulation of turbines (this
28. document is still incomplete as it does not show all the
29. appropriate turbines) shows that this turbine is visible.

30. **Q: How will the shadow flicker affect you?**

1. A: My home and business are not tied to the power grid and run off
2. solar panels. Any shadow flicker will diminish the ability to use my
3. home and run my business. The estimated times of shadow
4. flicker are 6:45am-7:45am and 6:30pm-8:00pm. I work a 8:00am
5. 5:00pm job where I travel 35 minutes to. This means that almost
6. 100% of the day that I am home during the work week I will
7. experience shadow flicker. In the mornings and evenings, I spend
8. a majority of my time on the deck that runs the 38 feet of our
9. home. This porch will experience shadow flicker during the
10. entirety of times reported. The times of estimated shadow flicker
11. only account for my home and not for my business, or other areas
12. of my property that I use. My business will greatly be impacted by
13. this shadow flicker as customers use the uncovered 40' x 16'
14. porch where there will be shadow flicker during our busy times.
15. One of our main draws to visit and/or rent out our venue is our
16. views and use of this outside area. Invenery's turbines will greatly
17. impact my NYS Small Business.
18. **Q: Are you a member of any organization to raise awareness of**
19. **turbine in rural areas?**
20. A: Yes, I am a part of the CMORE group.
21. **Q: Does this conclude your testimony?**
22. A: Yes.

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

1886

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for
Construction of a Wind Energy Project in
Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF Alegany)

Mona Meagher, being duly sworn, deposes and says:

1. I am retired, and I am appearing as a witness in this proceeding on behalf of John Sharkey and on behalf of Citizens for Maintaining Our Rural Environment ("CMORE").

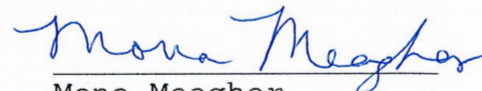
2. I previously prepared, or supervised the preparation of, written testimony labeled "M Meagher testimony" and exhibits numbered and labeled "Ex. MM-01 CWE CMORE Wells email", "Ex. MM-02 Property Location", "Ex. MM-03_DMM Item No. 151 January 4 2019 Letter", "Ex. MM-04 CWE Handout", "Ex. MM-05 April 16 2019 Public Statement", "Ex. MM-06 G. Woodcock Email November 30 2018", "Ex. MM-07 Lemay Email December 20 2018", "Ex. MM-08 G. Woodcock Email January 3 2019", "Ex. MM-09 Email to G. Woodcock January 30 2019"; "Ex. MM-10 G. Woodcock Email Chain", "Ex. MM-11 DMM Item No. 235 CWE PIP Log", "Ex. MM-12 DMM Item No.155 Affidavit of Filing", "Ex. MM-13 Postcard and Comment 126", "Ex. MM-14 DMM Item No.170 Letter dated March 15 2019", "Ex. MM-15 Pages 26-28 Transcript DMM Item No.190", "Ex. MM-16 DMM Item No.224 Letter June 5 2019", "Ex. MM-17 DMM Item No.233 Meagher Letter June 26 2019", "Ex. MM-18 DMM Item No.154 Affidavit of Service for 2017 Open House", "Ex. MM-19 G. Woodcock Email June 18 2018", "Ex. MM-20 CWE Shadow Flicker Information", "Ex. MM-21

CMORE IR-01" and "Ex. MM-22 CWE Response to CMORE IR-0", which were filed under this case number with the Secretary of the Public Service Commission on July 12, 2019 as item number 239.

3. In addition, I previously prepared, or supervised the preparation of corrected testimony labeled "M Meagher corrected testimony (redline)" and "M Meagher corrected testimony (clean)" along with a corrected exhibit labeled "Ex. MM-12 corrected", which were filed under this case number with the Secretary of the Public Service Commission on August 8, 2019 as item number 264.


4. Upon review of my previously filed testimony and exhibits, no further corrections to either are necessary.

5. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.


Mona Meagher

Sworn to before me this 8th day of August, 2019.

Notary information
signature/stamp



Notary Public

Monica R. Dean
Notary Public, State Of New York
No. 01DE5006356
Qualified in Allegany County
My Commission Expires Dec. 28, 2022

**STATE NEW YORK
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT**

In re the Matter of

**Application of Canisteo Wind Energy LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction
a Wind Project Located in Steuben County.**

CASE 16-F-0205

PRE-FILED TESTIMONY OF:

MONA MEAGHER

1515 CALL HILL ROAD

CANISTEO, NY, 14823

1 **Q: Please state your name and home address.**

2 A: My name is Mona Meagher. My home address is 17 Elm Street, Andover,
3 New York, 14806. I own property with a seasonal residence within the
4 Canisteo Wind Energy study area at 1515 Call Hill Road, Canisteo, New
5 York, 14823, which is in the township of Hartsville, New York.

6

7 **Q: Are you employed? If yes, by whom are you employed and in what**
8 **capacity?**

9 A: I am retired
10

11 **Q: Please describe your educational background.**

12 A: I have a Bachelor's degree of Science in Nursing and hold a current NYS
13 nursing license.

14

15 **Q: On whose behalf are you submitting this testimony?**

16 A: I am submitting testimony on behalf of myself, on behalf of John Sharkey,
17 and on behalf of Citizens for Maintaining Our Rural Environment
18 ("CMORE").

1 **Q: Are you familiar with Canisteo Wind Energy (“CWE”) Project? If so,**
2 **how?**

3 A: I became aware of the CWE Project in the Spring of 2017 by word of
4 mouth from people I am familiar with in the Town of Hartsville. After
5 becoming aware of the Project, on May 8, 2017 I e-mailed Marguerite
6 Wells of CWE to ask how to become a stakeholder as no information was
7 available on the CWE website. **[Exhibit MM-01]**. I am a founding
8 member of CMORE which was formed in March of 2018. CMORE is a
9 party to this proceeding.

10

11 **Q: What is the purpose of your testimony?**

12 A: The purpose of my testimony is to inform the Siting Board of my concerns
13 with the proposed Project.

14

15 **Q: As part of your analysis what components of the Application did you**
16 **review?**

17 A: I reviewed the majority of the application and mostly focused on the
18 public involvement program (PIP), shadow flicker maps and shadow
19 flicker amount charts, tax parcel maps, noise maps and receptor numbers
20 as well as submissions to the DMM and public comments.

1 **Q: Where is your home located in relation to the project?**

2 A: My property in the study area is located approximately 3 miles northwest
3 of the project area, in the Town of Hartsville. **[Exhibit MM-02]**

4

5 **Q: What are your ties to the community in the CWE project and why do**
6 **you choose to live here?**

7 A: My ancestors immigrated here from Ireland in 1850 and many of their
8 descendants have stayed. I was born and raised on a dairy farm in
9 Hartsville, New York. I left at the age of 22 to serve our country for 5 and
10 a half years. I returned here 11 years ago. This area and the pristine beauty
11 of the rolling hills always calls me "home". My sons will tell you, that as
12 we start our drive up the hill to my seasonal residence, I start to get excited
13 and once high enough I exclaim "THE HILLS, THE HILLS THE
14 BEAUTIFUL HILLS!" I have told my sons recently, that if the projected
15 turbines for all 3 proposed projects cover the hills, that I may as well sell
16 my property and leave. The hills are my heart.

17

18 **Q: How did you first become concerned about wind projects?**

1 **A:** About 10 years ago, there was a project proposed for Call Hill, where my
2 property sits. I expect another project is already being developed for that
3 same area.

4
5 **Q:** **What are your concerns with this project?**

6 **A:** My greatest concern, personally, in regards to my property is further
7 destruction and decimation of the extraordinary view. My seasonal
8 residence sits very near the highest point in Steuben County. Until recent
9 years, all that could be seen from my property was rolling hills 40-50
10 miles away. Now, I can see the turbines in Cohocton, Howard and
11 Jasper. CWE wants to add another 117 turbines, which will cover all of
12 the hilltops on the ridges in my view. Not only that, another 30 turbines
13 will be visible from the proposed Eight Point Project, as well as the 67 or
14 so from the proposed Baron Winds project.

15 As a CMORE representative and as a health care professional, I have great
16 concerns for the public regarding detrimental impacts from noise, flicker,
17 vibration and infrasound from turbines being placed too close to
18 residences. Infrasound in particular has had no specific studies done to
19 determine its impacts one way or the other. Infrasound travels great
20 distances and is not attenuated by walls of dwellings.

1 My concern is that we do not have the appropriate studies available to
2 know the true impacts this project will have on the local population. There
3 are too many unknowns to continue the placement of these ever
4 increasingly larger sized turbines.

5

6 **Q: Did you ever attend an open house hosted by CWE, and if so, did you**
7 **express your concerns about the project to CWE?**

8 **A:** Yes, I attended the July 2017 open house in Troupsburg. At that meeting I
9 expressed concerns regarding the size of the turbines, the limited setbacks,
10 noise and flicker impact concerns. I also attended the open house on
11 January 29, 2019. When I arrived, there were no shadow flicker maps out
12 whatsoever for the public to view. I addressed this with Marguerite Wells.
13 They finally put out the shadow flicker maps submitted with the original
14 application, on which a specific receptor numbers in some instances
15 cannot even be deciphered, much less identify a specific address location.
16 I expressed concern that identifying a receptor number for a specific
17 property was very difficult to read due to the map sizes, lack of labeled
18 roads and color shadings which obscured most details for identifying
19 properties, on both the shadow flicker and noise maps. I had previously

1 addressed these issues with a letter submitted to DMM on January 4, 2019.

2 **[DMM 151, Exhibit MM-03]**

3 I also spoke with Gordon Woodcock about shadow flicker maps and
4 receptor numbers. On November 30, 2018 he had sent an email [See
5 Exhibit 6] where he said there would be a “solution to make it simpler”
6 being made available for receptor address identification. He said the
7 receptor numbers could be identified by using the noise study maps as
8 well as other maps in the application or used in conjunction with the
9 Steuben County tax parcel map identifier. At the January 29, 2019 open
10 house Mr. Woodcock gave no indication that they were further working on
11 “a solution to make it simpler” for receptor identification.

12

13 **Q: Did the Invenenergy representatives at the open house ever provide you**
14 **information about participation in Article 10, the availability of**
15 **Intervenor Funding, or how to make a comment?**

16 **A:** I saw nothing to that effect for either of those at the Troupsburg 2017 open
17 house. That information was also not on CWE’s website until after the
18 letter from the Administrative Law Judges on February 5, 2019. At the
19 Open House in January 2019, I did see handouts on the front desk
20 regarding Intervenor funding. They were not distributed or handed out,
21 they just laid on the front desk.

1 **Q:** **At the open house, did the Invenergy representatives direct your**
2 **attention to a poster or display providing information about Article**
3 **10, the availability of Intervenor Funding or how to make a public**
4 **comment?**

5 **A:** No one from Invenergy ever directed my attention to information
6 regarding Article 10 or Intervenor Funding at either of the open houses I
7 attended. At the open houses CWE never provided a general overview of
8 the project or the processes to the entire group of attendees. The public
9 just milled around the displays and Invenergy representatives answered
10 questions on an individual basis.

11

12 **Q:** **During the open house, were you given a handout that contained**
13 **information about Article 10, the availability of Intervenor Funding,**
14 **or how to make a public comment?**

15 **A:** The handout I received at the July 2017 open house did not provide
16 information about Article 10 other than stating it next to the word
17 “permitting.” There was no information about the availability of
18 Intervenor Funding or how to make a public comment. In fact, the
19 handout listed the Project’s website address as www.Alle-Catt.com not
20 www.canisteowind.com. **[Exhibit MM-04]**. I was informed on how to
21 make public comment by a private citizen from Hartsville.

1 **Q:** **Are there any other concerns you had about the effectiveness of the**
2 **open houses?**

3 **A:** Yes. CWE’s PIP 5.1.3 states that at the one or more open houses they will
4 “feature a brief PowerPoint presentation.” I did not attend the 2016 open
5 house, as I never received the postcard notification for that event. In the
6 two open house I did attend in 2017 and 2019 there was never any
7 PowerPoint presentation. They also state in this same section, that “a brief
8 presentation by one of CWE representatives will start the meeting.” This
9 also never happened at the open houses I attended. In the application
10 Exhibit 2 Overview and Public Involvement page 2-2 and 2-3 they do not
11 mention PowerPoints as part of their presentation as stated in their PIP. It
12 also concerns me that there was never an open public session for questions
13 and answers, only for individuals, which limits information being
14 disseminated to the greater public body. Also, as discussed in my public
15 statement on April 16, 2019[**DMM 198, Exhibit MM-05**], CWE’s PIP
16 5.1.3 states the notice for open house will be advertised in newspapers.
17 However, the Open House Memo 2016 provided by CWE as part of the
18 Application 2b Stakeholder and PIP clearly demonstrates that the 2016
19 Open House was not advertised in any newspapers as required by their
20 PIP.

1 **Q: Did you voice concerns about public participation directly to CWE or**
2 **its representatives?**

3 **A:** Yes. I had a conversation with fellow CMORE member Tim Brown
4 wherein he told me that he went to the CWE office on November 20, 2018
5 asking for identification of his receptor number. He told me that he was
6 told to return in a week. I went to the CWE office with Tim Brown on
7 November 27, 2018. After doing comparisons between several maps and
8 using the Steuben County tax parcel finder, not a part of the Article 10
9 application, Alan Maine told Tim Brown in front of me that, “we are
10 pretty sure your receptor number is 120.” We again expressed our
11 concern as to how unreadable the shadow flicker maps were to identify
12 receptor numbers and amounts of shadow flicker on a property, as
13 previously expressed in my posted public comments on November 21 and
14 30, 2018. We asked several questions that day, which were forwarded to
15 Gordon Woodcock, who followed up with email responses on November
16 30, 2018. **[Exhibit MM-06]**. In response to our questions, Mr. Woodcock
17 states CWE will be working on a solution to make it simpler to identify
18 receptor numbers.

19

20 On December 6, 2018 I emailed Mr. Woodcock regarding alternatives for
21 identifying shadow flicker. He did send me a google earth KMZ file.

1 However, this file was not available to the general public. He also stated
2 in the email on December 6, 2018, that CWE felt using noise maps,
3 turbine number maps and design drawings from Book 6 along with the
4 KMZ file would be helpful in identifying receptor numbers. I tried Mr.
5 Woodcock's suggestion, along with the Steuben County Tax parcel finder
6 to identify a receptor number. It took me twenty to thirty minutes per
7 property to accurately identify a receptor number. This process did not
8 "Ensure stakeholders can relatively conveniently access information on
9 the Project and the Article 10 review process;" as stated in their PIP
10 section 3.1.

11
12 On December 20, 2018 Jessica Lemay also expressed concern regarding
13 the difficulty in identifying the receptor number to her property. **[Exhibit**
14 **MM-07]**. On January 3, 2019 Mr. Woodcock responded with an email
15 **[Exhibit MM-08]** "It does look like 488 is yours." Not a definitive
16 answer, but one leaving some uncertainty.

17 On January 29, 2019, I attended CWE's open house. I spoke again to Mr.
18 Woodcock regarding better shadow flicker maps, asking if they could not
19 produce maps more like the Eight Point Wind project by Nextera. He
20 claimed he was unfamiliar with their maps.

21

1 On January 30, 2019 I emailed Mr. Woodcock a link to the Eight Point
2 Shadow Flicker maps. **[Exhibit MM-09]**. I also asked if CWE was
3 working on the flicker maps with a solution easier for landowners to
4 confirm their receptor number on their property as CWE had agreed to do
5 in their November 30, 2018 email. He stated they felt the noise maps were
6 adequate to establish a receptor number.

7
8 Further, on February 13, 2019, Tim Brown and I scheduled and attended a
9 meeting with Gordon Woodcock at the CWE office to discuss better
10 shadow flicker maps and easier receptor identification for the public.
11 **[Exhibit MM-10]**. As noted in the email and again at the office meeting,
12 Mr. Woodcock was still pushing to the cumbersome use of google earth
13 KMZ files, which were not readily available to the public. During the
14 meeting he still insisted on the public using several different maps and
15 exhibits along with the Steuben County tax parcel finder to identify a
16 property and receptor number. When asked about more detailed shadow
17 flicker maps, he allowed they did not plan to produce anything more than
18 was already in the application.

19
20 There was no documentation in the PIP log of any of our meetings with
21 CWE. **[DMM 235, Exhibit MM-11]**.

1 materials presented at open houses or distributed to stakeholder were not
2 posted; there were no instructions on how to become a stakeholder.

3 **November 21, 2018 and November 30, 2018**

4 On November 21, 2018 and November 30, 2018, I posted public
5 comments on DMM regarding the inadequacy of the shadow flicker maps
6 in Application Appendix 24b. My primary concern was that the maps
7 were so small that concerned property owners could not determine where
8 their properties were, let alone the amount of shadow flicker modeled. I
9 was told by property owners in the project area Tim Brown, Jen Gregory,
10 and Jessica Lemay, (All CMORE members) that they went to CWE's
11 office asking for more information about the shadow flicker information
12 for their properties, but this information was not readily available.

13 **January 2, 2019**

14 On January 2, 2019, I posted a public comment on DMM regarding a
15 CWE mailing regarding its intent to file the Application on November 2,
16 2018. The mailing was postmarked October 5, 2018 but not received until
17 November 7, 2018, after the Application was filed. I received no other
18 notification as I should have as a stakeholder under section 4.4 of the PIP.
19 I further commented on the continued deficiencies with CWE's website
20 that: there was no link to the case specific DMM page; there was no
21 information about applying for Intervenor Funds; the latest notice for

1 public outreach, filings and public hearings was from August 2016; the
2 PIP tracking report had not been updated since February 12, 2018;
3 materials presented at open houses or distributed to stakeholders were not
4 posted; there were no instructions on how to become a stakeholder.

5 **January 4, 2019**

6 On January 4, I posted a letter to DMM 151 as listed above [**Exhibit MM-**
7 **03**] regarding difficulties and inadequacies to the shadow flicker maps and
8 the difficulties the public was having in determining the receptor number
9 and shadow flicker amounts on their property. I again requested better
10 shadow flicker maps and identifiable receptor numbers.

11 **January 25, 2019**

12 On January 25, 2019, I posted a public comment on DMM regarding
13 CWE's notification about an upcoming open house. I identified that while
14 CWE's normal Tuesday business hours are from 3:00 PM to 8:00 PM, the
15 open houses are scheduled from 2:00 PM to 4:00 PM when many of those
16 working normal business hours would be unable to attend.

17 **January 28, 2019**

18 On January 28, 2019, I posted a public comment on DMM regarding
19 CWE's failure to comply with its PIP by not timely advertising open
20 houses on its website. I posted a further public comment on that date

1 about CWE's failure to post the updated layout map despite its filing three
2 months prior.

3 **February 4, 2019**

4 On February 4, 2019, I posted a public comment on DMM regarding
5 deficiencies in the postcard attached in CWE's affidavit of filing posted on
6 DMM on January 16, 2019 [DMM 155, Exhibit MM-12]. I noted that
7 the postcard does not give an address for the CWE wind office nor does it
8 give any contact information for CWE as required by PIP The affidavit for
9 this postcard states it was processed and distributed through Albany, NY.
10 However, the postmark clearly shows it was sent from Sacramento, CA.

11 Further, I noted that this was not the postcard that I received in that
12 mailing. Different postcards were sent out to different addresses. The
13 postcard I received had no information noting submission of the
14 application or the supplement to the application. There is also no affidavit
15 documenting the service of the postcard I received. Compare to comment
16 and attachment to public comment I posted on February 4, 2019 [DMM
17 **Public comment 126, Exhibit MM-13]**

18 **March 15, 2019**

19 By letter dated March 15, 2019 and filed on DMM on March 18, 2019, I
20 raised the issue that the toll-free phone number required to be posted on
21 the website, which was missing at that time. I also reiterated my concerns

1 previously raised about missing and insufficient notification from CWE to
2 residents. [DMM 170, Exhibit MM-14].

3 **March 27, 2019**

4 On March 27, 2019, I participated in a procedural call on behalf of
5 CMORE with the Administrative Law Judges and the parties. As can be
6 read in the transcript CMORE/Mona Meagher brought to the attention of
7 the law judges that we had previously asked for more readable shadow
8 flicker maps on pages 26-28 [DMM 190, Exhibit MM-15]. LaBella, on
9 behalf of the participating municipalities, had also asked for more detailed
10 turbine setback maps.

11 **April 16, 2019**

12 I also provided testimony at the public statement hearing held on April 16,
13 2019 at 3 pm. [DMM 198/Exhibit MM-05] At that hearing I raised that
14 CWE continued to be out of compliance with 5.2 of the PIP because there
15 were no directions to callers to the toll-free phone number that it is not a
16 dedicated line to CWE and has yet to be corrected. I also noted in that
17 statement that in the January 28, 2019 Supplement to the application 2c
18 stakeholder list, that their Mailing Plus Master stakeholder lists, in
19 particular the 2017 Master list has several Rural Delivery addresses listed.
20 Rural Delivery addresses have not been in use for many years. These same
21 outdated addresses were also used as recently as January 16, 2019. [DMM

1 155, Exhibit MM-12]. There are several Rural Delivery and Rural Route
2 addresses listed. This raises the question whether other addresses are
3 outdated or have new owners. These addresses are not likely the addresses
4 CWE states they purchased from Steuben County Real Property Tax
5 Service, the most recent taxpayer database. You can search these Rural
6 Delivery and Rural Route addresses on the tax service website and find
7 current addresses, not outdated rural delivery addresses. Names and
8 address vary from one document to another.

9
10 In my testimony of April 16, 2019, I noted the following: in the direct
11 testimony of Rebecca Sheldon in the Number Three Wind project, dated
12 April 2, 2019, she referenced many of these same issues. As she stated,
13 "that while deficiencies have recently been corrected, that cannot cure the
14 fact that the 'website' lacked critical information for the entire pre-
15 application phase". [DMM 198, Exhibit MM-05].

16 **June 5, 2019**

17 I submitted a letter on June 5, 2019 outlining CMORE's requests for more
18 detailed shadow flicker maps. [DMM 224, Exhibit MM-16].

19 **June 26, 2019**

20 By letter dated June 26, 2019 and filed on DMM the same date, I raised
21 the issue that CWE has listed two CMORE members, Tim Fry and Jerry

1 Griffo, as participating landowners when they are not. This raises the
2 concern that there may be other landowners listed as participating who are
3 not, in fact, participating. **[DMM 233, Exhibit MM-17]**.

4
5 **Q: Were your concerns addressed by CWE?**

6 **A:** My August 19, 2018 and January 2, 2019 comments about the lack of link
7 to the DMM page was not addressed by CWE until after January 21, 2019
8 based upon my review of the archived data for the CWE website. CWE
9 addressed my January 28, 2019 comment about lack of advertising of the
10 January 29th and 30th, 2019 open houses by listing those open houses on its
11 website only after they had occurred and with the wrong dates (January
12 28th and 29th, 2019 instead of January 29th and 30th, 2019). My March 15,
13 2019 comment about the lack of toll-free phone number on the website
14 was not addressed until after my letter was circulated to the parties via e-
15 mail. To date, callers to the toll-free phone number do not receive the
16 instructions required by 5.2 of the PIP. My repeated requests for more
17 detailed shadow flicker maps were not addressed until updated maps were
18 posted publicly on DMM on June 19, 2019. The remaining issues I have
19 raised have not been addressed by CWE. These delays have left little time
20 for the public to form a response.

1 **Q: Did you ever serve an information request on CWE regarding the**
2 **Public Involvement Plan?**

3 **A:** Yes. On July 1, 2019, I (on behalf of CMORE) served Information
4 Request CMORE-01 on CWE requesting the contents of CWE's internal
5 log on comment tracking as described in the CWE PIP Section 5.5. A
6 copy of Information Request CMORE-01 is attached hereto as **Exhibit**
7 **MM-21**. CWE responded on July 11, 2019 that the only consultation
8 effort not included in the PIP log was an open house at the Jasper Central
9 School Auditorium on August 2, 2018. A copy of CWE's response to of
10 Information Request CMORE-01 is attached hereto as **Exhibit MM-22**.

11

12 **Q: Do you have any other concerns regarding the CWE Public**
13 **Involvement Plan ("PIP")?**

14 **A:** Yes, particularly with the initial open house postcard mailing and public
15 notification. As stated previously the use of outdated rural delivery
16 addresses raises concern that the use of these outdated address prevented
17 many people from receiving notification of the 2016 Open House mass
18 mailing of over 13,000 postcards. Thus, denying them the opportunity to
19 be informed and register as a stakeholder for future mailings.
20 Also, CWE is to provide affidavits of service in a timely manner. The
21 affidavit of service for the 2017 Open House post cards was not submitted

1 until January 16, 2019. Eighteen months after the mailings. **[DMM 154,**
2 **Exhibit MM-18]**. With such a delay, it raises concerns whether these
3 mailings were adequately and timely processed and distributed.

4
5 **Q: How have the deficiencies with CWE's PIP affected your participation**
6 **in the development of this project and the Article 10 process?**

7 **A:** Due to the fact that I and others as noted in public comments on the DMM
8 for this project, never received the initial open house postcard notification,
9 I was delayed for over a year in participating in the Article 10 process for
10 this project. Even once becoming aware of the project, there was no
11 information provided on the website regarding becoming a stakeholder or
12 the Article 10 process, intervenor funding process or a link to how to post
13 comments on the DPS. The delay has woefully limited early participation
14 in this process.

15
16 **Q: Are there any other indications that CWE's PIP has been ineffective**
17 **in facilitating public participation?**

18 **A:** Yes. On April 10, 2018, I emailed CWE managers requesting to be
19 informed of public meetings involving the proposed projects. Fifteen days
20 later, on April 25, 2018, I still had no response and resent the email. On
21 April 26, 2018, I received an email from CWE stating they were reluctant

1 to provide these updates due to changing schedules. I was instructed to
2 check at the CWE office with Alan Maine. When I stopped by the office
3 on May 31,2018 with a written request for Alan Maine to call me
4 regarding meetings, I was told the phone line was down. It was nearly a
5 full month before the phone line was up as noted in the email from Gordon
6 Woodcock on June 18, 2018. **[Exhibit MM-19]**. The lack of provision of
7 meeting updates made it difficult to fully participate in this process.
8

9 **Q: Do you have any other concerns regarding CWE's public outreach?**

10 **A:** Yes. Once the shadow flicker maps and charts of shadow flicker amounts
11 were submitted with the application on November 2, 2018, CMORE
12 started researching these documents. On January 8, 2019 CMORE mailed
13 a basic survey to approximately 30 residents slated to receive over 30
14 hours of shadow flicker per year. We received 12 responses back. Nearly
15 every resident responded that CWE had never informed them of the
16 greater than 30 hours of shadow flicker per year, nor had they been offered
17 compensation or a "good neighbor" agreement. Many stated that they had
18 not received any information from CWE regarding the project. **[Exhibit**
19 **MM-20]**. The residents receiving these greater than recommended
20 amounts of shadow flicker have been left uninformed by CWE.
21

1 **Q: Do you believe it is in the public interest to award CWE a Certificate?**

2 **A:** No, I do not. In reviewing the documents, I do not believe that CWE
3 adhered to its PIP and did not provide early and adequate public
4 notification in 2016. Thereby, CWE deprived the public of the earliest
5 opportunity to participate in the Article 10 process.

6 CWE's deficiencies throughout this process, as outlined in the above
7 testimony, have delayed the public from obtaining information regarding
8 the impacts to their property in a timely fashion and time to express
9 concerns via the required channels and timeframes.

10 As a result of these deficiencies, failures and late and delayed responses
11 from CWE in this process the public has been incurably deprived a
12 meaningful and timely participation in the Article 10 siting process for the
13 CWE project.

14 **Q: Does this complete your testimony?**

15 **A:** Yes.

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

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Construction of a Wind Energy Project in
Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF VERMONT)
) ss:
COUNTY OF Chittenden)

James F. Palmer, being duly sworn, deposes and says:

1. I am employed as a Senior Landscape architect by T.J.
Boyle Associates, and I am appearing as a witness in this
proceeding on behalf of John Sharkey.

2. I previously prepared, or supervised the preparation
of, written testimony labeled "Direct Testimony_Jim Palmer" and
exhibits numbered and labeled "Ex. JP-01_James F Palmer CV 2019-
07", "Ex. JP-02_The Creation and Interpretation of Viewsheds",
"Ex. JP-03_Amish Maps", "Ex. JP-04_ CWE resp Sharkey-06", "Ex.
JP-05_VP 93 sim", and "Ex. JP-06_VP 184 sim", which were filed
under this case number with the Secretary of the Public Service
Commission on July 12, 2019 as item number 240.

3. Upon review of my previously filed testimony and
exhibits, no further corrections to either are necessary.

4. I hereby affirm that the testimony and exhibits
identified above are true and correct to the best of my
knowledge, information and belief. I affirm that the written
testimony is the same testimony I would give orally if I

appeared in person at the hearing scheduled in these cases. I
adopt that testimony as my sworn testimony in these proceedings.


James F. Palmer

Sworn to before me this 30 day of July, 2019.

Notary information
signature/stamp


Notary Public

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for
Construction of a Wind Energy Project in
Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF Steuben)

John Sharkey, being duly sworn, deposes and says:

1. I am retired from Corning Incorporated as a Corporate Officer, and I am appearing as a witness in this proceeding on behalf of myself as an individual party in this proceeding.

2. I previously prepared, or supervised the preparation of, written testimony labeled "Direct Testimony_John Sharkey" and exhibits numbered and labeled "Ex. JS-01_CWE Response to IR Sharkey-03", "Ex. JS-02 EPA_EJSCREEN Report for Cameron", "Ex. JS-03_EPA EJSCREEN Report for Canisteo", "Ex. JS-04 EPA_EJSCREEN Report for Town of Jasper", "Ex. JS-05 EPA_EJSCREEN Report for Troupsburg", "Ex. JS-06 EPA_EJSCREEN Report for West Union", "Ex. JS-07_DEC Webpage Address, "Ex. JS-08 EPA_EJSCREEN Report for Greenwood", "Ex. JS-09_Letter from CMORE August 16, 2018", "Ex. JS-10_DMM No. 164_Letter to Siting Board March 1 2019", "Ex. JS-11 DMM Item No.165 CWE_Response to March 1 2019 letter", "Ex. JS-12 January 10 2018 Letter from Secretary to CWE", "Ex. JS-13 DMM Item No.150 January 2 2019 Letter", "Ex. JS-14 DMM Item No. 70 Examiners Letter to CWE", "Ex. JS-15 DMM Item No.93

July 3 2018 Ruling", "Ex. JS-16 DMM Item No.223 June 3 2019 Ruling", "Ex. JS-17 CWE Response to Sharkey IR-05", "Ex. JS-18 DMM Item No.15 CWE PIP Revision 2", "Ex. JS-19 Highlighted Table Showing Amish receptors", "Ex. JS-20 Spreadsheet of 78 Parcels Inhabited by Amish", "Ex. JS-21 2016 Open House Mailing", "Ex. JS-22 2017 Open House Notice", "Ex. JS-23 Newspaper Ads with Notices", "Ex. JS-24 Troupsburg Law 1 2019", "Ex. JS-25 Information Request Sharkey-04", "Ex. JS-26 CWE response to Sharkey-04", "Ex. JS-28_Gibbons", "Ex. JS-29_Bakker Abstract", "Ex. JS-30_Munday", "Ex. JS-31_Heitzelman", "Ex. JS-32_Heitzelman 2", "Ex. JS-33_Sunak", "Ex. JS-34_Jensen", "Ex. JS-35_McCan", "Ex. JS-36_Frondel", "Ex. JS-37_Droes", "Ex. JS-38 Public comment of Enos Kauffman", "Ex. JS-39 Letter Dated June 7, 2018" and "Ex. JS-40 Steuben Parcel Selected Properties Max Turbine Visibility Chart", which were filed under this case number with the Secretary of the Public Service Commission on July 12, 2019 as item number 243.

3. In addition, I previously prepared, or supervised the preparation of corrected testimony labeled "Direct Testimony_John Sharkey corrected" and "Direct Testimony_John Sharkey redline corrected", which were filed under this case number with the Secretary of the Public Service Commission on August 8, 2019 as item number 263.

4. Upon review of my previously filed testimony and exhibits, no further corrections to either are necessary.

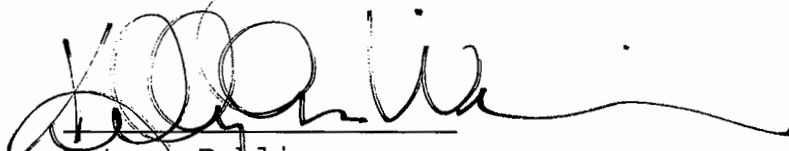
5. I hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I

appeared in person at the hearing scheduled in these cases. I
adopt that testimony as my sworn testimony in these proceedings.


John Sharkey

Sworn to before me this 16th day of August, 2019.

Notary information
signature/stamp


Notary Public
Kelly M. Williams
Notary Public, State of New York
Chemung County No. 01WI4912610
Commission Expires October 19, 2021

**NEW YORK STATE
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT**

In re the Matter of

**Application of Canisteo Wind Energy LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction of
a Wind Project Located in Steuben County.**

CASE 16-F-0205

PRE-FILED TESTIMONY OF:

**JOHN SHARKEY
51 S. OAKWOOD DRIVE
PAINTED POST, NY 114870
and
881 KING ROAD
TROUBSBURG, NY 14885**

1 **Q: Please state your name and home address.**

2 **A:** My name is John Sharkey. My primary address is 51 S. Oakwood Dive in
3 Painted Post, New York. I also reside at 881 King Road in the town of
4 Troupsburg, New York.

5

6 **Q: Are you employed? If yes, by whom are you employed and in what**
7 **capacity?**

8 **A:** I retired from Corning Incorporated as a Corporate Officer in June 2018
9 after more than 34 years of service. I spent the majority of my career
10 working in three primary areas: Strategic Planning and Analysis, Mergers
11 & Acquisitions (Corporate Development), and various Staff Roles. I
12 served as Director and Vice President for both Corning's Optical Fiber
13 Business (1996-2009) and Corporate Development Group (2009-2014).
14 My final assignment was serving as Vice President, Chief of Staff to the
15 CEO (2014-2018). Prior to joining Corning in 1984, I worked as an
16 analyst for a management consulting firm. I continue to provide
17 consulting and advisory assistance to Corning Incorporated under a
18 retainer agreement.

19

20 **Q: Please describe your educational background.**

1 **A:** I am a graduate of Rutgers University. I attended the College of
2 Engineering and was granted a BS and MS in Industrial Engineering.

3

4 **Q:** **On whose behalf are you submitting this testimony?**

5 **A:** I am submitting testimony on my own behalf as an individual party in this
6 proceeding

7

8 **Q:** **Have you ever been affiliated with another party in this proceeding?**

9 **A:** Yes, I was previously a board member and President of the public interest
10 group Citizens for Maintaining Our Rural Environment. I am no longer a
11 member of CMORE and am now participating in this proceeding as an
12 individual.

13

14 **Q:** **Are you familiar with Canisteo Wind Energy (“CWE”) Project? If so,**
15 **how?**

16 **A:** My wife and I were made aware of the CWE project sometime in the
17 summer of 2016. We had purchased two parcels of land just south of
18 County Route 117 in Troupsburg, NY and a neighbor told me that wind
19 turbines were going to be constructed locally and that a turbine was likely
20 to be sited on or very close to my property. We contacted Invenergy’s
21 local representative, Marguerite Wells, requesting that our names be added

1 to the list of local property owners who would like to be kept updated with
2 regard to CWE progress. Ms. Wells confirmed that while initial project
3 plans called for a turbine to be constructed near our property, a decision
4 had been made to eliminate this potential site from consideration. I did
5 not receive any project status mailings from CWE until a friend who lives
6 in Jasper informed me that a meeting was being held on March 13, 2018 in
7 the Troupsburg Fire Department to discuss the project. This meeting
8 turned out to be the Procedural Conference to Consider Pre-Application
9 Intervenor Funding Requests and to Initiate the Stipulations Process. In
10 listening to Invenenergy's representative, Eric Miller, and external counsel,
11 John Dax, speak at an informal session held after the Procedural
12 Conference, I became concerned about the apparent power dynamic that
13 was being created... a large, well-funded, experienced, and sophisticated
14 corporation with unfettered access to technical and marketing resources
15 was being opposed by a small local group of unorganized property owners
16 (living in mostly low-income rural communities) who lacked both the
17 technical and financial resources to effectively challenge the pro-CWE
18 messaging propaganda. After speaking with a number of local residents
19 who felt helpless and powerless in raising their serious concerns about the
20 project and unsure how to even engage CWE in the Article 10 Process, I
21 decided to volunteer my time and financial support in helping to address

1 what appeared to be a willful and deliberate effort on the part of Invenenergy
2 and CWE to deprive the public of opportunities to participate in the pre-
3 application and stipulation phases of the project.

4

5 **Q: What is the purpose of your testimony?**

6 **A:** The purpose of my testimony is to provide the Siting Board with
7 information it needs to make a final decision in this proceeding, and to
8 raise my concerns about the proposed Canisteo Wind project.

9

10 **Q: As part of your analysis, what components of the application did you**
11 **review?**

12 **A:** I have focused my review effort on a few specific elements of the
13 application: Exhibit 2 Public Involvement, Exhibit 24 Visual Impacts,
14 Exhibit 27 Socio-economic Effects, Exhibit 28 Environmental Justice, and
15 Exhibit 31 Local Laws and Ordinances.

16

17 **Q: Where is your home located in relation to the project?**

18 **A:** My home and property is located on an elevated ridgeline at 881 King
19 Road, Troupsburg, New York on the southern edge of the project area near
20 proposed turbine locations 101 and 102.

1 **Environmental Justice**

2 **Q: Do you have an understanding about what constitutes an**
3 **Environmental Justice Area?**

4 **A:** Yes. It is my understanding that Environmental Justice Areas are those
5 areas that have minority and/or low-income communities that may bear a
6 disproportionate share of negative environmental consequences resulting
7 from industrial municipal and commercial operations.

8
9 **Q: Do you know what the threshold is for establishing the presence of a**
10 **low-income community to determine whether an Environmental**
11 **Justice area is present?**

12 **A:** It is my understanding that DEC's regulations define "low-income
13 community" as "a census block group, or contiguous area with multiple
14 census block groups, where 23.59 percent or more of the population have
15 an annual income that is less than the poverty threshold."

16
17 **Q: Do you know whether CWE identified any Environmental Justice**
18 **Areas within the project area?**

19 **A:** CWE did not identify any Environmental Justice Areas within the project
20 area as reflected in Exhibit 28 of the Application and CWE's response to

1 my third information Request. CWE's response to Information Request
2 Sharkey-03 is attached as **Exhibit JS-01**.

3

4 **Q: Are there Environmental Justice Areas within the project area?**

5 **A:** It is very likely and requires further study. Every municipality within the
6 project area meets the EPA's criteria of an Environmental Justice Area
7 due to the very high percentage of low-income people living within the
8 project area. In addition, the American Community Survey Reports
9 ("ACS") 2012-2016 indicate 27% of the population in Jasper have a
10 household income less than \$25,000 per year, and 27% of the population
11 in Greenwood have a household income less than \$25,000 per year.

12

13 **Q: How did you come to that conclusion?**

14 **A:** I used the EPA EJSCREEN environmental justice screening and mapping
15 tool available at: <https://www.epa.gov/ejscreen> to generate reports for each
16 census blockgroup in the project area. The reports contain the following
17 facts:

- 18 • The Town of Cameron (blockgroup 361019618002) has a low-income
19 population of 51%. The EPA EJSCREEN and ACS 2012-2016 reports
20 for Cameron are attached as Exhibit **JS-02**.

- 1 • The Town of Canisteo (blockgroup 361019619001) has a low-income
2 population of 28%. The EPA EJSCREEN and ACS 2012-2016 reports
3 for Canisteo are attached as Exhibit **JS-03**.
- 4 • The Town of Greenwood (blockgroup 361019620002) has a low-
5 income population of 31%. The EPA EJSCREEN and ACS 2012-2016
6 reports for Greenwood are attached as Exhibit **JS-08**.
- 7 • The Town of Jasper (blockgroup 361019620003) has a low-income
8 population of 59%. The EPA EJSCREEN and ACS 2012-2016 reports
9 for Jasper are attached as Exhibit **JS-04**.
- 10 • The Town of Troupsburg (blockgroup 361019620005) has a low-
11 income population of 49%. The EPA EJSCREEN and ACS 2012-
12 2016 reports for Troupsburg are attached as Exhibit **JS-05**.
- 13 • The Town of West Union (blockgroup 361019620004) has a low-
14 income population of 47%. The EPA EJSCREEN and ACS 2012-2016
15 reports for West Union are attached as Exhibit **JS-06**.

16

17 **Q: Why did you rely on EPA EJSCREEN for your analysis rather than**
18 **the Steuben County Map of potential environmental justice areas on**
19 **DEC's website?**

20 **A:** Because, as indicated on DEC's webpage

21 (<https://www.dec.ny.gov/public/911.html> and attached as **Exhibit JS-07**),

1 the data used for DEC's Steuben County map of potential environmental
2 justice areas is based on the 2000 census whereas EPA EJSCREEN uses
3 the newer and more up to date 2012 – 2016 American Community Survey
4 data. The 2012 – 2016 American Community Survey data is more likely to
5 represent the current demographics of the project area than census data
6 that is nearly 20 years old.

7

8 **Q: Why do you believe that EPA EJSCREEN qualifies as reliable U.S.**
9 **Census data or other generally accepted and reasonably available**
10 **demographic data?**

11 **A:** EPA EJSCREEN uses demographic data from the American Community
12 Survey, an ongoing survey administered by the U.S. Census Bureau to
13 provide yearly information about the social and economic demographics
14 of our communities. The data is publicly available online at
15 <https://www.epa.gov/ejscreen>. Further, DEC even provides a link to
16 EJSCREEN on its Maps & Geospatial Information System (GIS) Tools for
17 Environmental Justice page and explicitly states that its Environmental
18 Justice Area maps are “not to be used for commercial purposes without
19 verification by an independent professional qualified to verify such data or
20 information. To use the most recent Census data, please go to the Census
21 Fact Finder or EPA's EJ Screen.”

1 **Q: Did CWE take adequate steps to determine whether the project area**
2 **was within an Environmental Justice Area?**

3 **A:** No. In response to Information Request Sharkey-03, CWE disclosed that
4 it relied upon DEC's digital tool called GIS Tools for Environmental
5 Justice to determine whether there was Environmental Justice Area
6 present. *See* Exhibit JS-01. This is inadequate both because the data used
7 by DEC's GIS Tools for Environmental Justice is based upon the 2000
8 census and because DEC's website explicitly states that its tool is "not to
9 be used for commercial purposes without verification by an independent
10 professional qualified to verify such data or information." *See* Exhibit JS-
11 08. There is no indication in the record or in response to my Information
12 Request Sharkey-03 that CWE bothered to verify the results of DEC's out
13 of date GIS Tools for Environmental Justice using an independent
14 professional qualified to verify the data.

15
16 **Q: Are DEC and EPA's definitions of low-income the same?**

17 **A:** No. DEC defines low-income community as "a census block group, or
18 contiguous area with multiple census block groups, where 23.59 percent or
19 more of the population have an annual income that is less than the poverty
20 threshold" whereas EPA defines low-income as "the percent of a block

1 group's population in households where the household income is less than
2 or equal to twice the federal 'poverty level.'”
3

4 **Q: Should the data provided in EJSCREEN be disregarded in light of the**
5 **differences between the DEC and EPA definitions of low-income?**

6 **A:** No. The information available on EJSCREEN for the blockgroups in the
7 project area indicates that, at the very least, as much as 49% to 59% of the
8 population in Jasper, Cameron, and Troupsburg have an income less than
9 or equal to twice the poverty level and are classified as a low-income
10 community under the federal standard. The very high percentage of the
11 population meeting the federal low-income standard would be consistent
12 with a subset of at least 23.59 percent or more of the population having an
13 income less than the lower state poverty threshold.
14

15 The ACS 2012-2016 data confirms that at least 23.59 percent or more of
16 the population in two host communities have an income less than the
17 poverty threshold, as it shows 27% of the population in both Jasper and
18 Greenwood have a household income less than \$25,000 per year, which is
19 less than the federal poverty level of \$25,750 per year for a family of four.
20 *See U.S. Department of Health and Human Services, 2019 Poverty*

1 Guidelines, available at <https://aspe.hhs.gov/2019-poverty-guidelines> (last
2 visited July 11, 2019).

3
4 Given that Jasper has a high Amish population with families averaging 7-8
5 people in size, it is possible a higher poverty level higher than \$25,750
6 should be applied to many households, in which case significantly more
7 than 27% of the population in Jasper (and potentially Troupsburg) may
8 have an income less than the poverty threshold.

9
10 The 2019 federal poverty threshold for a family of 8 is \$43,430. The
11 higher threshold would make it even more likely that more than 23.9% of
12 the population exceeds the poverty threshold.

13
14 In summary, the incontrovertible and publicly available data in **JS-02, 03,**
15 **05, 06, and 08** strongly suggests a low-income Environmental Justice
16 Area is present and requires substantial additional study by the Applicant.
17 The above facts and analysis provide substantial evidence that Jasper and
18 Greenwood should be considered a low-income Environmental Justice
19 community, and that there is sufficient evidence of a low-income
20 community in Troupsburg, West Union, and Canisteo that CWE should
21 have taken additional steps to verify whether such a community exists. In

1 any event, as made clear in both Exhibit 28 to the Application and CWE's
2 responses it IR Sharkey-03 [Exhibit JS-01], CWE has failed to even
3 acknowledge the possibility of an Environmental Justice community in the
4 project area, and as a consequence the Application is fatally deficient.

5
6 **Q: Did CWE prepare the required Environmental Justice analysis?**

7 **A:** No. CWE, by its own admission, has done no independent environmental
8 justice analysis. *See* Exhibit JS-01. My attorneys inform me that CWE has
9 therefore failed to comply with the requirements of 16 NYCRR 1001.29
10 and 6 NYCRR 478. The reality is that CWE is proposed to be sited
11 entirely in a probable environmental justice community; CWE has denied
12 the existence of the community based on an inadequate investigation of
13 the issue; and CWE has failed to provide any analysis of how CWE will
14 impact the Environmental Justice communities, let alone provide and
15 proposals for how the impacts will be offset.

16
17 **Public Participation**

18 **Q: Overall, do you have concerns over whether Invenenergy's public**
19 **outreach efforts were sufficient to promote meaningful public**
20 **participation in Canisteo Wind proceeding?**

1 **A:** Yes, I believe CWE's public outreach efforts were grossly inadequate, and
2 that CWE has both actively and negligently inhibited public participation
3 in this proceeding. Participation by the general public was particularly
4 inhibited during the pre-application phase, but problems are continuing to
5 this day. In addition, I have grave concerns over whether the Amish, a
6 sizeable community in the project area where English is not the primary
7 language, have been consulted at all about the enormous impact this
8 project will have on their lives.

9

10 **Q:** **Did you ever attend an open house hosted by CWE, and if so, did you**
11 **express your concerns about the project to CWE?**

12 **A:** Yes. I attended open houses on July 18, 2017 at the Troupsburg Fire Hall
13 and January 29, 2019 at CWE's office location in Canisteo. I also
14 attended the Visual Impact Analysis Meetings held at the Jasper
15 Troupsburg High School on August 2, 2018. While attending the July
16 2017 Open House, I was approached by an Invenenergy Representative and
17 asked about interest in exploring some type of supporting arrangement
18 with CWE. I indicated that I was not interested and expressed concerns
19 about the visual impact of wind turbines on the house that I was building.
20 The Invenenergy representative suggested that I could consider adjusting the
21 location/orientation of my home project. While attending the Open House

1 earlier this year, I spoke with Gordon Woodcock and pointed out an
2 apparent error in one of the Photo Simulation posters that CWE had
3 displayed. Gordon was not able to address my question and referred me to
4 one of the EDR representatives in attendance. Unfortunately, the EDR
5 representative could not provide any explanation for the inconsistency
6 between the poster legend/analysis and the Photo Simulation. When I
7 asked if there were plans to address this issue, I received no reply from
8 either Mr. Woodcock or the EDR representative.

9
10 **Q: Did the Invenergy representatives at the open house ever provide you**
11 **information about participation in Article 10, the availability of**
12 **Intervenor Funding, or how to make a comment?**

13 **A:** No.

14
15 **Q: At the open house, did the Invenergy representatives direct your**
16 **attention to a poster or display providing information about Article**
17 **10, the availability of Intervenor Funding or how to make a public**
18 **comment?**

19 **A:** No.

1 **Q: During the open house, were you given a handout that contained**
2 **information about Article 10, the availability of Intervenor Funding,**
3 **or how to make a public comment?**

4 **A:** No.

5

6 **Q: Do you think the open houses were conducted or publicized in a**
7 **manner that would be likely to promote meaningful public**
8 **participation in the CWE proceeding?**

9 **A:** No. The open houses provided some information about the project, but
10 failed to adequately explain potential environmental impacts, the Article
11 10 process, or how individuals and interest groups can participate. In
12 addition, I have concern that members of the Amish community were not
13 consulted in a way that would lead to their attendance at any of the open
14 house sessions. I do not recall seeing any members of the 700+ person
15 strong Amish community at the open houses.

16

17 **Q: Did you meet with representatives of Invenergy at any other time to**
18 **present your concerns, and if so, what did you discuss?**

19 **A:** At their request, I met Eric Miller and Gordon Woodcock at my
20 Troupsburg residence on July 17, 2018. They provided some additional
21 background information on the project and asked about my individual

1 views on the project. I expressed serious reservations about the visual
2 impact of the turbines on both the community, the viewshed impact from
3 my residence, and the unfair mismatch in pairing a large, motivated wind
4 developer with unsophisticated town legislators and landowners who have
5 little or no experience in evaluating and addressing the technical and
6 financial issues brought about by a project of CWE's size and scale. Mr.
7 Miller asked me if there were particular turbine locations that were of
8 great concern to me. I noted 7 or 8 potential turbine locations on the
9 project layout. Two months later, I received a call from Mr. Woodcock
10 asking for a follow-up discussion and we met at Corning Incorporated's
11 HQ on the morning of Sept 20, 2018. Mr. Woodcock wanted to let me
12 know that a few of the turbines that I considered problematic to my
13 viewshed had been eliminated. Our interaction was brief; Mr. Woodcock
14 was simply making sure that I was aware of the latest layout iteration.

15
16 **Q: Other than attending meetings with Invenergy, how else have you**
17 **raised your concerns about public participation?**

18 **A:** On June 7, 2018, I sent a letter to CWE's external counsel, John Dax, with
19 copies to the presiding examiners describing my concerns and reservations
20 about CWE's actions in organizing the stipulation process. A copy of the
21 letter is attached as **Exhibit JS-39** and is filed as DMM Item No. 84. In

1 that letter, I raised concerns that Invenergy's track record of late and
2 delayed mailings, letter dates that far predate postmark dates, arbitrarily
3 short response deadlines, and a definition of "adjacent landowners" that
4 excludes many interested landowners from critical public notice all
5 pointed to a potential desire to inhibit public participation.

6
7 On August 16, 2018, I sent a letter to the presiding examiners on behalf of
8 Citizens For Maintaining Our Rural Environment, Inc. ("CMORE")
9 expressing concerns about the process used by CWE and its consultant,
10 EDR, to solicit community input and involvement during visual impact
11 assessment conferences held on August 2, 2018. A copy of the letter is
12 attached as **Exhibit JS-09** and is filed as DMM Item No. 101. In
13 summary, this letter explains my concerns (and CMORE's concerns)
14 about the lack of public input in the visual impact review process.

15
16 On March 1, 2019, I sent a letter to the Chair of the Siting Board, Senator
17 Thomas O'Mara, and the DPS Public Information Coordinator regarding
18 my concerns about CWE's public participation failures. A copy of the
19 letter is attached as **Exhibit JS-10** and is filed as DMM Item No. 164. In
20 that letter, I raise the following concerns about public participation:

- 1 • CWE failed to promptly provide accurate information to the public
2 about the Article 10 process or the scope of the CWE project;
- 3 • CWE failed to serve notices as required by law, regulation, and the
4 CWE's own public involvement plan;
- 5 • CWE provided late notices of key public informational meetings
6 and events;
- 7 • CWE failed to provide timely notice of more than 50 technical and
8 lengthy proposed stipulations to 144 registered stakeholders,
9 effectively eliminating any chance of meaningful public comment
10 from those interested individuals;
- 11 • CWE sought to conceal the names of over 700 land-owners likely
12 to be impacted by the project;
- 13 • CWE excluded the public from the selection of visually
14 representative viewpoints;
- 15 • CWE failed to update its website with both appropriate contact
16 information and critical up to date project information about the
17 facility components;
- 18 • CWE posted incorrect meeting dates and times on its website;
- 19 • CWE failed to provide easily understandable, yet sufficiently
20 detailed, maps and materials the general public can use to identify
21 whether turbines will be sited near their homes;

- 1 • CWE prematurely ended application scoping negotiations and filed
2 an Application without first providing an opportunity for public
3 comment on a revised Preliminary Scoping Statement or
4 stipulations, as required by regulation.

5

6 Upon information and belief, the remainder of my testimony and exhibits,
7 and the testimony and exhibits of Mona Meagher, which are being filed in
8 conjunction with my testimony, provide an evidentiary basis for all of the
9 allegations set forth above.

10

11 **Q: Were the concerns you raised in your August 2018 and March 2019**
12 **letters addressed by CWE?**

13 **A:** With regard to my March 1, 2019 letter, CWE merely denied that it had
14 hindered public participation and suggested no resolution to any of the
15 concerns I raised. The letter is filed as DMM Item No. 165 and attached to
16 this testimony as **Exhibit JS-11**.

17

18 **Q: Do you have any other concerns regarding the CWE Public**
19 **Involvement Plan (“PIP”)?**

20 **A:** Yes, the PIP fails to list the Amish community as a stakeholder the
21 proceeding.

1 **Q: Are you aware of any letters from Secretary Burgess or the Chair**
2 **indicating CWE has hindered public participation?**

3 **A:** Yes. On January 10, 2018, Secretary Burgess sent a letter to counsel for
4 CWE informing him that the PSS filed by CWE on January 5, 2018 was
5 not in compliance with PSL §§163 and 164 and 16 NYCRR §1000.5(d),
6 (f) and (l). A copy of the letter is attached as **Exhibit JS-12**. Specifically,
7 the Secretary found that CWE had made the following violations related to
8 public outreach:

- 9 1. “16 NYCRR §1000.5(f): The PSS does not include proof of
10 service on the required parties and proof of publication of the
11 required notice of the PSS was presented in a form that cannot be
12 read.
- 13 2. PSL §164(2)(a)(ii): CWE failed to serve a copy of the PSS on John
14 B. Rhodes and Richard L. Kauffman.
- 15 3. PSL §164(2)(a)(viii): CWE failed to serve a copy of the PSS on a
16 library in District 132 (served by Philip A. Palmesano). CWE
17 should serve a copy on Wimodaughsian Free Library (closest to
18 project site in District).
- 19 4. PSL §164(2)(b) and 16 NYCRR §1000.5(d)(5): Publication was
20 insufficient. CWE failed to include requisite information required
21 in §1000.5(d), most notably (5), the contact person, with telephone

number, e-mail address and mailing address, from whom information will be available on a going-forward basis. Publication in the Addison Post does not include contact information for the project developer. Publication in the Evening Post fails to include an email address. Publication in the Potter Leader-Enterprise fails to include contact information for the project developer. The proof of publication for the Wellsboro Gazette does not provide a clear copy of the notice. The last page of the proofs of publication fails to include contact information for the project developer, and the proof of publication is ineligible.

5. 16 NYCRR §1000.5(l)(2)(xii): Identification of material issues raised by the public and affected agencies during any consultation and the response of the applicant to those issues, including, the outreach plan, meeting notes, and descriptions of issues.
6. PSL §163(l)(g) and 16 NYCRR §1000.5(1)(3): Identification of all other State and federal permits, certifications, or other authorizations needed for construction, operation or maintenance of the proposed facility.
7. 16 NYCRR §1000.5(1)(4): A list and description of all State laws and regulations issued thereunder applicable to the construction,

1 operation or maintenance of the proposed facility and a
2 preliminary statement demonstrating an ability to comply.

- 3 8. 16 NYCRR §1000.5(1)(5): A list and description of all local laws,
4 and regulations issued thereunder, applicable to the construction,
5 operation, or maintenance of the proposed facility and a statement
6 either providing a preliminary assessment of an ability to comply
7 or indicating specific provisions that the applicant will be
8 requesting the Board to elect not to apply, in whole or in part, and
9 a preliminary explanation as to why the Board should elect not to
10 apply the specific provisions as unreasonably burdensome in view
11 of the existing technology or the needs of or costs to ratepayers
12 whether located inside or outside of such municipality.

- 13 9. The PSS indicates that the project developer would make such
14 publication in: The Evening Tribune, Genesee Valley Pennysaver,
15 Wellsboro Gazette and Potter-Leader Enterprise. There is no
16 indication that the project developer published in the Genesee
17 Valley Pennysaver.”

18
19 Later, on January 2, 2019, CWE was found not to be in compliance with
20 PSL §164. The Chair attached a 14-page deficiency letter setting out all of
21 the ways that CWE was not in compliance. The letter is attached to my

1 testimony as **Exhibit JS-13** and filed as DMM Item No. 150. Included in
2 those deficiencies were:

- 3 1. 16 NYCRR §1000.7(e)(10): The Notice of Application did not
4 include e-mail addresses for the CWE's representative.
- 5 2. CWE did not mail notice of the Application filing to the entire
6 stakeholder list as required by the PUP.
- 7 3. CWE did not list its project office and the Wimodaughian Free
8 Library as document repositories in Exhibit 2c.
- 9 4. CWE did not include all stakeholders in Exhibit 2c.
- 10 5. 16 NYCRR §1001.2(c): CWE did not summarize changes to the
11 Application as a result of the PIP despite listing significant issues
12 raised by the public regarding the Project.

13
14 **Q: Are you aware of any rulings by the examiners that CWE has violated**
15 **the PIP or has hindered public participation?**

16 **A:** Yes, the examiners have ruled on several occasions that CWE has violated
17 the PIP and/or hindered public participation. On May 16, 2018, examiners
18 Moreno and Leary sent a letter to counsel for CWE stating that CWE's
19 notice of the commencement of stipulation consultations was deficient
20 because it:

- 1 1. Was not served on the updated stakeholder list that included host
- 2 and adjacent landowners; and
- 3 2. Did not specify that future notices would be served only on
- 4 persons or entities that notified CWE of their intent to participate
- 5 in the stipulation process and parties.

6 The email is attached as **Exhibit JS-14** to this testimony and filed as
7 DMM Item No. 70.

8
9 Later, On July 3, 2018, the examiners denied CWE's request for
10 confidential treatment of the stakeholder's list because "[d]isclosure of
11 the List here not only serves Article 10's public participation purpose to
12 'foster the active involvement of the interest or affected persons,' but also
13 serves FOIL's open governmental access objectives." The Examiners
14 denial is attached to this testimony as **Exhibit JS-15** and filed as DMM
15 Item No. 93.

16
17 On June 3, 2019, the examiners issued a ruling regarding CWE's non-
18 compliance with filing of application amendments. A copy of the ruling is
19 attached to this testimony as **Exhibit JS-16** and filed as DMM Item No.
20 223. The examiners found that CWE violated 16 NYCRR 1000.6(a) by

1 failing to serve application amendments on all persons, agencies or entities
2 entitled to service under Rule 1000.6(a) including:

- 3 1. NYSERDA;
- 4 2. New York State Economic Development Authority;
- 5 3. The New York State Attorney General;
- 6 4. New York State Department of Transportation;
- 7 5. New York State Office of Parks, Recreation and Historic
8 Preservation;
- 9 6. The libraries in each district served by a member of the State
10 Legislature;
- 11 7. New York State Department of Public Service Public Information
12 Coordinator; and
- 13 8. Any municipalities that otherwise have approval authority with
14 respect to any aspect of the project in absence of Article 10.

15
16 The examiners also found that “[i]n the absence of CWE’s strict
17 compliance with the service requirements of Rule 1000.6(a), the
18 appropriate agencies, municipalities, public officials, and members of the
19 public lack the fundamental information necessary to determine the details
20 of CWE’s most current proposal for which it seeks a Certificate from the
21 Siting Board.” Ex. JS-16, p. 4. The examiners further found that “CWE’s

1 failure to timely file and properly serve the application amendments has
2 impaired the process, has potentially prejudiced others, and has
3 jeopardized the 12-month statutory deadline.” *Id.* at p. 5.

4
5 **Public Outreach and the Amish Community in the CWE Project Area**

6
7 **Q: Do you have any other concerns regarding CWE’s public outreach?**

8 **A:** Yes. I am deeply concerned about the lack of outreach to the local Amish
9 communities who will most certainly be impacted by this Project.

10
11 **Q: Did you submit any information requests to CWE concerning its**
12 **public outreach efforts?**

13 **A:** Yes. On May 22, 2019, my attorney submitted an information request on
14 my behalf seeking information about CWE’s efforts to identify Amish and
15 Mennonite communities in the Study Area as well as any efforts taken by
16 CWE to educate or inform the Amish community or its individual
17 members in accordance with the revised PIP. A copy of CWE’s response
18 to the information request is attached as Exhibit JS-01. CWE responded
19 to Sharkey-03 on June 3, 2019 prepared by Gordon Woodcock. Exhibit
20 JS-01.

1 Based on Mr. Woodcock's responses, on June 5, 2019, my attorney
2 submitted a follow-up information request on my behalf seeking further
3 information about CWE's contacts with the Amish and Mennonite
4 communities in the Study Area. A copy of CWE's response to information
5 request Sharkey-05, prepared by Gordon Woodcock, is attached as Exhibit
6 JS-17.

7
8 When viewed together, CWE's responses to IR Sharkey-03 and IR
9 Sharkey-05 reflect a callous and dismissive attitude towards the mere
10 notion that an Amish community exists in the project area. It is clear CWE
11 did not take any actions to engage with the Amish and Mennonite
12 communities which were different from the public at large. It appears
13 CWE did not even consider whether outreach was necessary, or what form
14 that outreach should take to be effective. CWE's minimal outreach was
15 not a meaningful public outreach effort because it ignored the cultural and
16 religious beliefs of the Amish community which do not allow them to
17 engage and access information in the same way as the public at large.

18
19 **Q: Is there evidence that CWE knew about a large number of non-**
20 **English speaking residence in the host community, and failed to**
21 **design a public outreach program to accommodate those individuals?**

1 **A:** Yes, on page 7 of CWE’s Revised Public Involvement Plan, CWE
2 includes a table showing that 173 of 1057 (16%) residents in Jasper speak
3 a language other than English as the primary language spoken at home,
4 and that 129 of 964 (13%) residents in Troupsburg speak a language other
5 than English as the primary language spoken at home, and that 41 of 475
6 (8.6%) residents in West Union speak a language other than English as the
7 primary language spoken at home.

8
9 To be perfectly clear, CWE knew in March of 2017 that 16% of the
10 population in the host community of Jasper did not speak English as the
11 primary language at home, and yet did nothing to accommodate that
12 community.

13
14 A copy of CWE’s Public Involvement Plan, Revision 2, is attached to my
15 testimony as **Exhibit JS-18** and filed as DMM Item no. 15.

16
17 **Q:** **Do you know approximately how many Amish families live within the**
18 **project area?**

19 **A:** Yes. On June 25, 2019, I spoke with Enos Kauffman, an elder in the local
20 Amish Community. I showed Mr. Kauffman a map of the project area and
21 Mr. Kauffman indicated that there are between 120 and 130 Amish

1 families living in the project area, primarily in the towns of Troupsburg
2 and Jasper. Mr. Kauffman said that the average Amish family consists of
3 7-8 people. This implies as many as 840 to 1,040 Amish people live in the
4 project area.

5
6 **Q: Were any Amish families listed on the receptor tables provided by**
7 **CWE on June 24, 2019?**

8 A: Yes. According to Mr. Kauffman, there are 45 Amish families on CWE
9 Receptor Table_Rev 1. I have highlighted the receptor sites identified by
10 Mr. Kauffman to me as belonging to Amish families including receptor
11 IDs: 754, 132, 820, 821, 557, 1510, 400, 1483, 1488, 560, 465, 466, 490,
12 493, 472, 2151, 393, 2294, 141, 934, 559, 1781, 1784, 2303, 277, 898,
13 2092, 2940, 391, 3195, 278, 2238, 289, 835, 2400, 842, 1520, 485, 439,
14 440, 455, 430, 2495, 1550, 1101, 1545, 3256, 2480, 3250, 970, and 973. A
15 copy of the highlighted table showing Amish receptors is attached as
16 **Exhibit JS-19.**

17
18 **Q: To your knowledge, were any Amish families not listed on the**
19 **receptor tables provided by CWE that should have been?**

20 A: Yes. I used the Steuben County Property Tax Assessment tool to identify
21 likely Amish households on a map of the project area. After plotting the

- 1 households on the map, I met with Mr. Kauffman and he confirmed that I
 2 had correctly identified 33 families on the map of the project area that
 3 were not identified as receptor sites. Those households are as follows:

Name	Street Address	Town	Tax Map Number
Raber, Andrew M & Malinda C	3084 Five Corners Road	Jasper	290.00-01 - 013.112
Raber, Manasses M & Linda L	2940 Five Corners Road	Jasper	308.00-01 - 032.310
Raber, Henry M & Martha M	3285 Olds Road	Jasper	289.00-01- 019.200
Raber, Manasses E & Katie E	3510 Drake Hill Road	Jasper	307.00-01- 020.112
Mast, Jacob M & Ada J	2975 Five Corners Road	Jasper	308.00-01- 033.000
Raber, Robert R & Martha F	4553 Old State Road	Jasper	344.00-01 - 013.610
Raber, Neal M & Clara M	990 Reynolds Road	Troupsburg	379.00-01- 033.000
Hostetler, Eli E & Katie J	4542 County Route 123	Jasper	308.00-01- 006.200
Byler, Raymond J & Verna J	4326 County Route 123	Jasper	308.00-01- 024.120
Byler, Israel	4078 County Route 123	Jasper	308.00-01- 024.120
Byler, Lester C & Ada J	3151 County Route 71	Jasper	290.00-01- 021.210
Byler, Alvin A & Suzie M	2505 Smith Road	Jasper	326.00-01- 008.112
Byler, Jacob J III & Linda M	4426 Old State Road	Troupsburg	344.00-03- 005.100
Byler, Roy M & Dora W	514 Reynolds Road	Troupsburg	398.00-01- 019.120
Miller, Abe & Amanda	3430 County Route 71	Jasper	290.00-01- 004.000

Miller, Moses E & Saloma K	2535 Smith Road	Jasper	326.00-01-008.111
Miller, Samuel A & Magdalena C	4541 Old State Road	Jasper	344.00-01-013.620
Weaver, Andrew A & Laura O	4376 County Route 72	Jasper	290.00-01-016.100
Yoder, Levi H & Mary E	3651 County Route 21	Jasper	272.00-01-004.000
Yoder, Ephraim	3216 Dempsey Road	Troupsburg	378.00-01-022.100
Mast, John J & Mary E	3342 County Route 21	Jasper	290.00-01-006.000
Mast, Amos E and Mary O.	2525 Snyder Road	Jasper	308.00-01-015.200
Mast, Jacob S & Mary J	4100 County Route 123	Jasper	308.00-01-024.110
Mast, Levi S & Erma	4195 County Route 123	Jasper	308.00-01-025.000
Mast, Danny S & Katie	4014 County Route 123	Jasper	308.00-01-027.000
Mast, Eli M & Barbara J	2354 Saddle Tree Road	Jasper	326.00-01-018.200
Mast, Amos S & Katie J	4097 State Route 417	Jasper	326.00-01-024.121
Mast, Mose M & Anna G	3981 State Route 417	Jasper	326.00-01-028.111
Hershberger, Menno & Laura	3090 Highup Road	Jasper	324.00-01-009.220
Hershberger, Joseph & Katie	3230 County Route 71	Jasper	324.00-01-009.220
Hershberger, Levi & Ella M	2257 Saddle Tree Road	Jasper	326.00-01-019.110
Farmwald, Ervin & Sara	3125 Five Corners Road	Jasper	290.00-01-013.111
Farmwald, Jake & Lydia	3135 Five Corners Road	Jasper	290.00-01-013.120

- 1 This list is not inclusive of all of the Amish families living within the
- 2 project area that should have been included on the receptor table. I was

1 informed by Mr. Kaufman that I only have information for approximately
 2 78 of the 120-130 Amish families living in the area.

3

4 **Q: Are any of the Amish properties listed as sensitive receptors by CWE?**

5 **A:** No, but in my opinion all of the Amish properties should be considered
 6 sensitive receptors. As stated in Steven Nolt, Ph.D.'s testimony, the
 7 Amish do not have independent "church" structures. Instead, the Amish
 8 families rotate holding services in each home. Accordingly, each Amish
 9 home should be considered a church for purposes of sensitivity analysis of
 10 impacts such as noise, shadow flicker, and other aesthetic impact.

11

12 **Q: Do you know if there are any Amish schools in the area that should**
 13 **have been considered?**

14 **A:** Yes, I have been informed by Steven Nolt that there are numerous Amish
 15 schools in the project area, including the following:

- 16 • Maple Grove School (built 1985) – off Old State Road near SR 417
- 17 • Hillside View School (built 1986) – along CR 103
- 18 • Cook Hollow School (built 1998) – near T of Reynolds Road and
 19 Thomas Road
- 20 • Country Corners School (built 1998) – near intersection of CR 71
 21 and Five Corners Road

- 1 • Highup School (built 2001) – on Highup Road, east of SR 36
- 2 • Meadow View School (built 2003) – on Olds Road
- 3 • Hedgesville School (built 2005) – along CR 102
- 4 • Clover Valley School (built 2006) – on Prutsman Road, west of SR
- 5 36
- 6 • Meadow Brook School (built 2008) – along CR 103

7

8 **Q: Do you know if Enos Kauffman has ever made a public comment**
9 **regarding this project?**

10 **A:** On July 11, 2019, I noticed that a public comment had been posted on
11 DMM on July 9, 2017, comment 170, which appears to be a handwritten
12 note from Mr. Kauffman to the Secretary, dated July 5, 2019 and received
13 July 9, 2019. A copy of Mr. Kauffman's note to the Secretary dated July 5,
14 2019 is attached hereto as **Exhibit JS-38**.

15

16 **Q: Have you provided anyone with the addresses of the 45 Amish**
17 **families you identified on the receptor tables (Exhibit JS-19) and the**
18 **33 Amish families you identified using Steuben County Property Tax**
19 **Assessment tool?**

1 **A:** Yes. I provided those 78 names and addresses to my attorneys, T.J. Boyle
2 and Associates, and Steven Nolt, Ph.D. for their use in this proceeding.

3

4 **Q:** **Does the spreadsheet attached as Exhibit JS-20 accurately state the**
5 **name, address, and tax parcel id of the parcels you confirmed are**
6 **inhabited by members of the Amish Community?**

7 **A:** Yes, to the best of my knowledge based upon my communications with
8 Enos Kaufman, I believe **Exhibit JS-20** accurately state the name,
9 address, and tax parcel id number of the parcels I confirmed are inhabited
10 by members of the Amish Community. Please note that the property
11 bearing tax map number 360.00-01-022.000 owned by Michael and Julia
12 Welch is occupied by Perry and Rebecca Herschberger, an Amish family,
13 as reflected on the highlighted CWE receptor table at receptor 1545.

14

15 **Q:** **Comparing the names, addresses and Tax ID numbers you**
16 **highlighted on the receptor tables [Exhibit JS-19] and the names,**
17 **addresses and Tax ID numbers you have provided in your testimony**
18 **at pages 31-33 as belonging Amish families with the table prepared by**
19 **T.J. Boyle and Associates attached hereto as Exhibit JS-20, do the**
20 **names, addresses and Tax ID numbers listed on Exhibit JS-40 by T.J.**
21 **Boyle and Associates belong to members of the Amish community?**

1 **A:** Yes, to the best of my knowledge based upon my communications with
2 Enos Kaufman.

3

4 **Q:** **Do you have other concerns about CWE's efforts to reach out to the**
5 **Amish community?**

6 **A:** Yes, for the few members of the Amish community within the project area
7 that did receive mailings, the mailings were an ineffective form of
8 outreach. For example, the August 2016 and July 2017 open house
9 mailings, attached to this testimony as **Exhibits JS-21 and JS-22**
10 indicated that people unable to attend who want more information or to
11 join the stakeholder list should call 607-330-0399, email
12 info@canisteowind.com or visit www.canisteowind.com.

13

14 Similarly, the newspaper ads merely directed interested neighbors who
15 were unable to attend public meetings to websites. The ads are attached as
16 **Exhibit JS-23** to this testimony. It is commonly known that Amish people
17 do not use the internet and phones to the same degree as other members of
18 American society, and may not use the internet, telephone, or email at all.

19

20 Further, CWE knew that there were Amish people living in the project
21 area as established in its response to my fifth information request dated

1 June 17, 2019. *See* **Exhibit JS-17**. When asked to identify members of the
2 Amish or Mennonite community that CWE engaged with, CWE was only
3 able to come up with six contacts and could not confirm those people were
4 actually Amish or Mennonite. As stated above, there between 120 and
5 130 Amish families living in the project area. It is clear CWE has not
6 made any meaningful effort to reach out to the Amish community.

7
8 **Local Laws**

9
10 **Q: Do you have an understanding about the difference between**
11 **procedural and substantive law?**

12 **A:** Yes. My understanding is that substantive law is the part of the law that is
13 administered (i.e. one that sets a standard that must be met) and that
14 procedural law refers to the mechanism for administering the substantive
15 law (i.e. the procedures for the issuance of a permit).

16
17 **Q: Do you have an opinion about the accuracy of Application Appendix**
18 **31a?**

19 **A:** Yes. Based upon my review of Appendix 31a (DMM 124) and revised
20 Appendix 31a (DMM 208) it appears that CWE is intentionally
21 mischaracterizing substantive local laws as procedural.

1 **Q: Can you give an example?**

2 **A:** Yes. In table 31-2 of revised Appendix 31a, CWE identifies the only
3 substantive portions of Troupsburg Local Law 1 of 2019, the Wind Energy
4 Facilities Law, as:

- 5 • Standards for Wind Energy Facilities (§ 1.1.11);
- 6 • Required Safety Measures (§ 1.1.12[A]-[F]);
- 7 • Traffic route (§ 1.1.13[B]-[C]);
- 8 • Setbacks for wind energy conversion systems (§ 1.1.14);
- 9 • Abatement (Decommissioning Bond) (§ 1.1.17[C]); and
- 10 • Standards for wind measurement towers (§ 1.2.3[A]).

11 I agree these portions of the law are substantive. However, there are more
12 substantive provisions that were not classified as substantive. In fact,
13 CWE mischaracterizes the following portions of the Troupsburg law as
14 procedural:

- 15 • Special Use Permit and Wind Overlay District Required (§§ 1.1.6
16 and 1.1.7);
- 17 • Application review process-SEQRA Review (§ 1.1.10[I]);
- 18 • Traffic route (§ 1.1.13[A]);
- 19 • Noise and setback easements, Variances (§ 1.1.15);
- 20 • Issuance of wind energy permits (§ 1.1.16[A]);

- Abatement (§ 1.1.17[A]-[B]);
- Limitations on Approvals; Easements on Town Property (§ 1.1.18);
- Permit Revocation (§ 1.1.19);
- Wind Site assessment (§ 1.2.1);
- Standards for wind measurement towers (§ 1.2.3[B]); and
- Enforcement; penalties for offenses (§ 1.4.3).

CWE made similar mischaracterizations of other applicable local laws.

Q: Does the Troupsburg Local Law 1 of 2019 state that wind turbines can only be built within a specific zoning district?

A: Yes, § 1.1.8 (A) and (B) clearly indicate that wind turbines may only be added to an existing Wind Energy Overlay District, a special kind of zoning district. In total the law states,

§ 1.1.8 Wind Energy Facility Rules.

A. Initial requests for Wind Energy Overlay Districts shall be submitted with applications for WECS Special Use Permits. No Wind Energy Facility may be initially created without specific requests for WECSs.

1 B. Once a Wind Energy Overlay District has
2 been created, new WECSs or accessory structures
3 or facilities may be added in that District by grant of
4 a Special Use Permit pursuant to the requirements
5 of this Section 709.00.

6
7 Troupsburg Local Law 1 of 2019, § 1.1.8 Wind Energy Facility Rules
8 (attached as **Exhibit JS-24**).

9
10 **Q: Do you know whether CWE has requested any wind overlay districts**
11 **as required by the Troupsburg Wind Energy Facilities Law?**

12 **A:** No, to my knowledge no wind overlay districts have been requested or
13 created in the Town of Troupsburg.

14
15 **Q: Do any wind overlay districts currently exist in the town of**
16 **Troupsburg?**

17 **A:** No, to my knowledge no wind overlay districts have been requested or
18 created in the Town of Troupsburg.

19
20 **Q: Are you aware if any Wind Energy Facility Laws are currently being**
21 **considered by any municipalities in the project area?**

1 **A:** Yes. It is my understanding that the Town of Canisteo is currently in the
2 process of adopting a new Wind Energy Facility Law that will need to be
3 analyzed for applicability to the proposed project.

4

5 **Socio-Economic Impact**

6

7 **Q:** **Did you serve any information requests on CWE related to socio-**
8 **economic impacts?**

9 **A:** Yes, on June 27, 2019, my attorneys served Information Request Sharkey-
10 04 on CWE requesting information related to CWE's analysis of potential
11 socio-economic impacts on the host communities and people visiting,
12 living in and working in the region. Information Request Sharkey-04 is
13 attached hereto as **Exhibit JS-25**. CWE responded to Information
14 Request Sharkey-04 on July 9, 2019. CWE's response to Information
15 Request Sharkey-04 is attached hereto as **Exhibit JS-26**.

16

17 **Q:** **Do you believe that CWE has adequately identified the direct and**
18 **indirect costs to government bodies or individuals within the Study**
19 **Area related to the construction or operation of CWE?**

20 **A:** No. In response to Information Request Sharkey-04, CWE claimed that
21 the only costs to government bodies will be costs associated with:

1 negotiation of host community and road use agreements; reviewing pre
2 and post construction road conditions; and reviewing traffic control plans
3 and their implementation. [Exhibit JS-26]. Further, CWE claimed that the
4 only cost to individuals will be inconvenience due to travel delays during
5 construction.

6
7 But in a study prepared by Martin Heintzman of Clarkson University in
8 January 2016 titled “Exploring the impact of the proposed Galloo Island
9 energy project” conducted for the Town of Henderson, New York,
10 Heintzman concluded that the proposed Galloo Island Energy Project
11 would likely have negative land valuations for the Town of Henderson. A
12 copy of “Exploring the impact of the proposed Galloo Island energy
13 project” is attached hereto as **Exhibit JS-27**. It is also clear that CWE has
14 not analyzed the impacts of potential lost tax revenue to the municipalities
15 as it was unable to articulate what the anticipated total tax payment by
16 CWE would be over 20 years in the absence of a PILOT agreement.

17
18 Given Heintzman’s study, CWE’s flippant response to Sharkey-04 shows
19 that it has not given sufficient consideration to the potential direct and
20 indirect costs to government bodies or individuals within the Study Area
21 related to the construction or operation of CWE. The loss of tax revenue

1 resulting from decreasing land values, or the difference between full
2 taxation and reduced payments under a PILOT agreement, are both
3 significant potential costs that should have been addressed by CWE.

4
5 **Q: Do you believe that CWE has adequately assessed CWE's potential**
6 **impact on tourism in the region?**

7 **A:** No. CWE, in response to Sharkey-04, admits that it has done no
8 assessment on the potential impact on tourism in the region. A decrease in
9 tourism could be a significant cost to the community.

10

11 **Q: Do you believe that CWE has adequately assessed CWE's potential**
12 **impact on real property values and any resulting reduction in taxable**
13 **value?**

14 **A:** No. CWE admits that it has not conducted a site-specific study on the
15 value of non-participating properties in the study area. *See* Ex. JS-26.
16 Instead, it relies on studies purportedly showing that wind farm
17 development does not impact real property values. However, through my
18 own research, I was able to identify several academic studies and reports
19 that say the exact opposite: that wind farms negatively impact surrounding
20 property values. The studies that I have identified are:

- 1 • “Gone with the Wind: Valuing the Visual Impacts of Wind

2 turbines through House Prices” by Stephen Gibbons published by

3 the UK Spatial Economics Research Centre in April 2014, attached

4 hereto as **Exhibit JS-28**;

 - 5 ○ Finding that “**operational wind farm developments**

6 **reduce prices in locations where the turbines are visible,**

7 relative to where they are not visible, **and that the effects**

8 **are causal.** This price reduction is around 5-6% on average

9 for housing with a visible wind farm within 2km, falling to

10 under 2% between 2-4km, and to near zero between 8-

11 14km, which is at the limit of likely visibility. Evidence

12 from comparisons with places close to wind farms, but

13 where wind farms are less visible suggests that the price

14 reductions are directly attributable to turbine visibility. As

15 might be expected, large visible wind farms have much

16 bigger impacts that extend over a wider area.”
- 17 • “Impact of wind turbine sound on annoyance, self-reported sleep

18 disturbance and psychological distress” by R.H. Bakker, et al,

19 published in volume 425 of Science of the Total Environment,

20 pages 42-51 on May 15, 2012, an abstract of which is attached

21 hereto as **Exhibit JS-29**;

- 1 ○ Finding that “[p]eople living in the vicinity of wind
- 2 turbines are at risk of being annoyed by the noise, an
- 3 adverse effect in itself. Noise annoyance in turn could lead
- 4 to sleep disturbance and psychological distress.”
- 5 • “Wind farms in rural areas: How far do community benefits from
- 6 wind farms represent a local economic development opportunity?”
- 7 by Max Munday, et al, published in volume 27, issue 1 of the
- 8 Journal of Rural Studies at pages 1-12 in January 2011, an abstract
- 9 of which is attached hereto as **Exhibit JS-30**;
- 10 ○ Concluding that “**the economic development outcomes to**
- 11 **rural areas from wind generation projects to date have**
- 12 **been questionable.** Increasing the flow of conventional
- 13 economic benefits to rural economies in terms of incomes
- 14 and jobs is shown to be difficult because of the nature of
- 15 the local supply side in remote areas. Partially as a
- 16 consequence of this, developers of wind farms have come
- 17 to routinely provide diverse forms of community benefits to
- 18 ‘affected communities’, but these have yet to evolve into
- 19 significant tools of economic development. In any case, the
- 20 flows of revenues from community benefits are dwarfed, in
- 21 quantitative terms, by the revenue streams that might be

1 channeled to rural areas through a broader community
 2 ownership of wind energy projects.”

3 • “Exploring the impact of the proposed Galloo Island energy
 4 project” by Martin Heintzman, et al, conducted for the Town of
 5 Henderson, New York, submitted by the Nanos Clarkson
 6 University Research Collaboration dated January 2016 [**Exhibit**
 7 **JS-31**];

8 ○ Finding that the proposed Galloo Island wind project is
 9 likely to have a negative impact on land valuations in the
 10 Town of Henderson.

11 • “Values in the Wind: A Hedonic Analysis of Wind Power
 12 Facilities” by Martin Heintzman, et al published in volume 88,
 13 issue 3 of Land Economics at pages 571-588 on August 1, 2012, an
 14 abstract of which is attached hereto as **Exhibit JS-32**;

15 ○ Finding that “From a policy perspective, these results
 16 suggest that **existing compensation schemes may not be**
 17 **fully compensating those landowners near wind**
 18 **developments**, in some areas, for the externality costs that
 19 are being imposed. Existing PILOT programs and
 20 compensation to individual landowners are implicitly
 21 accounted for in this analysis, since we would expect these

1 payments to be capitalized into sales prices, and still **we**
 2 **find largely negative impacts in two of our three**
 3 **counties.** This suggests that landowners, particularly those
 4 who do not have turbines on their properties and are thus
 5 not receiving direct payments from wind developers, are
 6 being harmed and have an economic case to make for more
 7 compensation. That is, **while the markets for easements**
 8 **and PILOT programs may be properly accounting for**
 9 **harm to those who allow turbines on their property,**
 10 **they appear not to be accounting for harm to others**
 11 **nearby.** This is a clear case of an uncorrected externality.
 12 If, in the future, developers are forced to account for this
 13 externality through increased payments, this would
 14 obviously increase the cost to developers and make it that
 15 much more difficult to economically justify wind projects;”
 16 and

- 17 ○ That “in comparing those environmental benefits [of wind
 18 farms], we must include not only costs to developers
 19 (which include easement payments and PILOT programs),
 20 but also these external costs to property owners local to
 21 new wind facilities. **Property values are an important**

1 **component of any cost-benefit analysis and should be**
 2 **accounted for as new projects are proposed and go**
 3 **through the approval process.”**

4 • “The Impact of Wind Farms on Property Values: A Geographically
 5 Weighted Hedonic Pricing Model” by Yasin Sunak, et al,
 6 published as FCN Working Paper No. 3/2012 (revised March
 7 2013), an abstract of which is attached hereto as **Exhibit JS-33;**

8 ○ Finding that “**proximity, measured by the inverse**
 9 **distance to the nearest wind turbine, indeed causes**
 10 **significant negative impacts on the surrounding**
 11 **property values.”**

12 • “The Vindication of Don Quijote: The impact of noise and visual
 13 pollution from wind turbines on local residents in Denmark” by
 14 Cathrine Ulla Jensen, et al, published as an IFRO Working Paper
 15 by the University of Copenhagen Department of Food and
 16 Resource Economics in 2013, attached hereto as **Exhibit JS-34;**

17 ○ Finding that “**wind turbines have a significant negative**
 18 **impact on the price schedule of neighboring residential**
 19 **properties. The visual pollution accounts for 3.15% of**
 20 **the residential sales price. The price premium declines**
 21 **with distance by about 0.242% of the sales price for**

every 100 meters. The effect of noise depends on the noise level emitted and ranges from 3% to 7% of the sale price for residential properties.”

- Letter from Michael S. McCann, CRA of McCann Appraisal, LLC to Mike McLaughlin, Chairman of the Adams County Board regarding wind turbine setbacks dated June 8, 2010, attached hereto as **Exhibit JS-35**;

- Stating that “[r]esidential property values are adversely and measurably impacted by close proximity of industrial-scale wind energy turbine projects to the residential properties, with value losses measured up to 2-miles from the nearest turbine(s), in some instances. [] Impacts are most pronounced within “footprint” of such projects, and many ground-zero homes have been completely unmarketable, thus depriving many homeowners of reasonable market-based liquidity or pre-existing home equity.[]Real estate sale data typically reveals a range of 25% to approximately 40% of value loss, with some instances of total loss as measured by abandonment and demolition of homes, some bought out

1 by wind energy developers and others exhibiting nearly
 2 complete loss of marketability.”

- 3 • “Local Cost for Global Benefit: The Case of Wind Turbines” by
 4 Manuel Frondel, et al, published as RUHR Economic Papers
 5 number 791 in January 2019, attached hereto as **Exhibit JS-36**;
 6 and
 - 7 ○ Estimating that “an average treatment effect (ATE) of up to
 8 -7.1% for houses within a one-kilometer radius of a wind
 9 turbine, an effect that fades to zero at a distance of 8 to 9
 10 km. **Old houses and those in rural areas are affected the
 11 most**, while home prices in urban areas are hardly
 12 affected. **These results highlight that substantial local
 13 externalities are associated with wind power plants.**”
- 14 • “Renewable Energy and Negative Externalities: The Effect of
 15 Wind Turbines on House Prices” by Martijn I. Dröes, et al,
 16 published by the Tinbergen Institute at TI 2014-124/VIII on
 17 September 16, 2014, attached hereto as **Exhibit JS-37**.
 - 18 ○ Finding that “house prices within a two kilometer radius of
 19 a turbine, after it has been constructed, decrease by about
 20 1.4 to 2.3 percent on average. We find anticipation effects
 21 up to three years in advance of the construction of a wind

1 turbine. We provide further evidence that the external
2 costs of a wind turbine are at least 10 percent of its
3 construction cost.”

4 **Q: Do you believe that your property value will be negatively impacted**
5 **by the construction and operation of CWE?**

6 **A:** Yes. My property is positioned at the top of a hill with an expansive view
7 of the valley. The primarily rural, agricultural, and natural character of the
8 land around my property, and the view from my property, is a substantial
9 portion of the land’s value. The addition of CWE’s proposed turbines will
10 impact the views from my property, destroy the existing character of the
11 area, and, accordingly, reduce my property value.

12

13 **Q: Do you believe it is in the public interest to award CWE a Certificate?**

14 **A:** No. In light of CWE’s many failures with regard to inadequate public
15 participation, failure to identify environmental justice areas, and
16 inadequate study of the potential socio-economic impacts on the study
17 area, there is insufficient information in the record to award CWE a
18 Certificate.

19 **Q: Does this conclude your testimony?**

20 **A:** Yes.

**NEW YORK STATE BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT**

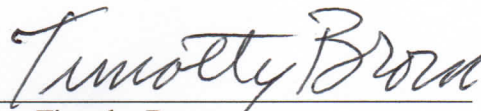
CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct A Wind Energy Facility.

AFFIDAVIT AFFIRMING PREFILED TESTIMONY

STATE OF NEW YORK)) ss:
COUNTY OF STEUBEN)

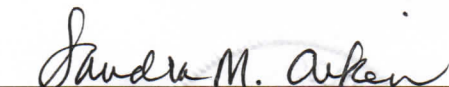
Timothy Brown, being duly sworn, deposes and says:

1. I am member of CMORE (Citizens for Maintaining Our Rural Environment) and a property owner within the Canisteo Wind Energy LLC Project area. My address is: 2276 Norton Hollow Road, Canisteo New York 14823
2. I previously prepared written testimony entitled CWE CMORE Timothy Brown Testimony and CWE CMORE Timothy Brown Exhibit 1, filed under Case No: 16-F-0205 with the Secretary of New York State Board on Electric Generation Siting and the Environment on July 12, 2019.
3. I hereby affirm that the testimony identified above is true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.



Timothy Brown

Sworn to me this 31st
day of ~~August~~ 2019
July



Notary Public – State of New York

SANDRA M. AIKEN, NO. 1242
Notary Public, State of New York
Qualified In Allegany County
Commission Expires Apr 30, 2022

**STATE OF NEW YORK
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT**

In re the Matter of:

**Application of Canisteo Wind Energy LLC
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 to Construct
A Wind Energy Project.**

CASE 16-F-0205

PRE-FILED TESTIMONY OF:

TIMOTHY BROWN

2276 NORTON HOLLOW RD

CANISTEO, NY 14823

MEMBER OF:

CITIZENS FOR MAINTAINING OUR RURAL ENVIRONMENT

P.O. BOX 102

CANISTEO, NY 14823

Case No. 16-F-0205

TIMOTHY BROWN

1. **Q: Please state your name and home address.**

2. A: Timothy Brown, 2276 Norton Hollow Rd, Canisteo, NY 14823.

3. **Q: Are you employed? If yes, by whom are you employed and in what capacity?**

4. A: I am a medical transport driver for Luxury Limos.

5. **Q: On whose behalf are you submitting this testimony?**

6. A: I submit this testimony on behalf of myself, my wife, children and grandchildren.

7. **Q: Are you familiar with Canisteo Wind Energy (CWE) Project? If so, how?**

8. A: Yes, I own 73 acres adjacent to the project which includes my house, barn, and shop.

9. **Q: What is the purpose of your testimony?**

10. A: To discuss concerns regarding shadow flicker and changes in amount of shadow flicker.

11 **Q: Will your residence receive more than 30 hours of shadow flicker per year?**

12 A: Yes, according to CWE shadow flicker analysis on original application, my property was
13 to receive **31:37 hours** annually. In the May 24, 2019 amendments with change in turbine rotor
14 size and moving turbines, shadow flicker on my property has increased to **40:38 hours** per year.

15 **Q: Has CWE ever contacted you regarding having over 30 hrs./ year of shadow flicker?**

16 A: No

17 **Q: Has CWE ever offered a good neighbor agreement?**

18 A: No

19 **Q: Have you ever requested shadow flicker information from CWE?**

20 A: Yes, I spoke to Alan Maine in the CWE office on Nov. 20, 2018, requesting identification of
21 my receptor. I was told to return in a week for this information. On Nov. 27, 2018, I returned to

Case No. 16-F-0205

TIMOTHY BROWN

1 the CWE office with CMORE board member Mona Meagher. Alan Maine told us comparing
2 noise maps and correlating with the Steuben County real property maps and design maps;
3 he was “pretty sure” my receptor # was 120. We asked at that time if there was a list showing
4 addresses of specific receptor numbers. This was later responded to by Gordon Woodcock in
5 an email to Mona Meagher.

6 **Q: Did you make any further requests for improved shadow flicker maps and receptor**
7 **numbers from CWE?**

8 A: Mona Meagher and I met with Gordon Woodcock on Feb 13, 2019 to discuss if there had
9 been any progress on a “simpler solution” to identifying receptor numbers and any progress on
10 better shadow flicker maps. We were again told that receptors could be identified using and
11 comparing several maps and documents, a tedious process. No further improvement of larger
12 scale shadow flicker maps was planned. We also requested better shadow flicker maps on a
13 call on March 27, 2019 to the law judges. These were not provided in the April 9 or May 24, 2019
14 amendments. Another letter was sent June 5, 2019 to which more detailed maps were
15 provided on June 18, 2019 and posted on DMM for the public to view and be
16 informed. These were provided 6 ½ months after the initial request of Dec 6, 2018.
17 The public was denied the opportunity to definitively identify the amount of shadow flicker on
18 their property in a timely manner and in time to make comments at the public hearing on
19 April 16, 2019 two months prior to the maps being released and despite a request made by
20 CMORE on the March 27, 2019 call to the ALJs.

21 **Q: What is your concern?**

Case No. 16-F-0205

TIMOTHY BROWN

- 1 A: My concern is that CWE's shadow flicker modeling is measured at 1 sq. meter
2 and one meter above the ground not the actual dimensions of a house as per
3 DMM, CWE 24B Shadow Flicker Memo page 2 posted May 24, 2019.
4 My main concern is that the shadow flicker model hours are not being checked by the
5 appropriate NYS agency for accuracy. Actual shadow flicker hours on the actual exposed
6 surface dimensions of an entire dwelling would probably produce a lot more hours of
7 flicker than CWE claims. Enclosed a map of receptor 120 (my number) [Exhibit 1] and
8 surrounding turbines with summer and winter solstices positions marked. As an actual
9 observer in this location for 44 years I believe CWE has grossly underestimated the shadow
10 flicker hours my family and I will be asked to endure in our beautiful rural home.
11 Q: Does this conclude your testimony?
12 A: Yes

NEW YORK STATE
PUBLIC SERVICE COMMISSION

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CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

Lorna Gillings, being duly sworn, deposes and says:

1. I, Lorna Gillings, am employed as a Utility Consumer Program Specialist 4 by the New York State Department of Public Service, and I am appearing as a witness in this proceeding on behalf of the New York State Department of Public Service.

2. I, Lorna Gillings, previously prepared written testimony labeled, "Prepared Testimony of Consumer Services Panel," which was filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony, no corrections are necessary.

4. I, Lorna Gillings, hereby affirm that the testimony identified above is true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I

appeared in person at the hearing scheduled in this case. I
adopt that testimony as my sworn testimony in this proceeding.

Lorna Gillings
Lorna Gillings

Sworn to before me this 16th day of August, 2019.

Andrea Versaci
Notary Public

ANDREA C. VERSACI
Notary Public, State of New York
Qualified in Schenectady County
No. 01VE6040809
Commission Expires 05/01/2022

NEW YORK STATE
PUBLIC SERVICE COMMISSION

1974

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

Erin O'Dell-Keller, being duly sworn, deposes and says:

1. I, Erin O'Dell-Keller, am employed as Chief of the Outreach and Education and Call Center Sections within the Office of Consumer Services by the New York State Department of Public Service, and I am appearing as a witness in this proceeding on behalf of the New York State Department of Public Service.

2. I, Erin O'Dell-Keller, previously prepared written testimony labeled, "Prepared Testimony of Consumer Services Panel," which was filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony, no corrections are necessary.

4. I, Erin O'Dell-Keller, hereby affirm that the testimony identified above is true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I

appeared in person at the hearing scheduled in this case. I
adopt that testimony as my sworn testimony in this proceeding.


Erin O'Dell-Keller

Sworn to before me this 16 day of August, 2019.


Notary Public

ANDREA C. VERSACI
Notary Public, State of New York
Qualified in Schenectady County
No. 01VE6040809
Commission Expires 05/01/20 22

BEFORE THE
STATE OF NEW YORK
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

In the Matter of

Canisteo Wind Energy LLC

Case 16-F-0205

July 12, 2019

Prepared Testimony of:

Lorna Gillings
Utility Consumer Assistance
Specialist 4

Erin O'Dell-Keller
Chief

Office of Consumer Services

State of New York
Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

CASE 16-F-0205

Consumer Services

1 Q. Will each member of the Consumer Services Panel
2 (the CSP or Panel) state your names and business
3 addresses?

4 A. My name is Lorna Gillings and my business
5 address is Three Empire State Plaza, Albany, New
6 York 12223.

7 Q. Please describe your educational background.

8 A. I received a Bachelor of Science degree in
9 Business, Management and Economics from the
10 State University of New York Empire State
11 College in 2009.

12 Q. Please describe your professional experience and
13 responsibilities with the New York State
14 Department of Public Service (the Department or
15 DPS).

16 A. I have been employed by the Department since
17 1986 and have held administrative positions in
18 various offices. In 2001, I joined the Office
19 of Consumer Services (OCS), Call Center Unit, as
20 a Utility Consumer Assistance Specialist (UCAS)
21 I. My key responsibility was to assist

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Consumer Services

1 customers with utility-related complaints,
2 regarding energy, telecommunication, cable, and
3 water services. I was promoted to UCAS II and
4 joined the Analysis Unit within OCS. I then
5 transferred to the Office of Consumer Policy
6 (which is now merged with Office of Consumer
7 Services), Consumer Outreach and Education Unit
8 where I was promoted to UCAS III. I have been
9 recently promoted to a UCAS IV position. My key
10 responsibility in the Outreach and Education
11 Unit is to promote consumer education regarding
12 electric, natural gas, telecommunication and
13 water utility services and ensure opportunities
14 for public participation in Commission and
15 Siting Board proceedings.

16 Q. Have you ever provided testimony before the
17 Commission or the Siting Board?

18 A. Yes. I provided testimony as part of the
19 Consumer Services Panel for Case 14-F-0490,
20 Cassadaga Wind, Case 15-F-0122, Baron Wind, Case
21 16-F-0328, Number Three Wind, Case 16-F-0062,

CASE 16-F-0205

Consumer Services

1 Eight Point Wind and Case 16-F-0559, Bluestone
2 Wind.

3 Q. Ms. O'Dell-Keller, please state your full name,
4 employer and business address.

5 A. My name is Erin O'Dell-Keller. I am employed by
6 the Department and my business address is Three
7 Empire State Plaza, Albany, New York 12223.

8 Q. Ms. O'Dell-Keller, what is your position with
9 the Department?

10 A. I am the Chief of the Outreach and Education and
11 Call Center sections within the Office of
12 Consumer Services.

13 Q. Please describe your educational background.

14 A. I received a Bachelor's Degree in Biology from
15 Siena College in 1986 and Master's Degree in
16 Environmental Studies from the State University
17 of New York College of Environmental Science and
18 Forestry in 1988.

19 Q. Please describe your professional experience.

20 A. From 1990 to 2001, I was employed as a Citizen
21 Participation Specialist with the New York State

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Consumer Services

1 Department of Environmental Conservation (DEC)
2 where I assisted in coordinating and
3 implementing DEC's public participation and
4 community outreach and education efforts. I
5 joined the Department in 2001 as a Utility
6 Outreach and Education Specialist 2. The
7 Department of Civil Service subsequently
8 reclassified this title to Utility Consumer
9 Program Specialist. Between 2001 and 2018, I
10 was promoted three times to reach my current
11 position. I oversee the Department's complaint
12 call center, as well as the development and
13 delivery of a statewide outreach and education
14 program for Commission policies, programs and
15 initiatives. Under my direction, the Outreach
16 and Education Unit promotes consumer education
17 through development of publications and other
18 outreach materials, management of the AskPSC.com
19 website, oversight of utility outreach programs
20 and administration of grass roots efforts such
21 as participating in events and presentations and

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Consumer Services

1 fostering relationships with consumer leaders
2 and advocacy groups across the state. Consumer
3 Outreach and Education also ensures consumers
4 have opportunities to participate in Commission
5 proceedings and comment on utility related
6 issues.

7 Q. Have you ever provided testimony before the
8 Commission or the Siting Board?

9 A. Yes. I provided testimony in Case 05-G-1494,
10 Orange and Rockland Utilities, Inc., regarding
11 service quality incentives, low income customer
12 needs and the company's outreach and education
13 program. I also testified in recent water-
14 related utility rate cases, including Case 16-W-
15 0130, Suez Water New York, Inc., regarding
16 service quality incentives, outreach and
17 education, and the company's proposed water
18 conservation plan, as well as Case 16-W-0259,
19 New York American Water, Inc. in regard to
20 implementation of a Customer Service Performance
21 Incentive mechanism, a proposed Low Income

CASE 16-F-0205

Consumer Services

- 1 Payment Program, the company's outreach and
2 education plan, and a proposal to merge several
3 tariffs into one, new tariff. For electric
4 generation cases, I have provided testimony as
5 part of the Consumer Services Panel and Staff
6 Policy Panel for Case 14-F-0490, Cassadaga Wind,
7 Case 16-F-0328, Number Three Wind, Case 15-F-
8 0122, Baron Wind, Case 16-F-0062, Eight Point
9 Wind and Case 16-F-0559, Bluestone Wind.
- 10 Q. Are you providing testimony elsewhere in this
11 proceeding?
- 12 A. Yes. I am testifying as part of the Staff Policy
13 Panel.
- 14 Q. Is the Consumer Services Panel sponsoring any
15 exhibits to accompany and support your
16 testimony?
- 17 A. No.
- 18 Q. What is the purpose of the Panel's testimony in
19 this proceeding?
- 20 A. We are testifying regarding the following
21 issues: (1) public involvement, and (2) public

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Consumer Services

1 comments received by the Department regarding
2 the proposed Canisteo Wind Energy Center (the
3 Project or Facility) proposed by Canisteo Wind
4 Energy LLC (the Applicant), an affiliate of
5 Invenergy LLC.

6 Q. What is the intent of Public Service Law (PSL)
7 Article 10 as it relates to public involvement?

8 A. Article 10 regulations mandate that an applicant
9 actively seek public involvement throughout the
10 Article 10 process, including planning, pre-
11 application, certification, compliance and
12 implementation.

13 Q. For what purpose?

14 A. It is the policy of the Siting Board to enable
15 the public to participate in the decisions that
16 affect their health, safety and the environment.
17 The goal is to facilitate communication between
18 applicants and interested or affected
19 stakeholders; solicit public comments, ideas and
20 local expertise; provide timely notice of
21 proposed project milestones and events; and to

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Consumer Services

1 encourage the public and interested parties to
2 engage in the process and provide input into key
3 decisions. A robust public involvement program
4 will ensure that the Siting Board is aware of
5 stakeholder concerns when deciding whether to
6 award a Certificate of Environmental
7 Compatibility and Public Need (Certificate).

8 Q. How does public involvement become part of the
9 Article 10 process?

10 A. Applicants are expected to communicate with the
11 public early in the process and establish a
12 community presence. The Article 10 regulations
13 at 16 NYCRR §1000.4 require applicants to
14 develop and implement a public involvement
15 program (PIP) plan. The PIP must include
16 consultation with affected agencies and other
17 stakeholders; pre-application activities to
18 encourage stakeholder participation at the
19 earliest opportunity, as well as activities
20 during certification and compliance; activities
21 to educate the public about the proposed project

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Consumer Services

1 and the Article 10 process; and the
2 establishment of a project website to
3 disseminate information to the public.

4 Q. When does the PIP Plan have to be submitted on a
5 proposed Article 10 project?

6 A. Applicants must submit a written PIP Plan to the
7 Department at least 150 days prior to submitting
8 a Preliminary Scoping Statement (PSS).

9 Q. Did the Applicant for the Project develop a PIP
10 Plan?

11 A. Yes. The Applicant filed a PIP Plan with the
12 Department in April 2016. Department Staff
13 (Staff) reviewed the plan and the Applicant
14 filed a revised PIP Plan in June 2016. The
15 Applicant also provided an updated supplement to
16 the PIP Plan in March 2017 to include updated
17 meeting log, stakeholder list, consultation
18 schedule and planned outreach activities
19 throughout the application and construction
20 phase of the project.

21 Q. What elements were included in the Applicant's

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Consumer Services

1 PIP Plan?

2 A. The Applicant stated in the PIP Plan that it had
3 developed a stakeholder list by identifying
4 parties that may be interested or affected by
5 the Project, including affected federal, state
6 and local agencies, municipalities and school
7 districts in host and adjacent areas, host and
8 adjacent landowners, utilities, public interest
9 groups and other stakeholders based on DPS
10 guidance, review of prior Article 10 PIP Plans,
11 review of County GIS data, tax records, personal
12 visits, and consultation with local municipal
13 representatives in addition to its research
14 efforts. The PIP Plan described how the
15 Applicant planned to foster participation in the
16 Article 10 process by disseminating Project
17 information using the stakeholder list,
18 soliciting knowledge through consultation with
19 affected agencies and stakeholders that would
20 provide feedback on issues that they want
21 considered in the project design, study and/or

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Consumer Services

1 review, and conducting activities designed to
2 educate the public about the Project, the
3 process and intervenor funding opportunities.
4 The Applicant established a Project website,
5 document repositories, and a toll-free telephone
6 number for public access to Project information.
7 Throughout the process, the Applicant has
8 completed a log recording its consultation and
9 outreach activities. The logs are included in
10 the Canisteo Wind case file (Case number 16-F-
11 0205) on the Department's website at,
12 www.dps.ny.gov.

13 Q. Throughout the pre-application, scoping and
14 application phases, did the Applicant implement
15 a public involvement program as described in the
16 PIP Plan?

17 A. In Staff's opinion, the Applicant was partially
18 successful in implementing the PIP Plan
19 elements. Specifically, the Applicant
20 encouraged participation from municipal
21 officials and affected local, state and federal

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Consumer Services

1 agencies, and as evidenced in the meeting
2 tracking logs, sought input from these
3 stakeholders. In addition, the Applicant
4 attended the local town board meetings for the
5 towns of Cameron, Canisteo, Jasper, Greenwood,
6 Troupsburg, West Union, and the Village of
7 Canisteo and provided project updates and kept
8 them informed of the progress of the project and
9 addressed concerns. The Applicant communicated
10 with utility representatives, school districts,
11 emergency response organizations, and other
12 stakeholders by telephone and attending
13 meetings. The Applicant hosted seven open
14 houses for the public between August 2016 and
15 January 2019. The Applicant also held an
16 informational night in September 2017 in the
17 Town of Jasper. The host towns' board meetings
18 were open to the public, which has been
19 documented in the PIP tracking log, to provide
20 opportunity for the public to attend to receive
21 information about the project and get their

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Consumer Services

1 concerns addressed.

2 Q. Were there elements of the PIP Plan that were
3 less successfully implemented?

4 A. Yes. Staff had reservations with the
5 Applicant's public involvement program in the
6 pre-application phase. Specifically, the
7 Applicant failed to clarify the list of document
8 repositories that was included in one of the
9 Applicant's filing; the master stakeholder list
10 did not appear to include all stakeholders,
11 including host and adjacent landowners; the
12 incorrect distribution list was inadvertently
13 provided in the Appendix in Applicant's filing;
14 and it was unclear in the Application if changes
15 were made to the Project as a result of the
16 public involvement program.

17 Q. Did the Applicant address these issues?

18 A. Yes. The Applicant provided the documentation
19 and responses which addressed the issues.

20 Q. Did Staff have other concerns about the PIP
21 Plan?

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Consumer Services

1 A. Yes. Several comments were posted by members of
2 the public on the Department's Document Matter
3 and Management system about the Applicant not
4 following through with the PIP Plan. The
5 complaints included: (1) open houses hosted by
6 the Applicant were not timely advertised; (2)
7 notices to stakeholders were not timely; (3)
8 notices were not posted to the project website
9 in advance of the events; (4) when the website
10 was updated, the incorrect dates were provided
11 for the open houses; (5) the turbine layout map
12 displayed on the website was not the same layout
13 proposed in the application.

14 Q. Was the Applicant notified of these concerns?

15 A. Yes. In a letter from the Presiding Examiners
16 to the Applicant dated February 5, 2019, the
17 Applicant was advised of the allegations and
18 provided with the findings of the Examiners
19 about the inconsistency of the dates
20 communicated to the public and the Applicant
21 failure to adhere to Section 5.1.3 of the

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Consumer Services

1 Applicant's PIP Plan.

2 Q. How was this remedied?

3 A. The Applicant was directed by the Examiners to
4 ensure that its website is up to date and that
5 the information provided to members of the
6 public is timely, accurate, and contains the
7 information outlined in the Applicant's PIP
8 Plan. The Examiners reminded the Applicant of
9 its obligation to conduct public outreach in
10 conformance with its PIP Plan. The Examiners
11 further noted that the Applicant may present
12 evidence and arguments during the post-
13 application and evidentiary hearing stages on
14 the issue of whether it has satisfied its legal
15 obligation for public involvement as required by
16 16 NYCRR §1000.4(a), (c), and (d).

17 Q. What was the Applicant's response to the
18 Examiners directive?

19 A. In a letter dated February 5, 2019 to the
20 Examiners, the Applicant responded and provided
21 an explanation about its own investigation

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1 concerning the mailing/notification. The
2 Applicant did not address the other concerns
3 raised by the Examiners in its February 5, 2019
4 response.

5 Q. Were there other issues with the Applicant's
6 pre-application public involvement program?

7 A. Yes. The Applicant filed its Preliminary
8 Scoping Statement (PSS) on January 5, 2018 but
9 it was not in compliance with certain sections
10 of the Public Service Law and Article 10
11 regulations.

12 Q. How was this remedied?

13 A. The Applicant was informed by the Secretary by
14 letter dated January 10, 2018 that the PSS had
15 deficiencies and Applicant should submit the
16 required information for the PSS to be deemed in
17 compliance before the next step in the process
18 can be continued.

19 Q. Did the Applicant comply with the request?

20 A. Yes. The Applicant provided a supplement to the
21 PSS on January 22, 2018. The Secretary deemed

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1 the PSS in compliance in letter to the Applicant
2 dated January 24, 2018.

3 Q. Were there other issues going forward with the
4 Applicant's public involvement outreach?

5 A. Yes. DPS Staff had concerns about the
6 Application filing because the Applicant did not
7 follow its PIP Plan filed March 16, 2017.

8 Q. What were the concerns?

9 A. The Applicant agreed to mail notice of the
10 Application filing to a project mailing list
11 comprised of the updated stakeholder list,
12 including host and adjacent landowners, and
13 additional addresses received through public
14 outreach activities. The affidavit filed on
15 November 9, 2018, did not indicate that this was
16 completed. In addition, the Notice of
17 Application did not include the email address
18 for the Applicant's representative as required
19 by 16 NYCRR §1000.79(e)(10).

20 Q. Did the Applicant remedy the issues?

21 A. Yes. The Applicant submitted a letter dated

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1 January 28, 2019 with Supplement to the
2 Application and affidavits which remedied the
3 issues.

4 Q. Were there other issues regarding public
5 outreach at the Application stage?

6 A. Yes. The Applicant filed amendments to its
7 Application on May 24, 2019 and on May 29, 2019
8 filed its affidavit of service. The Application
9 amendments had been served electronically on the
10 parties. However, the party list attached to
11 the affidavit did not include all persons,
12 agencies or entities identified in 16 NYCRR
13 §1000.6(a).

14 Q. How was this remedied?

15 A. The Applicant was directed, in a Ruling dated
16 June 3, 2019, to remedy the defect by complying
17 with the requirements of 16 NYCRR §1000.6(a),
18 including proper service of the application
19 amendments on the appropriate persons, agencies
20 and entities and to provide proof with an
21 affidavit of service.

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1 Q. Did the Applicant comply with the Ruling?

2 A. Yes. The Applicant responded by letter dated
3 June 7, 2019 and provided the required
4 documentation.

5 Q. In addition to the PIP Plan developed and
6 implemented by the Applicant, did the Siting
7 Board conduct other public involvement
8 activities?

9 A. Yes. As part of the Document and Matter
10 Management (DMM) system on the Department's
11 website, the Department maintains a list of
12 parties to the case (the party list), as well as
13 individuals and organizations that request to be
14 informed of Project filings (the service list).

15 Q. How does the Siting Board use the party list and
16 service list?

17 A. The individuals on the party and service lists
18 are advised, by mail or email, of filings,
19 rulings and notices of Project milestones, such
20 as the availability of intervenor funding. The
21 lists are also used to inform individuals of

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1 Project activities, such as comment periods,
2 procedural conferences, technical conferences
3 and public statement hearings.

4 Q. Has the Siting Board issued press releases or
5 conducted mailings concerning the Project?

6 A. Yes. After the Siting Board issued a letter to
7 the Applicant indicating that the Application
8 was in compliance, the Siting Board fixed the
9 date for the Public Statement Hearings (PSHs).
10 A notice and a press release were issued by the
11 Siting Board in advance of the informational
12 sessions and PSHs. In addition, a letter and
13 factsheet describing the Project was mailed to
14 approximately 100 elected officials and
15 community-based organizations in the Project
16 area.

17 Q. What other steps were taken to ensure the public
18 was notified of the informational sessions and
19 public statement hearings?

20 A. The Presiding Examiner issued a letter-ruling on
21 March 28, 2019 directing the Applicant to

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1 publish a copy of the Notice of Informational
2 Forums and Public Statement Hearings in six
3 local newspapers and to serve a copy of the
4 notice on all project stakeholders, including
5 host and adjacent landowners to ensure that
6 potentially affected persons were provided
7 enough notice. In addition, the Applicant was
8 to file with the Secretary affidavits of
9 publication and service and arrange for a link
10 to the notice to be published on its website.

11 Q. Besides the development and implementation of
12 the PIP Plan, are there other ways for the
13 public to be involved in an Article 10 process?

14 A. Yes. Applicants are required at several stages
15 in the Article 10 process to provide funds to be
16 used by parties that participate in the Article
17 10 process. The funds, known as "intervenor
18 funds" are collected by assessing a fee on the
19 Applicant. The fee, as set forth by PSL §163(4)
20 and §164(6), varies depending on the stage of
21 the project: applicants submitting a PSS are

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1 assessed a fee equal to \$350 for each megawatt
2 (MW) of generating capacity of the project with
3 a cap of \$200,000. When an application is
4 filed, a fee of \$1,000 per 1 MW generation
5 capacity is assessed on the applicant, with a
6 cap of \$400,000. Additional fees may be
7 assessed if the applicant revises its
8 application requiring additional scrutiny or to
9 ensure an adequate record is developed for the
10 Siting Board's review. Upon filing the PSS and
11 Application, the CWE submitted intervenor fees
12 of \$101,500 and \$290,700, respectively.

13 Q. How do the intervenor funds ensure public
14 participation in the process?

15 A. The intervenor funds can be used to help defray
16 expenses incurred by municipalities and local
17 parties that participate in the scoping process
18 and in the proceeding to consider the
19 application. The funds can be used to pay for
20 expert witnesses, consultants and legal fees.

21 Q. Have intervenor funds been assessed and awarded

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1 in this proceeding?

2 A. Yes. The Towns of Cameron, Canisteo, Greenwood,
3 Jasper, Troupsburg and West Union were awarded
4 pre-application and application stage funding.
5 A citizens group called Citizens for Maintaining
6 Our Rural Environment (CMORE) was awarded pre-
7 application stage funding and Mr. John M.
8 Sharkey, an individual intervenor representing
9 his community and his own interest, was awarded
10 application stage funding. The intervenors have
11 been granted awards to ensure their constituents
12 are represented in the Article 10 process and
13 that the Siting Board has a complete record on
14 which to base their decision regarding the
15 Facility.

16 Q. Will there be additional public involvement and
17 education requirements during the certification
18 and compliance stages of this Article 10
19 process?

20 A. Yes. There are public involvement procedures
21 identified in the Project Application regarding

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1 notifying the public of project milestones and
2 site activities, as well as development and
3 implementation of a complaint resolution plan.
4 In addition, the Staff Policy Panel's Proposed
5 Certificate Conditions (Exhibit SPP-2) include
6 conditions that the Certificate Holder is
7 required to meet regarding public notifications
8 and complaint resolution procedures. These
9 conditions will ensure that complaints regarding
10 the facility are handled consistently and that
11 the public will continue to receive information
12 about the Project. The proposed Certificate
13 Conditions (Exhibit SPP-2) are reasonable for a
14 project of this type and should be adopted by
15 the Siting Board.

16 Q. Have there been public comments submitted to the
17 Siting Board regarding the proposed Project?

18 A. Yes. There have been approximately 65
19 commenters, with 48 that were opposed and 15
20 that were in support and two neutral public
21 comments submitted throughout the Article 10

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1 process to date, starting in April 2017, and
2 continuing through July 2019.

3 Q. In what format has the Siting Board received
4 comments?

5 A. Some comments have been sent in by mail, some by
6 email and some were provided during the PSHs
7 held by the Siting Board on April 16, 2019, at
8 the Canisteo Fire Department Community Room in
9 Canisteo, NY.

10 Q. Are copies of these comments available for
11 public review?

12 A. Yes, the comments can be found in the
13 Department's DMM system, on the Department's
14 website, under the Canisteo Wind case file (Case
15 No. 16-F-0205).

16 Q. What type of comments did the Siting Board
17 receive from people in support of the Project?

18 A. Many comments referred to the economic benefits
19 to the local area, the support it provides for
20 New York State's transition to additional
21 renewable energy sources and the potential tax

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- 1 relief provided by the Project. Supporters
2 noted that this Project will foster economic
3 development through increased tax revenues,
4 creation of jobs, and increased demand for local
5 goods and services, and will protect customers
6 against price volatility and keep electric rates
7 low. They stated that the Project will utilize
8 local labor resources and provide positive
9 benefits to mankind because of these towers.
10 One commenter stated that many who are opposed
11 to the project spoke about items that have been
12 disproven by scientific and medical communities
13 for many years.
- 14 Q. Beyond economic benefits, were there other
15 reasons some commentators support the Project?
- 16 A. Yes. Supporters pointed out the need to move
17 towards clean energy to facilitate New York
18 State's clean energy future.
- 19 Q. What type of comments did the Siting Board
20 receive from people opposed to the Project?
- 21 A. The majority of comments in opposition to the

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1 Project were regarding concerns with
2 environmental, health, financial, and community
3 impacts, and the lack of timely information and
4 proper notification of public meetings by the
5 Applicant. Overall, the commenters' position is
6 that the negative impacts on the community far
7 outweigh any financial benefits the Applicant
8 has offered.

9 Q. What comments did the Siting Board receive about
10 public health concerns regarding this Project?

11 A. Comments were made about the impact of noise,
12 vibration, and shadow flicker on the health of
13 residents because of the proximity of turbines
14 to residential property. One commenter cited
15 the World Health Organization guidelines for
16 community noise which, among others issues,
17 addressed impairment of early childhood
18 development and education caused by noise.
19 Commenters stated concerns about water quality
20 as well. The commenters also note that setbacks
21 need to be set at appropriate distances to

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1 ensure the health, safety and welfare of the
2 residences in the area. Commenters want to see
3 more in the Article 10 certificate to protect
4 non-participating landowners.

5 Q. Did the Applicant address the concerns about
6 potential public health impacts associated with
7 industrial wind turbines?

8 A. Exhibit 2 of the Application discusses potential
9 public health and safety risks specific to wind
10 power, such as tower collapse, blade failure,
11 ice throw and shadow flicker, but indicates that
12 potential impacts will be mitigated by siting
13 and setback requirements. Exhibits 15, 19, 23,
14 and 35 provide more in-depth evaluation of
15 health, noise, and electromagnetic field
16 concerns. In addition, Exhibits 31 and 32
17 describe laws, ordinances and regulations to
18 address setbacks, turbine heights, among other
19 things.

20 Q. Can you be more specific about the public
21 comments the Siting Board received regarding

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1 environmental impacts of this Project?

2 A. Residents expressed concern that the turbines
3 will have negative impacts on wildlife, such as
4 birds and bats, and will displace the varied
5 wildlife populations.

6 Q. Did the Applicant address concerns about
7 potential environmental impacts associated with
8 industrial wind turbines?

9 A. Exhibit 2 of the Application provided a summary
10 discussion of the anticipated environmental
11 impacts associated with the construction and
12 operation of the Facility. The Application
13 explained several potential impacts regarding
14 the area's ecology, air, ground and surface
15 water, and wildlife and habitat. In-depth
16 discussions regarding these topics are contained
17 within the exhibits of the Application,
18 specifically Exhibits 17 and 21-23.

19 Q. What comments did the Siting Board receive
20 regarding potential financial and community
21 impacts in opposition to this Project?

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1 A. Commenters noted that there will not be enough
2 financial return to justify the destruction of
3 the beautiful view. There were also comments
4 that the financial impact of the project on
5 adjacent landowners and residents will not be
6 offset by the incentives offered by the
7 Applicant. Another commenter noted that as the
8 market and assessed values decline, so too will
9 the tax base of an already financially
10 challenged township. Specifically, commenters
11 have noted that the large wind turbines would
12 cause significant visual impacts and disrupt the
13 peace and tranquility of the area. The
14 consequences would include negative impacts on
15 tourism and property values. Commenters note
16 that tourists return to the area for its
17 spectacular view and the tourism activities. In
18 addition, visitors return for drink, food and to
19 sit outside for the sunset from the only Brewery
20 in Troupsburg. Commenters further stated that
21 the turbines would directly affect this business

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1 and tourism. Commenters noted that the view is
2 the main draw for tourists. Further, commenters
3 stated that because of the facility, there will
4 be negative impacts on property values for
5 residents in both the project and adjacent
6 areas.

7 Q. Were there other concerns expressed regarding
8 community impacts?

9 A. Several commenters expressed concern about
10 damage to the local roads and the
11 electromagnetic interference issues with
12 communications equipment. In addition, a few
13 commenters stated they believed in property
14 rights of property owners if it does not
15 negatively affect anyone else. These commenters
16 were neither in favor or against the proposed
17 wind project. Commenters also indicate that
18 developers target sites in mostly low-income
19 rural communities because they lack the
20 financial and technical resources to make
21 informed decisions to shape and evaluate the

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1 wind turbine proposals. In addition, the
2 landowners (farmers) are financially strapped
3 and the developers are taking advantage of them.
4 One commenter questioned the Department of
5 Public Service planned implementation of the
6 expedited process for these projects.

7 Q. Were there concerns expressed about the public
8 involvement process?

9 A. Yes. Many commenters indicated that the
10 Applicant's public involvement process was not
11 adequate. Commenters stated that the Applicant
12 should have notified the public of the project
13 in August 2016 but instead many were unaware
14 about the project until Spring 2017. Others who
15 learned about the project and attended the open
16 houses stated that unless you were a
17 participating landowner, it was difficult to
18 understand the information provided since the
19 only information shared was provided on maps.
20 Commenters stated that because of the lack of
21 understanding about the project, attendees did

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Consumer Services

1 not know what questions to ask. Commenters had
2 several concerns related to the Applicant's
3 early public involvement in reaching out to the
4 public. Commenters had concerns that some
5 property and adjacent landowners did not receive
6 open house mailing; that outreach may not have
7 included the Amish households in the Jasper-
8 Troupsburg School District; that the newspaper
9 advertising was posted to the incorrect free
10 newspapers, which were not in the study or
11 project areas; that information was not posted
12 on Applicant's website as required by the PIP
13 Plan; and that the affidavit of service was not
14 timely filed, among other issues.

15 Q. Were there other concerns surrounding visual
16 impacts?

17 A. Yes. Commenters stated that many stakeholders
18 were not aware of the Project until the visual
19 impact meeting or when the Applicant showed up
20 to survey property. Commenters stated that at
21 the visual impact meeting, the public was not

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1 able to voice their views or concerns.

2 Commenters stated that a request was made to the
3 Applicant by some stakeholders to hold a
4 presentation after the visual impact study, but
5 the Applicant did not. Commenters stated that
6 the Applicant, instead, gave them the
7 opportunity to review several volumes of Project
8 books and records which, Commenters state, were
9 difficult to use.

10 Q. Did the Applicant address the concerns about
11 potential financial and community impacts
12 associated with industrial wind turbines, and
13 the public involvement process?

14 A. The Application evaluated different aspects of
15 community and socioeconomic impacts of the
16 Project. Exhibit 2 summarized the review of
17 cultural, historic and recreational resources,
18 as well as impacts on visual resources,
19 transportation and communications. These issues
20 were evaluated further in Exhibits 20, 24-27,
21 and 31. Exhibit 2 also details the Applicant's

1 public involvement efforts.

2 Q. What comments did the Siting Board receive about
3 the "need" for this Project?

4 A. Many commenters expressed doubts about whether
5 this project is needed in the area. One
6 commenter cited NYISO 2018 publication which
7 indicated that New York's energy demand will
8 decrease in the next 10 years and that Upstate
9 New York is largely supplied by clean energy
10 resources. One commenter questioned the need
11 for expanding clean energy in a region where it
12 already exists, and additional energy is not
13 needed. Further, commenters stated that
14 multiple projects are being proposed for the
15 same small area of Western Steuben County.

16 Q. Did the Applicant address concerns about the
17 need for the Project and specifically wind
18 turbines?

19 A. Yes. Exhibit 8 of the Application looked at
20 electric modeling and estimated production,
21 pricing and greenhouse gas emissions.

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1 Q. Did Department Staff review public comments
2 received by the Siting Board regarding the
3 Canisteo Project?

4 A. Yes. Staff reviewed comments received through
5 various means such as DMM filings, letters to
6 the Siting Board and the PSH. Staff analyzed
7 the case record as a whole, including the public
8 comments, when developing our testimony
9 regarding various topical areas in the case.

10 Q. Does this conclude your testimony at this time?

11 A. Yes, it does.

NEW YORK STATE
PUBLIC SERVICE COMMISSION

2013

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

Hebert Joseph, being duly sworn, deposes and says:

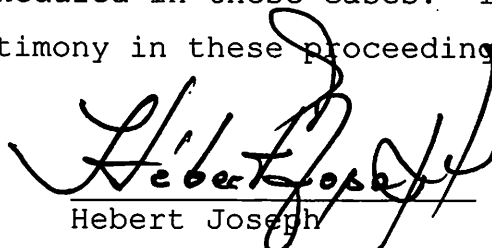
1. I, Hebert Joseph, am employed as a Power Transmission Planner IV by the New York State Department of Public Service, and I am appearing as a witness in this proceeding on behalf of the New York State Department of Public Service.

2. I, Hebert Joseph, previously prepared written testimony labeled, "Prepared Decommissioning Panel Testimony," which was filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony, no corrections are necessary.

4. I, Hebert Joseph, hereby affirm that the testimony identified above is true and correct to the best of my knowledge, information and belief. I affirm that the

written testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in these cases. I adopt that testimony as my sworn testimony in these proceedings.


Hebert Joseph

Sworn to before me this 16 day of August, 2019.


Notary Public

ANDREA C. VERSACI
Notary Public, State of New York
Qualified in Schenectady County
No. 01VE6040809
Commission Expires 05/01/2022

NEW YORK STATE
PUBLIC SERVICE COMMISSION

2015

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

John Quackenbush, being duly sworn, deposes and says:

1. I, John Quackenbush, am employed as an Engineering Specialist 2 by the New York State Department of Public Service, and I am appearing as a witness in this proceeding on behalf of the New York State Department of Public Service.

2. I, John Quackenbush, previously prepared written testimony labeled, "Prepared Decommissioning Panel Testimony," which was filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony, no corrections are necessary.

4. I, John Quackenbush, hereby affirm that the testimony identified above is true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I

appeared in person at the hearing scheduled in this case. I
adopt that testimony as my sworn testimony in this proceeding.



John Quackenbush

Sworn to before me this 16 day of August, 2019.



Notary Public

ANDREA C. VERSACI
Notary Public, State of New York
Qualified in Schenectady County
No. 01VE6040809
Commission Expires 05/01/2022

BEFORE THE
STATE OF NEW YORK
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

In the Matter of

Canisteo Wind Energy LLC

Case 16-F-0205

July 12, 2019

Prepared Decommissioning Panel
Testimony of:

Hebert Joseph
Power Transmission Planner III
Bulk Transmission System
Office of Electric, Gas & Water

John Quackenbush
Engineering Specialist 2
Office of Electric, Gas and
Water

State of New York
Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

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DECOMMISSIONING PANEL

1 Q. Will the first member of the Decommissioning
2 Panel (the Panel) please state your name,
3 employer, and business address?

4 A. My name is John Quackenbush and I am employed by
5 the Department of Public Service (the
6 Department), located at Three Empire State
7 Plaza, Albany, New York, 12223-1350.

8 Q. Mr. Quackenbush what is your position with the
9 Department?

10 A. I am an Engineering Specialist 2 in the
11 Environmental Certification and Compliance
12 Section of the Office of Electric, Gas and
13 Water.

14 Q. Please summarize your educational background and
15 professional experience.

16 A. I attended Hudson Valley Community College in
17 Troy, New York and received an individual study
18 associate degree, as well as an Associate in
19 Applied Science degree in Civil Engineering
20 Technology. Thereafter, I continued my
21 education at the State University of New York

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DECOMMISSIONING PANEL

1 Polytechnic Institute, formerly known as the
2 State University of New York Institute of
3 Technology in Utica, New York and graduated with
4 a Bachelor of Science degree in Civil
5 Engineering Technology. I was employed at CHA
6 Consulting, Inc. (formerly Clough, Harbour, &
7 Associates LLP) as a Design and Drafting
8 Technician from 2000 until November 2006. In
9 February 2007, I joined the Department Staff of
10 Electric Distribution Section in the Office of
11 Electric, Gas and Water as a Utility Engineer,
12 where I performed utility inspections to assess
13 electric distribution infrastructure conditions,
14 investigated various electric utility customer
15 reliability complaints, and reviewed utility
16 reliability reports. Since October 2009, I have
17 worked as an Engineering Specialist 2 in the
18 Environmental Certification and Compliance
19 Section of the Office of Electric, Gas and
20 Water. My duties include reviewing site plans,
21 proposed major electric generating,

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DECOMMISSIONING PANEL

1 transmission, and distribution facilities
2 locations and utility routes, construction
3 practices, and environmental control plans for
4 various projects, including review of New York
5 Public Service Law (PSL) Article VII and Article
6 10 applications.

7 Q. Mr. Quackenbush, have you previously testified
8 before the Commission or the Siting Board?

9 A. Yes. I have testified before the Commission and
10 the Siting Board in several cases regarding
11 proposed electric infrastructure upgrades,
12 electric power transmission routes, the siting
13 of electric generation plants, electric rates,
14 and research and development programs. Some
15 representative cases include the matter of
16 Hudson Transmission Partners, LLC Case 08-T-
17 0034, in which I provided analyses of its
18 proposed electric upland route in Manhattan, the
19 constructability of the route, proposal of
20 alternative routes, and construction practices.
21 Additionally, I reviewed routing and

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DECOMMISSIONING PANEL

1 constructability issues pertaining to the
2 granting of a Certificate through a Joint
3 Proposal for the Champlain Hudson Power Express,
4 Inc., in Case 10-T-0139. Furthermore, I have
5 testified before the Siting Board regarding the
6 decommissioning plan of the Cassadaga Wind, LLC
7 facility, an Article 10 project Certified in
8 Case 14-F-0490. In addition, I am involved in
9 reviewing and analyzing routing and construction
10 methods for ongoing PSL Article VII and Article
11 10 projects pending before the Siting Board or
12 the Commission, regarding major electric, wind,
13 and solar generation projects at various pre-
14 application and application stages. My primary
15 role with respect to major wind and solar
16 electric generation projects involves a review
17 of facilities' proposed setback distances,
18 preliminary design drawings, and proposed
19 general construction practices (including
20 assembly and foundation work), electric
21 collection lines and related transmission line

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DECOMMISSIONING PANEL

1 installations, access ways, and any associated
2 building facilities. In addition, I review the
3 potential transportation impacts of construction
4 activities during wind turbine and solar
5 installations. Lastly, I review site
6 restoration and decommissioning proposals of
7 Article 10 projects.

8 Q. Would the next member of the Panel please state
9 your name and position at the Department?

10 A. My name is Hebert Joseph and I am employed by
11 the Department as a Power Transmission Planner
12 IV in the Bulk Electric Systems Section of the
13 Office of Electric, Gas, and Water, located at
14 Three Empire State Plaza, Albany, New York,
15 12223-1350.

16 Q. Please summarize your educational background and
17 professional experience.

18 A. I earned a Bachelor's degree in Civil
19 Engineering from the State University of Haiti
20 in 1995 and a Master's degree in Electrical
21 Power Engineering from Rensselaer Polytechnic

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DECOMMISSIONING PANEL

1 Institute in 2004.

2 Q. Do you belong to any professional associations?

3 A. Yes, I am a member of the Institute of
4 Electrical and Electronics Engineers (IEEE) and
5 the IEEE Power Engineering Society. In
6 addition, I am a member of the American Planning
7 Association (APA).

8 Q. Have you previously testified before the
9 Commission?

10 A. Yes. I have testified in Case 06-T-0710
11 regarding the application of Consolidated Edison
12 Company of New York, Inc. for a Certificate of
13 Environmental Compatibility and Public Need
14 under Article VII of the New York Public Service
15 Law for its M29 Transmission Line Project. I
16 also testified in Cases 06-E-1433 and 07-E-0949
17 Orange and Rockland Utilities - Electric Rates.

18 Q. Please describe the scope of the Panel's
19 testimony.

20 A. We reviewed Canisteo Wind Energy LLC's (the
21 Applicant or CWE) proposed decommissioning and

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DECOMMISSIONING PANEL

1 site restoration plan, as discussed in Exhibit
2 29 of the Application.

3 Q. Please give a brief description of the proposed
4 Facility.

5 A. As reported in the Application Supplement dated
6 May 24, 2019, the proposed Facility will include
7 up to 117 wind turbines, with a generating
8 capacity of up to 290.7 megawatts (MW), located
9 in the Towns of Cameron, Canisteo, Greenwood,
10 Jasper, Troupsburg, and West Union in Steuben
11 County. Other components of the Facility
12 include the proposals of access roads, the
13 electrical collection system connecting to the
14 collection substation, meteorological towers, an
15 operation and maintenance (O&M) building, and
16 temporary facilities for a concrete batch plant
17 and a construction laydown yard. Also, an
18 approximate 14-mile overhead 115-kV
19 interconnection line is proposed from the
20 collection substation to the Facility's point-
21 of-interconnection (POI) in New York State

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1 Electric and Gas Corporation's (NYSEG) Bennet
2 substation on State Route 36 in the Town of
3 Hornellsville. It should be noted that this
4 transmission line will be reviewed pursuant to
5 Public Service Law Article VII, rather than
6 Article 10.

7 Q. According to the Application, what will be
8 removed as part of decommissioning activities?

9 A. Exhibit 29 notes that "[a]s part of
10 decommissioning, CWE will remove wind turbines,
11 pad-mount transformers, foundations to a depth
12 of 3 feet below grade, and the Project
13 substation. These will all support the goal of
14 returning the visual character to its condition
15 without the Facility."

16 Q. Does the Panel have any concerns regarding the
17 removal plan listed above?

18 A. In general, we do not have any issues regarding
19 those components listed to be removed; the
20 listed activities are similar to what Department
21 Staff has encountered during review of other

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1 Article 10 wind generating projects. However,
2 the Panel does not agree with some aspects of
3 the CWE's *Decommissioning Plan*, e.g., removal of
4 access roads, inclusion of salvage and re-sale
5 value in the decommissioning estimate, proposed
6 removal depth of foundations and other Facility
7 components in agricultural land, and the
8 Applicant's proposed financial assurance
9 instrument for decommissioning and site
10 restoration, as described in detail throughout
11 our testimony, below.

12 Q. What is the Applicant's plan regarding removal
13 of wind turbine foundations and electrical
14 collection lines?

15 A. It is stated in the Applicant's Exhibit 29 that
16 "CWE will remove wind turbines, pad-mount
17 transformers, foundations to a depth of 3 feet
18 below grade, and the Project substation."
19 Regarding removal of electrical collection
20 lines, this section of Exhibit 29 notes that
21 "[t]he electrical collection system cables will

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1 be installed such that the main conductors will
2 be 36" or more below grade. Cables near the
3 pad-mount transformers would be cut to a depth
4 of 36" or more, but the cables between the
5 transformers would not be removed as part of
6 decommissioning. Environmental and agricultural
7 impacts are minimized by leaving the cables in
8 place."

9 Q. Does the Panel agree with the Applicant's
10 decommissioning proposal regarding removal of
11 foundations to a depth of 3 feet below grade and
12 leaving buried cables in place?

13 A. The Panel objects to the depth proposed
14 regarding foundation removal in certain areas.
15 Department Staff agrees with CWE's proposal of
16 turbine foundation removal to a depth of 3 feet
17 in non-agricultural land. However, Department
18 Staff recommends that turbine foundations,
19 electrical collection cables, and other Facility
20 components should be removed to a depth of 4
21 feet below grade in agricultural land. It is

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1 also recommended that the Applicant consult with
2 New York State Department of Agriculture and
3 Markets regarding this issue prior to
4 establishing final decommissioning removal
5 requirements and site restoration techniques for
6 all Facility components proposed in agricultural
7 lands.

8 Q. What is the Applicant's proposal regarding
9 removal of Project access roads?

10 A. The Applicant's Exhibit 29 notes that access
11 roads will be left in place for use by the
12 property owners.

13 Q. Does the Panel agree with the Applicant's
14 proposal regarding removal of proposed access
15 roads?

16 A. No. Our recommendation is that the *Final*
17 *Decommissioning Plan* should include the assumption
18 that all Project access roads will be restored to
19 match pre-existing conditions as it is not prudent
20 to assume that all future landowners hosting access
21 roads will desire their continued use after

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1 decommissioning activities are completed.

2 Furthermore, the Panel's recommended per-turbine
3 decommissioning and site restoration estimate
4 (discussed further, below) is intended to account
5 for returning all Project areas to pre-existing
6 conditions, to the maximum extent possible.

7 Q. Did the Applicant provide any cost estimates for
8 access road restorations?

9 A. No. However, Department Staff requested this
10 information through an outstanding Information
11 Request. The Panel will review this estimate
12 and, if Department Staff finds the Applicant's
13 estimates are reasonable, the Panel will
14 recommend that it be applied to the final
15 decommissioning and site restoration estimate to
16 be provided in the *Final Decommissioning Plan*.

17 Q. Did the Applicant provide a cost estimate for
18 the removal of its proposed collection
19 substation?

20 A. No. However, Department Staff has requested
21 this information through an Information Request,

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1 which is outstanding. The Panel will review
2 this response and if the estimate is deemed
3 reasonable, we will recommend that it be applied
4 to the final decommissioning and site
5 restoration estimate to be provided in the *Final*
6 *Decommissioning Plan*.

7 Q. Did the Applicant provide an estimated cost to
8 decommission one wind turbine?

9 A. Yes, according to Table 29-1 of Exhibit 29, the
10 per-turbine decommissioning and site restoration
11 cost is equal to \$109,228. This section also
12 notes that this estimate "[c]onservatively
13 ignores any resale value of the wind turbines."

14 Q. Does the Panel generally agree with the cited
15 per turbine itemized costs associated with
16 removal and site restoration?

17 A. Yes, the Panel generally agrees with and
18 believes the \$109,228 per turbine cost for
19 decommissioning and site restoration is a
20 realistic assessment, when compared to available
21 data for this construction activity, as well as

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1 estimates reviewed in other Article 10 Projects.
2 However, Department Staff recommends that other
3 (averaged) costs associated with removal of the
4 substation and met towers, and restoration of
5 access roads should be rolled into the per-
6 turbine decommissioning estimate. Thus, the
7 per-turbine decommissioning and site restoration
8 cost should be increased to include the
9 additional identified costs associated with
10 removal. This will be further explained below.

11 Q. What is the Applicant's estimated resale value
12 of the wind turbines?

13 A. On page 29-5 of Exhibit 29, the Applicant
14 estimates that "[w]ind turbines have a value of
15 approximately \$900 per kilowatt of generating
16 capacity, e.g., about \$2.25 million for a 2.5 MW
17 wind turbine. After installation, CWE
18 conservatively estimates the turbines would lose
19 50% of their value in year 1 and then 10% every
20 year thereafter." The Applicant approximates
21 that "[t]he estimated resale value of the

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1 turbine exceeds the estimated decommissioning
2 cost for the first 20 years of the Facility
3 operation."

4 Q. Please describe the Applicant's plan to fund
5 decommissioning and site restoration activities.

6 A. According to Exhibit 29, "[i]f CWE does not
7 complete decommissioning of a wind turbine, the
8 host town would have the right to remove and
9 sell the turbines." Also, CWE notes in Exhibit
10 29 that it "[p]roposes posting security in the
11 amount of \$10,000 per wind turbine (the
12 Decommissioning Fund)." The Applicant's
13 proposal includes posting a surety bond or
14 equivalent financial security instrument on or
15 before the date thirty (30) days after the
16 Facility begins commercial operations, and will
17 maintain the security for the life of the
18 Project. It is further noted in Exhibit 29 that
19 most likely, CWE would post and renew the
20 security annually. Terms of the security
21 instrument would include designation of the host

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1 towns as beneficiaries, conditions under which
2 the towns can draw funds, and a provision that
3 the host town can draw 50% of the funds if CWE
4 does not renew the security instrument prior to
5 its expiration date.

6 Q. Does the Panel agree with the above details of
7 the Applicant's proposal regarding funding for
8 decommissioning and site restoration activities?

9 A. No. First, we disagree with the Applicant's
10 assumption that the wind turbines will hold
11 significant resale value over the course of the
12 Project's useful life (CWE estimates the
13 Facility will have a useful life of 30 years
14 after commercial operation). Wind turbine
15 technology is rapidly evolving, leading to
16 taller, more efficient models; therefore, it is
17 unreasonable for the Applicant to assume that
18 these wind turbine models are likely to be
19 repurposed in the future for other wind farm
20 projects, even if those turbines were
21 purchased/sold at a reduced cost. The Panel

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1 also does not believe that a reserve of \$10,000
2 per wind turbine removal is adequate, in that it
3 is less than 10% of the overall estimated cost
4 to decommission one wind turbine and does not
5 provide for any of the related decommissioning
6 costs, e.g. met tower removal and access road
7 restoration. Because an amount less than the
8 overall per-turbine cost (including all
9 decommissioning and site restoration costs
10 associated with the Facility) could leave the
11 host communities with cost overruns, leading to
12 turbines and other Facility components to be
13 left in-place, it is recommended that this
14 reserve should be based on the entire per-
15 turbine decommissioning and site restoration
16 estimate of \$109,228 plus the average removal
17 costs for the proposed substation and met towers
18 and access road restoration costs. Moreover,
19 the Panel believes that no salvage or resale
20 value should be used to offset costs associated
21 with decommissioning and site restoration funds,

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1 as allowing offsets of these costs would
2 increase the potential for financial risk borne
3 on the Towns if the Applicant fails to fulfill
4 its decommissioning obligations. As such we
5 recommend that no salvage or resale value should
6 be included in the final decommissioning
7 estimate as part of the *Final Decommissioning*
8 *Plan*, as outlined in Condition 45 of DPS Staff's
9 Proposed Certificate Conditions included in
10 Exhibit_(SPP-2). The Panel recommends that the
11 final per-turbine decommissioning cost should
12 consist of the dollar amount estimate for
13 removal of one turbine and foundation in
14 addition to other associated costs spread out
15 equally across the Facility; specifically, Staff
16 recommends that a turbine/foundation removal
17 estimate (factoring in removals to 4 feet below
18 grade in agricultural land) be added to the
19 total dollar amount of the overall estimate for
20 access roads removal, overhead collection
21 dismantling, met tower removals, and collection

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1 substation removal divided by the total number
2 of turbines. Therefore, the per-turbine
3 estimate would account for the price of one
4 turbine\foundation removal plus other overall
5 costs spread equally among the total proposed
6 turbines of the Facility. To get the overall
7 decommissioning estimate, this per-turbine cost
8 would then be multiplied by the total number of
9 proposed turbines of the Facility. A more
10 accurate cost estimate will be established by
11 basing this per-turbine decommissioning estimate
12 on the final Facility layout. In proposing this
13 per-turbine cost estimate approach and
14 considering the recent Baron Winds LLC Case 15-
15 F-0122 Recommended Decision (pp. 168-169), we
16 recommend that the Siting Board not establish a
17 dollar figure for decommissioning and site
18 restoration of Canisteo Wind at this time, but
19 rather the Siting Board require Canisteo Wind to
20 file updated costs pursuant to recommended
21 Condition 45 of DPS Staff's Proposed Certificate

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1 Conditions included in Exhibit_(SPP-2).
2 Department Staff recommends that a final overall
3 decommissioning cost (to be included in the
4 *Final Decommissioning Plan*) should be based on a
5 final per-turbine cost multiplied by the final
6 number of proposed wind turbines of the Project,
7 as described above.

8 Q. Above, it is noted that the Panel believes that
9 no salvage or resale value should be used to
10 offset costs associated with decommissioning and
11 site restoration funds. Please explain why the
12 Panel recommends removing any salvage and resale
13 value as part of the Applicant's *Final*
14 *Decommissioning Plan*.

15 A. While some of the Facility components may have
16 scrap value, there is no guarantee that the
17 value will cover the cost of decommissioning at
18 the time of salvage, given the fluctuation in
19 salvage value over the course of time. Thus,
20 there is no way to accurately forecast what the
21 value of the equipment will be at the time of

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1 decommissioning, and whether that value will be
2 enough to cover the costs of removal.

3 Q. Why is that a problem?

4 A. Removing the estimated scrap and resale value
5 from the Applicant's *Final Decommissioning Plan*
6 would ensure financial security in the event
7 that resale of components becomes problematic or
8 scrap prices fluctuate. The towns can be
9 spurred this concern if the Applicant
10 establishes financial assurance in the amount of
11 the final decommissioning estimate to be
12 included in the *Final Decommissioning Plan*, as
13 required in Condition 45 of DPS Staff's Proposed
14 Certificate Conditions included in Exhibit_(SPP-
15 2).

16 Q. Does the Panel agree with CWE's financial
17 assurance proposal of posting a surety bond or
18 equivalent security instrument?

19 A. No. We recommend that financial assurance for
20 decommissioning and site restoration activities
21 be provided in the form of letters of credit

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1 without factoring in re-sale or salvage value.

2 In Department Staff's estimation, the benefit of

3 a letter of credit is the ease and certainty

4 which holders, in this case the towns, can

5 directly recover the funds (required for

6 decommissioning activities) from the bank in

7 future years. A letter of credit is our

8 preferred financial instrument as it ensures

9 that funds will be available should CWE default

10 on its decommissioning and site restoration

11 obligations. Other forms of security could be

12 challenged, causing delays of decommissioning

13 and site restoration activities. As previously

14 discussed, in Exhibit 29, CWE has proposed to

15 post a surety bond or equivalent financial

16 security instrument in the amount of \$10,000 per

17 wind turbine (the "Decommissioning Fund") and

18 has included a provision in which the host town

19 could draw 50% of the funds if CWE does not

20 renew the security instrument prior to its

21 expiration date (it is noted at this section

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1 that "[m]ost likely, CWE would post and renew
2 the security annually"). This places an
3 enormous administrative burden on future Town
4 Boards which may be unfamiliar with the nuances
5 of such surety bonds (or equivalent security
6 instruments) and could allow for lapses in the
7 out years.

8 Q. Why is it important that the Towns be able to
9 quickly draw on a letter of credit versus a bond
10 or other financial security instrument?

11 A. Unmaintained wind turbines could present threats
12 to public safety through the possibility of
13 mechanical or physical failures if
14 decommissioning activities are delayed. Whereas
15 a letter of credit allows access to funds when
16 called upon by the holder, allowing the towns to
17 utilize this capital immediately for
18 decommissioning and site restoration activities.

19 Q. How should the letters of credit be established?

20 A. The Panel recommends that the final overall
21 decommissioning and site restoration estimate

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1 (included as part of the *Final Decommissioning*
2 *Plan* pursuant to Condition 45 of DPS Staff's
3 Proposed Certificate Conditions included in
4 Exhibit_(SPP-2)) should be equal to the total
5 number of proposed turbines multiplied by the
6 per-turbine decommissioning estimate; and the
7 "portion" of the facility located in the
8 respective Towns will be equal to the number of
9 turbines located in each Town multiplied by the
10 final per-turbine decommissioning estimate,
11 which will therefore be the amount of each
12 Town's letter of credit.

13 Q. Has the Siting Board and/or the Commission
14 adopted letters of credit for other major
15 electric generation projects?

16 A. Yes. The Siting Board's conditional approval of
17 the Cassadaga Wind Project (Case 14-F-0490),
18 required that prior to construction, the
19 Certificate Holder obtain letters of credit in
20 the full amount of the decommissioning and site
21 restoration estimate, without the inclusion of

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1 any salvage or resale value.

2 Q. How should the Applicant demonstrate that the
3 letters of credit are acceptable?

4 A. As the Siting Board required in the Cassadaga
5 Certificate, prior to construction, the
6 Applicant (or Certificate Holder) should provide
7 to the Secretary proof of the Towns' acceptance
8 of the letters of credit in the amount of the
9 final decommissioning and site restoration
10 estimate, as noted in Condition 45 of DPS
11 Staff's Proposed Certificate Conditions included
12 in Exhibit_(SPP-2). It is recommended that the
13 letters of credit be held by the Towns of
14 Cameron, Canisteo, Greenwood, Jasper,
15 Troupsburg, and West Union. The letters of
16 credit should remain active for the life of the
17 Project, until it is decommissioned, as adjusted
18 after one year of commercial operation and every
19 fifth year thereafter in consultation with the
20 Towns and Department Staff. The Towns of
21 Cameron, Canisteo, Greenwood, Jasper,

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1 Troupsburg, and West Union shall hold the
2 letters of credit with each letter representing
3 that portion of the respective Town's
4 decommissioning cost. Details of the above
5 recommendations are included in Condition 45 of
6 DPS Staff's Proposed Certificate Conditions
7 included in Exhibit_(SPP-2). If the Towns are
8 not agreeable to holding the letters of credit,
9 and the Siting Board or the Commission holds the
10 letters of credit, the Panel recommends that a
11 Standby Trust be established by the Applicant,
12 as described further below.

13 Q. Why is the Panel recommending that the
14 respective host Towns hold the letters of
15 credit?

16 A. The Towns are the entities that would be most
17 impacted if decommissioning does not occur when
18 it should. The Towns should be empowered to
19 draw on the financial assurance funds if the
20 Certificate Holder defaults regarding
21 decommissioning and site restoration activities.

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1 Q. Can the Panel describe the Applicant's proposed
2 mechanism for triggering of decommissioning?

3 A. According to the Applicant's Exhibit 29,
4 decommissioning would be triggered if a wind
5 turbine is non-operational for a period of 12 or
6 more consecutive months. According to Exhibit
7 29, "[i]f CWE does not demonstrate it has, or is
8 making, good faith efforts to return the wind
9 turbines to service, the town could require CWE
10 decommission the wind turbine."

11 Q. Does the Panel agree with the proposed amount of
12 time that would trigger decommissioning
13 activities?

14 A. Yes.

15 Q. Could there be any exceptions to this amount of
16 time that triggers the commencement of
17 decommissioning?

18 A. Yes, if the Applicant (or Certificate Holder) is
19 expecting delays due to a part manufacturer or
20 complications regarding the repair of a non-
21 operational turbine, the Certificate Holder

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1 shall petition the Secretary for more time if it
2 is expected that certain turbine(s) will not be
3 in operation for more than one year. The
4 petition shall include an explanation of the
5 circumstance and an estimate of the amount of
6 time it will take to repair the turbine(s). For
7 more details, refer to Condition 128 (c) of DPS
8 Staff's Proposed Certificate Conditions included
9 in Exhibit_(SPP-2).

10 Q. It is noted above that if the towns do not agree
11 to hold the letters of credit that the Panel
12 recommends that a Standby Trust should be
13 established by the Applicant. Why does the
14 Panel recommend a Standby Trust?

15 A. In the event that the Towns do not agree to
16 holding the letters of credit, in the absence of
17 establishing a Standby Trust, if the Siting
18 Board or the Commission were to draw on the
19 letters of credit, the money would go into the
20 State Treasury rather than toward
21 decommissioning and site restoration, an event

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1 that would be irrevocable and unusable for
2 removing the components associated with the
3 Project.

4 Q. Does this conclude your testimony?

5 A. Yes.

NEW YORK STATE
PUBLIC SERVICE COMMISSION

2047

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

John Cary, being duly sworn, deposes and says:

1. I, John Cary, am employed as an Engineering Specialist 2 by the New York State Department of Public Service, and I am appearing as a witness in this proceeding on behalf of the New York State Department of Public Service.

2. I, John Cary, previously prepared written testimony labeled, "Prepared Engineering Panel Testimony," which was filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony, no corrections are necessary.

4. I, John Cary, hereby affirm that the testimony identified above is true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I

appeared in person at the hearing scheduled in this case. I
adopt that testimony as my sworn testimony in this proceeding.


John Cary

Sworn to before me this 16 day of August, 2019.


Notary Public

ANDREA C. VERSACI
Notary Public, State of New York
Qualified in Schenectady County
No. 01VE6040809
Commission Expires 05/01/2022

NEW YORK STATE
PUBLIC SERVICE COMMISSION

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 to Construct
a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

David Wheat, being duly sworn, deposes and says:

1. I, David Wheat, am employed as a Principal Economist
by the New York State Department of Public Service, and I am
appearing as a witness in this proceeding on behalf of the New
York State Department of Public Service.

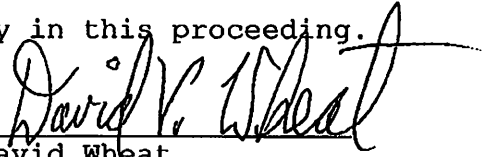
2. I, David Wheat, previously prepared written testimony
labeled, "Prepared Engineering Panel Testimony," which was filed
under this case number with the Secretary of the Public Service
Commission on July 12, 2019.

3. Upon review of my previously filed testimony, no
corrections are necessary.

4. I, David Wheat, hereby affirm that the testimony
identified above is true and correct to the best of my
knowledge, information and belief. I affirm that the written
testimony is the same testimony I would give orally if I

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appeared in person at the hearing scheduled in this case. I
adopt that testimony as my sworn testimony in this proceeding.


David Wheat

Sworn to before me this 16th day of August, 2019.

ERIK BERNSTEIN
Notary Public, State of New York
No. 01BE8377661
Qualified in Onondaga County
Commission Expires July 09, 2022


Notary Public

NEW YORK STATE
PUBLIC SERVICE COMMISSION

2051

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

John Quackenbush, being duly sworn, deposes and says:

1. I, John Quackenbush, am employed as an Engineering Specialist 2 by the New York State Department of Public Service, and I am appearing as a witness in this proceeding on behalf of the New York State Department of Public Service.

2. I, John Quackenbush, previously prepared written testimony labeled, "Prepared Engineering Panel Testimony," which was filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony, no corrections are necessary.

4. I, John Quackenbush, hereby affirm that the testimony identified above is true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I

appeared in person at the hearing scheduled in this case. I
adopt that testimony as my sworn testimony in this proceeding.



John Quackenbush

Sworn to before me this 16 day of August, 2019.



Notary Public

ANDREA C. VERSACI
Notary Public, State of New York
Qualified in Schenectady County
No. 01VE6040809
Commission Expires 05/01/2022

BEFORE THE
STATE OF NEW YORK
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

In the Matter of

Canisteo Wind Energy, LLC

Case 16-F-0205

July 12, 2019

Prepared Engineering Panel
Testimony of:

John Cary
Utility Engineering Specialist 2
Office of Electric Gas & Water

John Quackenbush
Engineering Specialist 2
Office of Electric, Gas and
Water

David Wheat
Principal Economist
Office of Market and Regulatory
Economics

State of New York
Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

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ENGINEERING PANEL

1 Q. Will the first member of the Engineering Panel
2 (Panel) please state your name, employer, and
3 business address?

4 A. My name is John Cary, I am employed by the New
5 York State Department of Public Service
6 (Department), located at Three Empire State
7 Plaza, Albany, New York, 12223-1350.

8 Q. Mr. Cary, what is your position with the
9 Department?

10 A. I am employed as an Engineering Specialist 2 in
11 the Bulk Electric Systems Section within the
12 Office of Electric, Gas and Water.

13 Q. Please provide a summary of your educational and
14 professional experience.

15 A. I graduated from Western New England College
16 with a Bachelor of Science degree in Electrical
17 Engineering in May 1999. I worked for the
18 USFILTER Corporation, as a systems control
19 engineer from May 1999 to April 2000; I worked
20 for the Department of Defense, as an Electrical
21 Engineer in the Precision Munitions Division

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ENGINEERING PANEL

1 from May 2000 to April 2004; and worked for
2 Barbera Homes, as a Project Manager from April
3 2004 to March 2012. I received my Intern
4 Engineering Certificate from the State of New
5 York in December of 2012 and have been employed
6 by the Department since March 2012.

7 Q. Please describe your current duties with the
8 Department.

9 A. My current duties include the review and
10 evaluation of electric utility Capital budgets
11 and Operations and Maintenance (O&M)
12 expenditures in rate case proceedings and the
13 review and evaluation of Public Service Law
14 (PSL) Article VII and Article 10 applications.
15 I am also a member of the Department's General
16 Electric Multi-Area Production Cost Modeling
17 Simulation (GE-MAPS) team where I use GE-MAPS to
18 evaluate generation project impacts within the
19 Scope of PSL Article 10 Proceedings.

20 Q. Have you previously testified before the Public
21 Service Commission (Commission) or the New York

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ENGINEERING PANEL

1 State Board on Electric Generation Siting and
2 the Environment (Siting Board)?

3 A. Yes, I have testified before the Commission in
4 Case 17-E-0459, involving Central Hudson Gas &
5 Electric Corporation's rates and services;
6 Matter 15-00262, involving electric rates and
7 charges submitted by the Long Island Power
8 Authority and Service Provider, PSEG Long Island
9 LLC. I have also testified before the Siting
10 Board in Cases 14-F-0490, 15-F-0122, 16-F-0062,
11 and 16-F-0328 Applications for Certificates of
12 Environmental Compatibility and Public Need
13 under Article 10 of the PSL.

14 Q. Will the next member of the Panel please state
15 your name, employer, and business address?

16 A. My name is John Quackenbush and I am employed by
17 the Department, located at Three Empire State
18 Plaza, Albany, New York, 12223-1350.

19 Q. Mr. Quackenbush what is your position with the
20 Department?

21 A. I am an Engineering Specialist 2 in the

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ENGINEERING PANEL

1 Environmental Certification and Compliance
2 Section of the Office of Electric, Gas and
3 Water.

4 Q. Please summarize your educational background and
5 professional experience.

6 A. I attended Hudson Valley Community College in
7 Troy, New York and received an individual study
8 associate degree, as well as an Associate in
9 Applied Science degree in civil engineering
10 technology. Thereafter, I continued my
11 education at the State University of New York
12 Polytechnic Institute, formerly known as the
13 State University of New York Institute of
14 Technology in Utica, New York and graduated with
15 a Bachelor of Science degree in civil
16 engineering technology. I was employed at CHA
17 Consulting, Inc. (formerly Clough, Harbour, &
18 Associates LLP) as a Design and Drafting
19 Technician from 2000 until November 2006. In
20 February 2007, I joined the Department Staff of
21 Electric Distribution Section in the Office of

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1 Electric, Gas and Water as a Utility Engineer,
2 where I performed utility inspections to assess
3 electric distribution infrastructure conditions,
4 investigated various electric utility customer
5 reliability complaints, and reviewed utility
6 reliability reports. Since October 2009, I have
7 worked as an Engineering Specialist 2 in the
8 Environmental Certification and Compliance
9 section of the Office of Electric, Gas and
10 Water. My duties include reviewing site plans,
11 proposed major electric generating,
12 transmission, and distribution facilities
13 locations and utility routes, construction
14 practices, and environmental control plans for
15 various projects, including review of PSL
16 Article VII and Article 10 applications.

17 Q. Mr. Quackenbush, have you previously testified
18 before the Commission or the Siting Board?

19 A. Yes. I have testified before the Commission and
20 the Siting Board in several cases regarding
21 proposed electric infrastructure upgrades,

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1 electric power transmission routes, the siting
2 of electric generation plants, electric rates,
3 and research and development programs. Some
4 representative cases include the matter of
5 Hudson Transmission Partners, LLC Case 08-T-0034
6 in which I provided analyses of its proposed
7 electric upland route in Manhattan, the
8 constructability of the route, proposal of
9 alternative routes, and construction practices.
10 Additionally, I reviewed routing and
11 constructability issues pertaining to the
12 granting of a Certificate through a Joint
13 Proposal for the Champlain Hudson Power Express,
14 Inc., in Case 10-T-0139. Furthermore, I have
15 testified before the Siting Board regarding the
16 decommissioning plan of the Cassadaga Wind, LLC
17 Article 10 project in Case 14-F-0490. Lastly,
18 although currently pending before the Siting
19 Board or the Commission, I am reviewing and
20 analyzing routing and construction methods for
21 ongoing PSL Article VII and Article 10 projects

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1 regarding major electric, wind and solar
2 generation projects at various pre-application
3 and application stages. My primary role
4 regarding major wind and solar electric
5 generation projects involves review of
6 facilities regarding proposed setback distances,
7 preliminary design drawings, and proposed
8 general construction practices including
9 assembly and foundation work, electric
10 collection lines and related transmission lead
11 installations, access ways, and any associated
12 building facilities. I also review the
13 potential impacts related to transportation due
14 to general construction and delivery activities
15 during wind turbine and solar installations and
16 various site restoration and decommissioning
17 proposals of Article 10 Projects.

18 Q. Will the next member of the Engineering Panel
19 (Panel) please state your name, employer, and
20 business address?

21 A. My name is David Wheat, I am employed by the

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1 Department, located at Three Empire State Plaza,
2 Albany, New York, 12223-1350.

3 Q. Mr. Wheat, what is your position at the
4 Department?

5 A. I am employed as Principal Economist in the
6 Market and Regulatory Economics Section of the
7 Office of Markets and Innovation.

8 Q. Please describe your educational background.

9 A. I received a Bachelor of Science degree in
10 economics and financial management from the
11 State University of New York at Brockport in
12 1978, and a Master of Arts degree in economics
13 from the State University of New York at Albany
14 in 1981. In 1988, I completed the Certificate
15 Program in Regulatory Economics at the State
16 University of New York at Albany.

17 Q. Please summarize your professional experience.

18 A. I have been employed by the Department since May
19 1987. I have provided analyses and testimony on
20 electric issues in Commission proceedings and
21 have participated in analyses relating to the

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1 Regional Greenhouse Gas Initiative, the
2 Renewable Portfolio Standard, the Energy
3 Efficiency Portfolio Standard, and wholesale
4 electricity markets. Before joining the
5 Department, I was employed by the New York State
6 Energy Office as an Energy Policy Analyst from
7 1979 to 1987. My responsibilities there focused
8 on electric system modeling and forecasting and
9 included economic, financial, and environmental
10 analysis.

11 Q. Have you testified previously before the
12 Commission or the Siting Board?

13 A. Yes. Most recently, I have testified before the
14 Siting Board on Applications for a Certificate
15 under Article 10 of the PSL in Case 14-F-0490
16 (Cassadaga Wind Project, May 2017), Case 15-F-
17 0122 (Baron Wind Project, January 2019), and
18 Case 16-F-0559 (Bluestone Wind Project, June
19 2019). I have testified before the Commission
20 concerning Applications for proposed
21 transmission facilities under Article VII of the

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1 PSL in Case 10-T-0139 (Champlain Hudson Power
2 Express, Inc.) and in Case 08-T-0034 (Hudson
3 Transmission Partners, LLC). I have also
4 testified before the Commission in rate cases
5 and other proceedings on issues involving
6 marginal costs, long-run avoided costs, utility
7 incentive fuel adjustment clause mechanisms, and
8 independent power producer contracts. I
9 testified before the Siting Board on an
10 Application for a Certificate under Article X of
11 the PSL (Case 80010, Application by Inter-Power
12 of New York, Inc.) for a Certificate of
13 Environmental Compatibility and Public Need to
14 Construct and Operate a 200 MW Fluidized Bed,
15 Coal-Fired Cogeneration Facility in the Town of
16 Halfmoon, Saratoga County. Additionally, as
17 part of a Staff team assigned to participate as
18 independent consultants to the Staff of the New
19 York State Department of Environmental
20 Conservation (DEC), I testified before the DEC
21 concerning potential wholesale energy market

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1 impacts (air emissions, energy prices) from
2 outage scenarios at the Indian Point nuclear
3 facility (Case DEC #3-5522-00011/00004 et al.).

4 Q. Is the Panel sponsoring any Exhibits?

5 A. No.

6 Q. Please describe the scope of the Panel's
7 testimony.

8 A. We reviewed Canisteo Wind Energy LLC's (the
9 Applicant or CWE) proposed facility (Project or
10 the Facility) and its potential effects on the
11 electric system (Applicant's Exhibit 5),
12 electric system production modeling (Applicant's
13 Exhibit 8), consistency with New York State
14 energy planning (Applicant's Exhibit 10), effect
15 on communications (Applicant's Exhibit 26),
16 electric interconnection (Applicant's Exhibit
17 34), and electric and magnetic fields
18 (Applicant's Exhibit 35). We will discuss our
19 review of each of these topic areas, as well as
20 any issues we have identified and provide
21 Staff's recommendations to the Siting Board.

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1 Q. Please give a brief description of the proposed
2 Facility.

3 A. The CWE Project is a utility scale wind power
4 facility which will be located in the Towns of
5 Cameron, Canisteo, Greenwood, Jasper,
6 Troupsburg, and West Union in Steuben County,
7 New York. The facility will have a maximum
8 generating capability of 290.7 MW and will
9 consist of up to 117 wind turbines located on
10 land leased from owners of private property.
11 The Facility will interconnect to a Point of
12 Interconnection (POI) in the New York State
13 Electric and Gas Corporation's (NYSEG) Bennett
14 substation via a 14.5 mile-long 115 kV generator
15 lead transmission line. The generator lead line
16 will be sited through the Public Service Law
17 Article VII process in Case 19-T-0041. This is
18 the Location Based Marginal Price Central Zone
19 ("Zone C" of the NYISO administered energy
20 markets).

21 Q. Please discuss the Panel's review of the

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1 Project's effects on the electric system.

2 A. We reviewed the Applicant's proposal as outlined
3 in the Application Exhibit 5, as well as the
4 Project System Reliability Impact Study (SRIS),
5 completed as part of the NYISO's Large Facility
6 Interconnection Process.

7 Q. What is the purpose of the SRIS?

8 A. An SRIS study is performed to determine the
9 impact of proposed electric facilities on the
10 reliability of the transmission system based on
11 applicable regional design standards. The
12 Applicant's SRIS evaluated thermal, voltage,
13 stability, short circuit and transfer limit
14 impacts of the proposed electric generation
15 facility on the existing electric system.

16 Q. What were the NYISO's findings on the SRIS?

17 A. The SRIS analysis showed that the Project does
18 not cause any significant adverse impact to New
19 York's bulk electric transmission system.

20 Q. Does the Panel have any concerns with the
21 proposed Project's impact on the electric

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1 system?

2 A. We do not. The NYISO Operating Committee
3 approved the SRIS in September of 2016 and the
4 results presented in the SRIS report indicate
5 that the Project will not adversely impact the
6 reliability of New York's bulk electric
7 transmission system.

8 Q. Please discuss the Panel's review of the
9 Applicant's Electric System Production Modeling
10 for the Project.

11 A. We evaluated the reasonableness of the
12 forecasted economic and environmental impacts
13 from commercial operation of the CWE Facility as
14 proposed by the Applicant, measured relative to
15 a "business as usual" base-case (with the
16 Facility not in-service) for the year 2023.
17 Department Staff focused its review on New York
18 Control Area (NYCA) wholesale energy price
19 impacts, NYCA air emission impacts, and how the
20 Project could affect generation from existing
21 must-run zero emission resources located in the

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1 NYCA, including other renewables, large
2 hydroelectric plants, and nuclear plants. In
3 general, this review was conducted by analyzing
4 the forecast impacts that the Applicant included
5 in its Exhibit 8 - Electric System Production
6 Modeling report and comparing those results to
7 impacts estimated in our own analysis, using GE-
8 MAPS software. This comparison enabled us to
9 determine the reasonableness of the Applicant's
10 impact estimates.

11 Q. Please describe the findings from your review.

12 A. After running our own simulation model and
13 comparing our forecasts to the Applicant's, we
14 found that both our internal analysis, as well
15 as the Applicant's modeling, forecasted a
16 decrease in statewide wholesale energy market
17 prices for the year 2023. This would generally
18 be expected, as the wind resource would displace
19 higher cost dispatchable resources. This
20 results in lowering energy market costs and, in
21 turn, wholesale energy market prices. In

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1 accordance with the Commission's recognition
2 that these are price suppression impacts
3 ordinarily left unconsidered in a societal
4 benefit cost analysis, we consider energy price
5 impacts to assess the reasonableness of
6 simulation modeling. This is described in the
7 Commission's January 2016 "Order Establishing
8 the Benefit Cost Analysis Framework" (Case 14-M-
9 0101, Proceeding on Motion of the Commission in
10 Regard to Reforming the Energy Vision, Order
11 Establishing the Benefit Cost Analysis
12 Framework, (issued January 21, 2016)). We
13 further found that both the Applicant's and our
14 internal modeling showed forecast emission
15 reductions for NO_x, SO₂ and CO₂ with the Project
16 in service, as would also be expected with the
17 addition of a renewable energy facility.
18 Department Staff estimated annual reductions for
19 NO_x, SO₂, and CO₂ emissions of 73 tons, 85 tons,
20 and 143,321 tons, respectively. The Applicant's
21 analysis estimated reductions for NO_x, SO₂, and

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1 CO₂ emissions of 132 tons, 93 tons, and 183,037
2 tons, respectively. The differences between the
3 Applicant and Staff's emission forecasts are
4 reasonable, as there are inherent differences in
5 the Production Modeling software and the
6 respective electric system topology databases
7 used. Finally, with respect to the effect of
8 the Project on annual operation of must-run zero
9 emission resources, both the Applicant's and our
10 own modeling showed that the addition of the
11 proposed Facility would have a de minimis impact
12 on the dispatch of must-run generation in the
13 State.

14 Q. Does the Panel have any concerns with respect to
15 the Electric System Production Modeling?

16 A. No. Overall, we believe that the Electric
17 System Production Modeling provided by the
18 Applicant is reasonable. The findings of our
19 internal analysis are in line with the
20 Applicant's, and we do not have any concerns.
21 We believe the Applicant has adequately met the

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1 requirements for Exhibit 8 of the PSL Article 10
2 regulations.

3 Q. Please describe the Panel's review of the
4 Facility's consistency with energy planning
5 objectives as discussed in Exhibit 10 of the
6 Application?

7 A. The Panel's review for consistency with energy
8 planning objectives and long-range planning
9 objectives included impacts the proposed
10 Facility would have on the electric wholesale
11 energy market, and consistency with the State
12 Energy Plan (SEP), the Clean Energy Standard
13 (CES), the Reforming the Energy Vision (REV)
14 initiative, and the Regional Greenhouse Gas
15 Initiative (RGGI).

16 Q. What is the Panel's position on the proposed
17 Project's consistency with these New York State
18 energy plans, as provided in Exhibit 10?

19 A. The Panel has determined that the proposed wind
20 Facility aligns with the State's energy planning
21 objectives and goals. The Facility will

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1 increase the State's renewable energy generation
2 capacity, which will help advance the objectives
3 of the SEP, CES, the REV initiative, and RGGI.
4 The energy generated by the Facility will work
5 towards achieving the CES and SEP goals of 50
6 percent of electricity consumed in New York
7 being generated by renewable resources by 2030
8 (50x30), reducing statewide greenhouse gas
9 emissions by 40 percent from 1990 levels by
10 2030. It should be noted that as part of the
11 Green New Deal, Governor Cuomo is proposing to
12 increase the CES mandate from 50 percent to 70
13 percent renewable electricity by 2040. The
14 Project would also contribute to the regional
15 marketplace for greenhouse gas emissions
16 reductions through the State's participation in
17 RGGI. The Project would further support REV
18 initiatives by providing several other benefits
19 to the State's energy position such as
20 supporting fuel diversity, regional requirements
21 for energy capacity, reliability and resiliency,

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1 competition, and innovation. We believe the
2 Applicant has provided sufficient evidence to
3 meet the requirements of the PSL Article 10
4 regulations, and that this new wind Facility
5 will serve to aid the State in meeting its
6 energy objectives and is consistent with State
7 energy planning.

8 Q. Please discuss the Panel's review of the
9 proposed Project's effect on communications.

10 A. Our review of Exhibit 26 looked at what impacts
11 the Project may have on existing broadcast
12 communication sources in the areas surrounding
13 the Project. Article 10 regulations require the
14 Applicant to identify all existing communication
15 sources within a two-mile radius of the Project
16 site. Communication sources reviewed included
17 AM/FM radio, television, telephone, microwave
18 transmission, emergency services,
19 municipal/school district services, public
20 utility services, Doppler/weather radar
21 (NEXRAD), air traffic control, armed forces,

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1 GPS, LORAN and amateur radio. With respect to
2 radar and communications systems for Armed
3 Forces, it should be noted that specific
4 analyses of existing broadcast sources and
5 potential impacts will be undertaken by the
6 Federal Aviation Administration (FAA) and the
7 military under the Notice of Proposed
8 Construction process. The Applicant has agreed
9 to provide Determinations from the FAA Notice of
10 Proposed Construction process to be submitted to
11 the Secretary as Information Reports as part of
12 requirements of the Applicant's Attachment A of
13 CWE Certificate Conditions. It is also stated
14 in Exhibit 26 that CWE requested a review by the
15 National Telecommunications and Information
16 Administration (NTIA) to determine the potential
17 for the Facility to interfere with
18 telecommunication facilities operated by the
19 U.S. government. CWE received a letter on
20 September 5, 2018, indicating that no agencies
21 anticipate any interference or impacts from the

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1 proposed Facility. Lastly, if television
2 reception becomes an issue after commencement of
3 Facility operations, CWE has committed to
4 providing solutions through the complaint
5 management procedure; this is memorialized in
6 CWE Certificate Condition 46.

7 Q. Does the Panel have any concerns with the
8 Project's effect on communications?

9 A. No. We believe the Applicant has adequately
10 addressed the requirements of PSL Article 10
11 with respect to the Project's effects on
12 communications. The Applicant should, however,
13 continue to monitor any communications impacts
14 through construction and operation of the
15 Project and seek to address any unexpected
16 adverse impacts that may arise.

17 Q. Please describe the Applicant's proposal for the
18 Project's electric interconnection.

19 A. The proposed electric interconnection will
20 consist of a 115 kV electric generator lead line
21 running from the Facility's collector substation

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1 a distance of 14.5 miles, to POI at NYSEG's
2 Bennett Substation Steuben County. The proposed
3 generator lead line and associated POI
4 substation infrastructure are being reviewed as
5 part of a separate PSL Article VII proceeding,
6 currently before the Commission in Case 19-T-
7 0041. Therefore, a full review of the electric
8 interconnection and its impacts will be
9 conducted in that proceeding. In this case,
10 however, we sought to determine the practicality
11 of the proposal for interconnecting the wind
12 turbines to the electric collection substation
13 via a series of 34.5 kV underground collection
14 circuits, and whether there were any significant
15 effects that might arise relative to the
16 electric collection system (ECS).

17 Q. Does the Panel have any concerns with the
18 proposed Project's ECS?

19 A. We believe that for the purposes of our review
20 of the Project, the Applicant's proposal for the
21 wind turbines and associated electric collection

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1 system is reasonable. As with many other wind
2 Projects that Staff has reviewed, the ECS will
3 be composed of directly buried 34.5 kV cable
4 composed of various sizes and will be fully
5 insulated and include concentric neutral wires
6 as well as an outer protective jacket. Details
7 for the 34.5 kV underground collection lines are
8 shown in the Site Plans, provided as Appendix
9 11a. The underground collection lines will be
10 direct buried except those areas that are
11 directionally bored. The collection system will
12 be designed to National Electric Safety Code
13 (NESC), Association of Edison Illuminating
14 Companies (AEIC) and/or Institute of Electrical
15 and Electronics Engineers (IEEE) standards as
16 appropriate.

17 Q. Please discuss the Panel's review of electric
18 and magnetic fields.

19 A. According to the Applicant, a full assessment of
20 Electric and Magnetic Fields related to the 115
21 kV electric generator lead line (the

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1 transmission line) will be contained in a
2 separate Article VII application (Case 19-T-
3 0041). The Applicant did provide estimated
4 electric and magnetic field strengths in the
5 Right of Way for the transmission line being
6 developed for the Facility. These estimates are
7 comparable to estimates found for similar
8 transmission lines in previous Article 10 Wind
9 Project cases.

10 Q. Is the Panel satisfied with the information
11 provided in Exhibit 35?

12 A. Although the Applicant's initial description of
13 the 34.5 kV underground collection lines appears
14 to be sufficient, Department Staff has asked the
15 Applicant through an Information Request (DPS IR
16 12) to provide a magnetic field study for the
17 34.5 kV underground collection circuit in order
18 to complete Staff's review. This information
19 has been requested and provided by applicants in
20 previous Article 10 Wind Project Applicants in
21 order to assess the magnetic field strengths at

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1 locations where maximum current flow will result
2 from collocated collection lines during peak
3 load conditions.

4 Q. Are there Certificate Conditions the Siting
5 Board should consider in rendering its
6 determination?

7 A. If the Siting Board issues a Certificate, it
8 should at a minimum adopt all of the Certificate
9 Conditions proposed by Staff, provided in
10 Exhibit__(SPP-2), including many provisions for
11 Compliance Filings to be submitted for review
12 and approval pursuant to 16 NYCRR §1002.2 and
13 §1002.3; and Information Reports documenting
14 compliance, submitted pursuant to 16 NYCRR
15 §1002.4.

16 Q. Does this conclude your testimony at this time?

17 A. Yes.

NEW YORK STATE
PUBLIC SERVICE COMMISSION

2080

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

Jeremy Flaum, being duly sworn, deposes and says:

1. I, Jeremy Flaum, am employed as a Utility Analyst in the Office of Electric, Gas, and Water by the New York State Department of Public Service, and I am appearing as a witness in this proceeding on behalf of New York State Department of Public Service.

2. I, Jeremy Flaum, previously prepared written testimony labeled, "Prepared Testimony of Jeremy Flaum" as well as exhibits labeled "Prepared Exhibits of Jeremy Flaum" and numbered JDF-1, which were filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony and exhibits, no corrections to either are necessary.

4. I, Jeremy Flaum, hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I

appeared in person at the hearing scheduled in this case. I
adopt that testimony as my sworn testimony in this proceeding.


Jeremy Flaum

Sworn to before me this 16 day of August, 2019.


Notary Public

ANDREA C. VERSACI
Notary Public, State of New York
Qualified in Schenectady County
No. 01VE6040809
Commission Expires 05/01/2022

BEFORE THE
STATE OF NEW YORK
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

In the Matter of

Canisteo Wind Energy, LLC

Case 16-F-0205

July 12, 2019

Prepared Testimony of:

Jeremy Flaum
Utility Analyst 3
Office of Electric, Gas and
Water

State of New York
Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

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1 Q. Please state your name, employer, and business
2 address.

3 A. My name is Jeremy Flaum. I am employed by the
4 New York State Department of Public Service
5 (Department). My business address is Three
6 Empire State Plaza, Albany, New York 12223.

7 Q. Mr. Flaum, what is your position with the
8 Department?

9 A. I am employed as a Utility Analyst 3 in the
10 Environmental Certification and Compliance
11 Section of the Office of Electric, Gas and
12 Water.

13 Q. Please briefly describe your educational
14 background and professional experience.

15 A. I graduated from the State University of New
16 York College at Cortland in 2003 with a Bachelor
17 of Science degree in Geology. I also received a
18 Master of Science degree in Environmental
19 Management from the University of Maryland,
20 University College, in 2008. I joined the
21 Department in 2009. Prior to joining the

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1 Department, I held Geologist positions at two
2 environmental consulting firms where I performed
3 field investigations, oversight, and data
4 analysis for multiple environmental remediation
5 sites.

6 Q. Please describe your responsibilities with the
7 Department.

8 A. My primary responsibilities include evaluating
9 environmental impacts and construction
10 feasibility issues for electric and gas
11 transmission facilities under Article VII and
12 electric generating facilities under Article 10
13 of the Public Service Law (PSL). Additionally,
14 I have reviewed utility property site
15 contamination investigation and remediation
16 (SIR) matters and provided recommendations for
17 SIR cost recovery in utility rate cases before
18 the Public Service Commission of the State of
19 New York (Commission).

20 Q. Have you provided testimony in previous
21 proceedings before the New York State Board on

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1 Electric Generating Siting and the Environment
2 (Siting Board)?

3 A. Yes, I provided testimony regarding geologic and
4 water resource impacts of proposed major
5 electric generation wind energy facilities in
6 Cases 14-F-0490, 15-F-0122, 16-F-0062, 16-F-
7 0328, and 16-F-0559. I also testified as part
8 of the Staff Policy Panels for each of those
9 cases.

10 Q. Have you provided testimony in any other
11 proceedings as a member of Department Staff?

12 A. Yes, I have testified before the Commission as
13 part of Department Staff's SIR Panels for
14 numerous rate cases, including, most recently:
15 Cases 18-E-0067 and 18-G-0068, Orange and
16 Rockland Utilities, Inc., and Cases 17-E-0459
17 and 17-G-0460, Central Hudson Gas and Electric
18 Corporation (Central Hudson). I have also
19 testified before the Commission regarding the
20 water quality issues and environmental impacts
21 of proposed major electric transmission projects

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1 in Cases 08-T-0034 and 10-T-0139.

2 Q. Please summarize the scope of your testimony.

3 A. I will present findings regarding the impacts of
4 the proposed Canisteo Wind Farm (the Project of
5 Facility) facilities on geologic, surface water
6 and groundwater resources within the Project
7 study area and provide recommendations for
8 minimization and mitigation of impacts to
9 geologic and water resources.

10 Q. Are you sponsoring any exhibits with your
11 testimony?

12 A. Yes, I am sponsoring one exhibit: "Evaluating
13 Karst Risk at Proposed Windpower Projects"
14 (Bangsund and Johnson, 2013) which is included
15 as Exhibit__(JDF-1). This is a journal article
16 describing potential risks of siting wind
17 turbines within karst areas as explained below.

18 Q. Briefly summarize the geologic characteristics
19 of the Facility Site.

20 A. Surficial soils within the Facility Site are
21 described in Exhibit 21 of the Application and

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1 the Preliminary Geotechnical Report included as
2 Appendix 21a of the Application; Figure 21-2 of
3 the Application includes maps of the Facility
4 Site depicting soils types. Generally,
5 surficial soils within the Facility Site consist
6 primarily of glacially deposited silts and
7 sands, with some to trace amounts of clay and
8 gravel observed at certain boring locations.
9 The underlying bedrock is primarily shale and
10 sandstone of Upper Devonian age. The Facility
11 Site is characterized as having a low seismic
12 risk.

13 Q. Is there evidence of karst bedrock features or
14 subsurface solution cavities or sinkholes within
15 the Facility Site.

16 A. According to Exhibit 21 of the Application,
17 karst features were not identified within the
18 Facility Site based on the Applicant's review of
19 publicly available mapping and the results of
20 preliminary geotechnical investigations. The
21 Application does indicate that the Facility Site

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1 has the potential to develop or contain karst
2 features, or pseudokarst features, due to past
3 mining and quarrying activity in the region and
4 the potential presence of soluble evaporite rock
5 within and around the Facility Site. However,
6 publicly available mapping and the boring logs
7 included in the Preliminary Geotechnical Report
8 do not indicate the presence of karst-prone
9 bedrock within the Facility Site.

10 Q. Why is the potential presence of subsurface
11 karst or pseudokarst a relevant consideration
12 for the design and siting of the Facility?

13 A. As described in "Evaluating Karst Risk at
14 Proposed Windpower Projects" (Bangsund and
15 Johnson, 2013), included as Exhibit__(JDF-1),
16 karst can cause a variety of structural and
17 operational problems for wind turbines, and even
18 lead to turbine tilting and collapse. Bangsund
19 and Johnson further note that "subtle
20 differential settlement of even 3 centimeters
21 across a 15-meter-wide wind turbine foundation

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FLAUM

1 can cause the turbine to be out of tolerance,
2 requiring remedial action" (pp. 2-3).

3 Q. Are there other concerns?

4 A. Yes. The potential karst risk to the structural
5 and operational integrity of the proposed
6 Facility is exacerbated by the fact that, as
7 stated in Exhibit 21 of the Application, the
8 Applicant anticipates that blasting may be
9 required at certain locations for excavation of
10 turbine foundations or other Facility
11 components. The intent of blasting is to
12 fracture the subsurface bedrock in order to
13 facilitate the required excavations for Facility
14 construction. However, the presence of karst or
15 pseudokarst would indicate that subsurface
16 fractures and voids already exist. Groundwater
17 flows through these fractured seams and void
18 spaces and creating fractures through blasting
19 may create new pathways for groundwater flow.
20 This alteration of the subsurface flow patterns
21 may result in dissolution and subsequent

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1 subsurface erosion over time, creating a
2 potentially unstable bedrock medium for turbine
3 foundations after construction.

4 Q. Could that result in the collapse of a turbine?

5 A. Potentially. As stated by Bangsund and Johnson,
6 karst conditions could lead to turbine collapse.

7 Q. Has the Applicant indicated what measures would
8 be taken to mitigate risks in locations where
9 karst conditions are observed?

10 A. According to Exhibit 21 of the Application, the
11 Applicant proposes to mitigate karst-related
12 impacts by bypassing existing voids using a deep
13 foundation system or by grouting the voids. The
14 Application further indicates that blasting
15 would be performed in such a way that
16 disturbance of karst features is minimized and
17 future performance of an overlying foundation
18 would not be adversely affected.

19 Q. Are the Applicant's proposed karst-risk
20 mitigation measures adequate?

21 A. Considering that no karst features have been

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1 observed, and the risk of karst is low, the
2 Applicant's general description of mitigation
3 measures is appropriate at this stage.

4 Q. Do you recommend additional karst-risk
5 minimization or mitigation measures?

6 A. Prior to construction, additional geotechnical
7 investigations should be performed at each
8 turbine location. If karst or pseudokarst
9 features are observed at any turbine location,
10 alternative turbine locations should be used,
11 where feasible. If no alternative location is
12 feasible, the Applicant should provide detailed
13 foundation designs demonstrating how foundations
14 are designed to spread turbine loads away from
15 subsurface karst. Further, the Applicant should
16 refrain from blasting in locations where
17 geotechnical investigations confirm the presence
18 of karst or pseudokarst features. If blasting
19 in these locations cannot be avoided, the
20 Applicant should provide specific limits and
21 procedures for blasting in these locations with

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1 verification from a qualified geotechnical
2 engineer prior to construction. This
3 recommendation is consistent with the
4 requirements of Condition 56 of the Applicant's
5 Revised Proposed Certificate Conditions.

6 Q. Are there any constraints to siting and
7 construction of Project facilities associated
8 with the existing soils and bedrock?

9 A. As indicated in the Applicant's Preliminary
10 Geotechnical Report, soils and bedrock in the
11 Facility Site are generally characterized as
12 structurally suitable for support of turbine
13 foundations, access roads, and other Project
14 facilities. However, where subsurface soils are
15 characterized as moderately to highly corrosive
16 to steel and concrete, protective coatings
17 should be applied to steel supports and
18 structures to minimize risks of corrosion, and
19 additives should be included in concrete
20 mixtures to prevent dissolution and degradation
21 of concrete foundations from effects of acidic

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1 soils. These mitigation measures should be
2 included in the final foundation designs, as
3 needed, based on the results of the final
4 geotechnical investigations. In addition,
5 turbine foundations should be constructed
6 greater than four feet below the ground surface
7 to minimize the risk of displacement,
8 instability, and degradation from frost action.
9 Underground collection lines should be located
10 at depths below the frost zone. Where existing
11 soils are highly susceptible to frost action,
12 underground collection lines should be
13 constructed on a compacted layer of well-drained
14 structural fill material. Based on the
15 information provided in Exhibit 21 of the
16 Application and the Preliminary Geotechnical
17 Report, soils within the Facility Site are
18 generally expected to have low shrink/swell
19 potential which will not necessitate mitigation
20 measures.

21 Q. Should additional geotechnical investigations be

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1 performed prior to final design and construction
2 of the Facility?

3 A. Yes. The Applicant should perform pre-
4 construction detailed final geotechnical
5 investigations for each of the final turbine
6 locations, particularly where final turbine
7 locations differ by more than 100 feet from the
8 locations of soil borings advanced during the
9 preliminary geotechnical investigations or where
10 additional geotechnical investigations are
11 required for final foundation design, in order
12 to ensure that ensure that soil and shallow
13 bedrock conditions are fully characterized and
14 appropriate mitigation measures can be developed
15 for each foundation. These recommendations are
16 consistent with the closing comments and
17 recommendations presented in the Applicant's
18 Preliminary Geotechnical Report.

19 Q. Do you have any other recommendations for the
20 scope of final geotechnical investigations?

21 A. Yes. The investigations should also confirm

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1 specific locations where blasting operations
2 will be required in areas of shallow bedrock.

3 Q. Do you have any other construction-related
4 concerns or recommendations associated with the
5 existing geologic conditions of the Facility
6 Site?

7 A. Yes. The Project layout, as proposed in the
8 Application Update dated May 24, 2019
9 (Application Update), includes several locations
10 where buried electric collection lines and
11 access roads will be installed along or across
12 steep slopes. This is cause for concern and can
13 potentially result in severe erosion during
14 construction and subsurface erosion after
15 backfilling. The New York State Standards and
16 Specifications for Erosion and Sediment Control
17 (the "Blue Book", New York State Department of
18 Environmental Conservation, 2016) includes some
19 standard provisions for utility line work, but
20 it does not address open trenches during
21 construction, and interception of subsurface

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1 drainage following backfilling of linear
2 facilities on steep terrain. However, Staff has
3 developed appropriate stormwater and erosion
4 control measures including "trench breakers" and
5 for this type of situation. These measures have
6 been effectively applied to pipeline and other
7 utility line construction and minimize erosion
8 risks.

9 Q. Please describe your recommendations.

10 A. As part of its pre-construction compliance
11 filings, the Applicant should provide details of
12 its proposed erosion controls where electric
13 collection lines will be installed by trenching
14 (rather than via horizontal directional
15 drilling, direct embedment or "plowing-in" where
16 open trenches are not created for installation)
17 along and across steep slopes. These details
18 should specify measures to address temporary
19 erosion, including stormwater events with an
20 open trench, and permanent erosion risks,
21 including "piping" erosion after backfilling of

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1 the trench for the life of the Project. Related
2 subsurface drainage to relieve hydraulic
3 pressure behind trench plugs or breakers for the
4 life of the Project should also be considered
5 and detailed by the Applicant in its pre-
6 construction compliance filings.

7 Q. Has Staff provided any recommendations for
8 measures that should be considered and
9 addressed?

10 A. Yes. Staff's recommended erosion control
11 measures for trenching along steep slopes are
12 included in Section B.2 of the Site Engineering
13 and Environmental Plans (SEEP) Specifications
14 included as Exhibit__(SPP-2) of the Staff Policy
15 Panel testimony. It should be noted that this
16 is not an exhaustive or exclusive list of
17 appropriate measures, but ones that should be
18 considered and addressed during final design.

19 Q. Are there any drinking water resources in close
20 proximity to the Facility Site?

21 A. Yes. There are several existing public and

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1 private water supply wells located within 500
2 feet of the Facility Site.

3 Q. Could construction and operation of the Project
4 have a negative impact on these water supplies?

5 A. Construction activities may have temporary
6 negative impacts on well water quality,
7 particularly if appropriate setback distances
8 are not implemented for ground intrusive
9 activities and blasting.

10 Q. Are appropriate setbacks and other measures for
11 protecting water well quality included in the
12 Applicant's Revised Proposed Certificate
13 Conditions?

14 A. Yes. Condition 42 of the Applicant's Revised
15 Proposed Certificate Conditions filed on July
16 10, 2019, establishes turbine setbacks that are
17 consistent with the requirements of the New York
18 State Department of Health (NYSDOH) requirements
19 for minimum separation distances to protect
20 water wells from contamination included in Table
21 1 of 10 NYCRR Part 5, Subpart 5-1 Standards for

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- 1 Water Wells - Appendix 5B. Further, the
2 condition would prohibit blasting within 500
3 feet of any known, existing and active water
4 supply well or water supply intake on a non-
5 participating parcel. The condition also
6 requires, and establishes protocols for, pre-
7 and post-construction water potability testing
8 for potentially affected wells. The condition
9 would require the Applicant to cause a new well
10 to be constructed in consultation with the
11 property owner if pre- and post-construction
12 water quality tests demonstrate that
13 construction activities cause post-construction
14 tests to fail to meet applicable water quality
15 standards.
- 16 Q. Are existing oil and gas wells present within or
17 in the vicinity of the Facility Site?
- 18 A. Yes, Figure 4-8 of the Application shows the
19 mapped locations of existing oil and gas wells
20 within and around the Facility Site.
- 21 Q. Do the Applicant's Revised Proposed Certificate

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1 Conditions provide adequate controls for the
2 protection of existing oils and gas wells and
3 associated facilities?

4 A. Yes, Conditions 131-137 of the Applicant's
5 Revised Proposed Certificate Conditions
6 establishes reasonable controls for minimizing
7 and monitoring impacts to existing oil and gas
8 wells during construction and operation of the
9 Facility. These conditions establish protocols
10 for responding to the discovery of existing or
11 abandoned wells, establish adequate setbacks
12 from oil and gas wells for siting of Facility
13 components, and apply appropriate blasting
14 restrictions with respect to nearby oil and gas
15 infrastructure. Further, Condition 136 of the
16 Applicant's Revised Proposed Certificate
17 Conditions establishes protocols for handling
18 and disposal of petroleum-impacted materials
19 during construction. These protocols are
20 appropriate and consistent with federal and
21 State regulations, including applicable

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1 requirements of 6 NYCRR Part 360.

2 Q. Do you recommend that the Applicant coordinate
3 with or otherwise notify water supply well and
4 oil and gas well owners/operators?

5 A. Yes. During the final design phase of the
6 Project, the Certificate Holder should contact
7 all well owners/operators within the Facility
8 Site in order to survey the exact locations of
9 the wells. The actual locations of water supply
10 wells and oil and gas wells should be shown on
11 maps included in the final Facility design and
12 construction plans where such locations can be
13 verified in the field.

14 Q. Does this conclude your testimony?

15 A. Yes, it does.

NEW YORK STATE
PUBLIC SERVICE COMMISSION

2102

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

Andrew Davis, being duly sworn, deposes and says:

1. I, Andrew Davis, am employed as a Utility Supervisor by the New York State Department of Public Service, and I am appearing as a witness in this proceeding on behalf of the New York State Department of Public Service.

2. I, Andrew Davis, previously prepared written testimony labeled, "Prepared Testimony of Staff Policy Panel" as well as associated exhibits labeled "Prepared Exhibits of Staff Policy Panel" and numbered SPP-1, SPP-2, and SPP-3, which were filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony and exhibits, no corrections to either are necessary.

4. I, Andrew Davis, hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I

appeared in person at the hearing scheduled in this case. I adopt that testimony as my sworn testimony in this proceeding.



Andrew Davis

Sworn to before me this 15 day of August, 2019.

ALYCE M. GILBERT
Notary Public, State of New York
Reg. No. 02G16124552
Qualified in ALBANY County
My Commission Expires 3/28, 2021


Notary Public

NEW YORK STATE
PUBLIC SERVICE COMMISSION

2104

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

Jeremy Flaum, being duly sworn, deposes and says:

1. I, Jeremy Flaum, am employed as a Utility Analyst 3 by the New York State Department of Public Service, and I am appearing as a witness in this proceeding on behalf of the New York State Department of Public Service.

2. I, Jeremy Flaum, previously prepared written testimony labeled, "Prepared Testimony of Staff Policy Panel" as well as associated exhibits labeled "Prepared Exhibits of Staff Policy Panel" and numbered SPP-1, SPP-2, and SPP-3, which were filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony and exhibits, no corrections to either are necessary.

4. I, Jeremy Flaum, hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I

appeared in person at the hearing scheduled in this case. I
adopt that testimony as my sworn testimony in this proceeding.


Jeremy Flaum

Sworn to before me this 16 day of August, 2019.


Notary Public

ANDREA C. VERSACI
Notary Public, State of New York
Qualified in Schenectady County
No. 01VE6040809
Commission Expires 05/01/2022

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

Erin O'Dell-Keller, being duly sworn, deposes and says:

1. I, Erin O'Dell-Keller, am employed as Chief of the Outreach and Education and Call Center Sections within the Office of Consumer Services by the New York State Department of Public Service, and I am appearing as a witness in this proceeding on behalf of the New York State Department of Public Service.

2. I, Erin O'Dell-Keller, previously prepared written testimony labeled, "Prepared Testimony of Staff Policy Panel" as well as associated exhibits labeled "Prepared Exhibits of Staff Policy Panel" and numbered SPP-1, SPP-2, and SPP-3, which were filed under this case number with the Secretary of the Public Service Commission on July 12, 2019.

3. Upon review of my previously filed testimony and exhibits, no corrections to either are necessary.

4. I, Erin O'Dell-Keller, hereby affirm that the testimony and exhibits identified above are true and correct to

the best of my knowledge, information and belief. I affirm that the written testimony is the same testimony I would give orally if I appeared in person at the hearing scheduled in this case. I adopt that testimony as my sworn testimony in this proceeding.


Erin O'Dell-Keller

Sworn to before me this 16 day of August, 2019.


Notary Public

ANDREA C. VERSACI
Notary Public, State of New York
Qualified in Schenectady County
No. 01VE6040809
Commission Expires 05/01/2022

BEFORE THE
STATE OF NEW YORK
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

In the Matter of

Canisteo Wind Energy, LLC

Case 16-F-0205

July 12, 2019

Prepared Testimony of:

Staff Policy Panel

Andrew Davis
Utility Supervisor
Office of Electric, Gas, and
Water

Jeremy Flaum
Utility Analyst 3
Office of Electric, Gas, and
Water

Erin O'Dell-Keller
Chief
Call Center & Outreach and
Education
Office of Consumer Services

State of New York
Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

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1 Q. Please state the names, employer, and business
2 address of the Staff Policy Panel (the SPP or
3 Panel).

4 A. Our names are Andrew Davis, Jeremy Flaum, and
5 Erin O'Dell-Keller. We are employed by the New
6 York State Department of Public Service
7 (Department or Staff). Our business address is
8 Three Empire State Plaza, Albany, New York
9 12223.

10 Q. Have the members of the SPP provided pre-filed
11 direct testimonies and exhibits in this
12 proceeding and are your credentials provided in
13 those respective testimonies?

14 A. Yes.

15 Q. Is the Panel sponsoring any exhibits to
16 accompany or support your testimony?

17 A. Yes, we are sponsoring three exhibits.
18 Exhibit__(SPP-1) is the Energy to Lead, 2015 New
19 York State Energy Plan. Exhibit__(SPP-2) is
20 Staff's proposed redline changes to the
21 Applicant's Revised Proposed Certificate

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STAFF POLICY PANEL

1 Conditions (Staff's Proposed Certificate
2 Conditions) for a Certificate for the Canisteo
3 Wind Energy Project (the Project or Facility),
4 which reflects Staff's proposed changes to the
5 Applicant's Revised Proposed Certificate
6 Conditions, and additional recommended
7 Certificate Conditions proposed by DPS Staff.
8 Exhibit__(SPP-3) is DPS Staff's Site Engineering
9 and Environmental Plan (SEEP) Specifications,
10 which provides guidance on details and
11 specifications that should be considered and
12 included, where appropriate, in the plans and
13 packages included in Attachment A of Staff's
14 Proposed Certificate Conditions.

15 Q. Please summarize the scope of the Panel's
16 testimony.

17 A. We are presenting Department Staff's overall
18 recommendations on whether the Siting Board can
19 make the required findings pursuant to Article
20 10 of the Public Service Law (PSL) under Section
21 168 necessary to grant a Certificate of

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1 Environmental Compatibility and Public Need
2 (Certificate) to construct and operate the
3 Facility. We are also providing Staff's
4 specific recommendations for Certificate
5 Conditions that should be adopted by the Siting
6 Board if a Certificate is issued. These
7 conditions represent the minimum that Staff
8 believes would be required in order to minimize
9 or avoid adverse impacts from the Project to the
10 maximum extent practicable.

11 Q. What findings does PSL §168 require prior to the
12 Siting Board granting a Certificate?

13 A. The Siting Board shall not grant a Certificate,
14 either as proposed or modified, without making
15 explicit findings on the nature of the probable
16 environmental impacts of the construction and
17 operation of a major electric generation
18 facility, including the cumulative environmental
19 impacts of the facility and the related
20 interconnection facilities, impacts to ecology,
21 air, ground and surface water, wildlife, and

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1 habitat; impacts to public health and safety;
2 impacts to cultural, historic, and recreational
3 resources, including aesthetics and scenic
4 values; and impacts to transportation,
5 communication, utilities and other
6 infrastructure (the probable environmental
7 impacts). Moreover, the Siting Board may not
8 grant a Certificate for the construction and
9 operation of a major electric generating
10 facility, either as proposed or modified, unless
11 the Siting Board determines that the facility is
12 a beneficial addition or substitution for
13 electric generation capacity of the State; the
14 construction and operation of the facility will
15 serve the public interest; and the adverse
16 environmental effects of the construction and
17 operation of the facility will be minimized or
18 avoided to the maximum extent practicable. If
19 the Siting Board finds that the facility results
20 in or contributes to a significant and adverse
21 disproportionate environmental impact in the

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1 community in which the facility would be
2 located, it must also find that the Applicant
3 has avoided, offset or minimized the impacts
4 caused by the facility upon the local community
5 for the duration that the Certificate is issued
6 to the maximum extent practicable using
7 verifiable measures. The Siting Board must also
8 find that the facility is designed to operate in
9 compliance with applicable state and local laws
10 and regulations, all of which shall be binding
11 on the Applicant, except that the Siting Board
12 may elect not to apply, in whole or in part, any
13 local ordinance, law, resolution or other action
14 or any regulation issued thereunder, or any
15 local standard or requirement which would be
16 otherwise applicable, if it finds that, as
17 applied to the proposed facility, such is
18 unreasonably burdensome in view of the existing
19 technology or the needs of or costs to
20 ratepayers whether located inside or outside of
21 such municipality. Finally, in making its

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1 determinations, the Siting Board shall consider
2 the state of available technology; the nature
3 and economics of reasonable alternatives; the
4 environmental impacts found; the impact of
5 construction and operation of related
6 interconnection facilities; the consistency of
7 the construction and operation of the facility
8 with the energy policies and long-range
9 objectives contained in the most recent state
10 energy plan; the impact on community character;
11 whether the facility would affect communities
12 that are disproportionately impacted by
13 cumulative levels of pollutants; and such
14 additional social, economic, visual or other
15 aesthetic, environmental and other
16 considerations deemed pertinent.

17 Q. Please describe Staff's review of the
18 Application and subsequent filings in this case.

19 A. In order to develop our positions, Staff
20 reviewed the Application, supplements to the
21 Application including the Application Update

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1 dated May 24, 2019, discovery responses filed by
2 the Applicant, and the Applicant's Revised
3 Proposed Certificate Conditions dated July 10,
4 2019, including Attachment A - Description of
5 Additional Required Filings.

6 Q. Does the Panel advise that the Application, as
7 amended, and including all related supplemental
8 filings, pre-filed direct testimonies and
9 exhibits, and Staff's Proposed Certificate
10 Conditions, provide sufficient detail on the
11 nature of the probable environmental impacts of
12 the construction and operation of the Facility,
13 for the Siting Board to render a determination?

14 A. The Application, as presented by the Applicant,
15 did not provide sufficient detail on the nature
16 of the probable environmental impacts of the
17 construction and operation of the Facility, or
18 mitigation measures to address adverse impacts.
19 However, the Application, supplements, and
20 discovery responses, combined with the pre-filed
21 direct testimonies and exhibits and

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1 recommendations of Staff and involved state
2 agencies, provide sufficient detail on the
3 nature of the probable environmental impacts of
4 the Project, and Staff's Proposed Certificate
5 Conditions impose reasonable controls that, if
6 adopted and enforced, would enable the Siting
7 Board to make the required findings that
8 environmental impacts are minimized to the
9 maximum extent practicable.

10 Q. Does the Panel recommend that the Siting Board
11 make a finding that the Project provides a
12 beneficial addition or substitution for electric
13 generation capacity of the State?

14 A. Yes. Staff recommends that the Siting Board
15 find that the Project will result in a
16 beneficial addition of electric generation
17 capacity in the State.

18 Q. Does Staff recommend that the Siting Board make
19 a finding that construction and operation of the
20 Facility would serve the public interest?

21 A. Yes, but only if the Siting Board imposes the

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1 modifications and conditions presented in
2 Staff's Proposed Certificate Conditions, and
3 additional modifications that are proposed by
4 Staff to minimize the environmental and other
5 adverse impacts of the Project and to enable the
6 other required findings as recommended by Staff.

7 Q. Please elaborate on these proposals.

8 A. The Applicant's estimates of electric energy
9 market impacts, as provided in Exhibit 8 of its
10 Application, are consistent with Staff estimates
11 as described in the Engineering Panel's pre-
12 filed direct testimony. An illustration of
13 wholesale energy market benefits is provided by
14 environmental emission impacts in the form of
15 reductions of carbon dioxide (CO₂), nitrogen
16 oxide (NO_x), and sulfur dioxide (SO₂), as shown
17 in Table 8-2 of the "Canisteo Wind Energy Center
18 Electric System Production Modeling Report"
19 included in Exhibit 8 of the Application. If
20 the Siting Board imposes the modifications and
21 compliance requirements proposed by Staff, and

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1 conditions presented in Staff's Proposed
2 Certificate Conditions, the Project could comply
3 with the host Towns' land use restrictions and
4 plans and could provide additional income for
5 local property owners, additional real property
6 tax revenues for the local taxing jurisdictions,
7 short-term construction jobs, and some long-term
8 operation and maintenance jobs. As discussed
9 further below, the Project would also contribute
10 towards the goals of the Regional Greenhouse Gas
11 Initiative (RGGI).

12 Q. Does Staff recommend that the Siting Board make
13 a finding that the adverse environmental effects
14 of the Facility's construction and operation are
15 minimized or avoided to the maximum extent
16 practicable?

17 A. Yes, but only if the Siting Board imposes
18 Staff's Proposed Certificate Conditions,
19 compliance requirements, and modifications to
20 Facility design that are recommended in Staff's
21 testimonies, as necessary to minimize the

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1 environmental and other adverse impacts of the
2 Facility, and to enable the other required
3 findings as recommended by Staff. As currently
4 proposed by the Applicant, we do not believe
5 that the Project minimizes or avoids, to the
6 maximum extent practicable, adverse
7 environmental impacts. However, with Staff's
8 Proposed Certificate Conditions, compliance
9 requirements and modifications to Facility
10 design, which among other things, propose
11 measures to avoid, minimize or mitigate visual
12 impacts, impacts to wildlife, geology and water
13 resources; impacts to land uses including
14 agricultural lands; impacts to recreational,
15 cultural and historic resources; noise and
16 shadow-flicker impacts, and cumulative impacts
17 to the environment, we believe the Siting Board
18 could make the required findings. Staff's
19 Proposed Certificate Conditions also include
20 specific requirements for the filing, review and
21 approval of final construction plans; traffic

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1 control plans; grading details; access road
2 designs; and environmental monitoring which will
3 ensure that the Facility is constructed in a
4 safe and responsible manner.

5 Q. Does Staff recommend that the Siting Board make
6 a finding that the Applicant has avoided, offset
7 or minimized the impacts caused by the Project
8 upon the local community to the maximum extent
9 practicable using verifiable measures?

10 A. Yes, but only if the Siting Board imposes
11 Staff's Proposed Certificate Conditions,
12 compliance requirements, and modifications to
13 Facility design that are recommended in Staff's
14 testimonies, as necessary to minimize the
15 environmental and other adverse impacts of the
16 Facility, and to enable the other required
17 findings as recommended by Staff. As currently
18 proposed by the Applicant, we do not believe the
19 proposed Facility avoids, offsets or minimizes
20 impacts upon the local community to the maximum
21 extent practicable using verifiable measures.

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1 However, with Staff's Proposed Certificate
2 Conditions, which include the recommendations
3 and Certificate Conditions proposed by Staff on
4 decommissioning, compliance requirements, and
5 modifications to Facility design discussed in
6 detail in the pre-filed direct testimonies and
7 exhibits of Staff, we believe the Siting Board
8 could make the required findings.

9 Q. Does Staff recommend that the Siting Board make
10 a finding that the Facility is designed to
11 operate in compliance with applicable State laws
12 and regulations?

13 A. As proposed, and if the Siting Board imposes
14 Staff's Proposed Certificate Conditions,
15 compliance requirements, and modifications to
16 Facility design that are recommended in Staff's
17 testimonies, the Facility would comply with
18 applicable State laws and regulations. In
19 addition, the following must be demonstrated in
20 final Facility design and construction plans and
21 compliance filings for the protection of

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1 archeological resources; conformance with water
2 quality standards and permitting standards for
3 State-protected water bodies and State-regulated
4 wetlands; an approved Stormwater Pollution
5 Prevention Plan to demonstrate conformance with
6 State Pollution Discharge Elimination Standards;
7 and compliance with provisions addressing
8 incidental take of a threatened species at 6
9 NYCRR Part 182 and development of a Net
10 Conservation Benefit Plan.

11 Q. Does Staff recommend that the Siting Board make
12 a finding that the Project is designed to
13 operate in compliance with applicable local laws
14 and regulations?

15 A. The Application, as supplemented in the
16 Application Update dated May 24, 2019, addresses
17 the required showings of Exhibit 31. However,
18 as discussed in the testimony of Andrew Davis,
19 the Application Update appears to provide
20 conflicting information regarding whether the
21 Project is designed to comply with all

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1 substantive local laws and regulations.

2 Q. Does Staff recommend that the Siting Board elect
3 not to apply any provisions of any local laws?

4 A. No. The Applicant has not at this time made a
5 request that any provisions of local law be
6 waived by the Siting Board so there is no reason
7 to consider any waivers. However, as stated in
8 the testimony of Andrew Davis, Exhibit 6 of the
9 Application Update provides conflicting
10 information regarding whether the Applicant may
11 request the Siting Board not apply certain local
12 setback requirements at a future date. In the
13 event that the Applicant requests any such
14 waivers through the course of this proceedings,
15 they will need to be evaluated.

16 Q. Does Staff recommend that the Siting Board make
17 a finding that the Facility provides consistency
18 with energy policies and long-range objectives
19 contained in the most recent state energy plan?

20 A. Yes, the Facility would provide benefits
21 consistent with the State's policies regarding

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1 energy generation and more specifically,
2 renewable energy generation. It would also help
3 the State meet its regional greenhouse gas
4 emissions goals.

5 Q. What is New York's current policy on renewable
6 energy?

7 A. On page 112 of The Energy to Lead, 2015 New York
8 State Energy Plan (State Energy Plan), a goal is
9 stated that 50% of the electricity consumed in
10 the State should be generated by renewable
11 sources by 2030 (50% by 2030). The State Energy
12 Plan is included as Exhibit__(SPP-1).

13 Q. Are there any State specific policies, plans or
14 programs currently enacted to effectuate this
15 goal of 50% consumption from renewable energy by
16 2030?

17 A. Yes, in Case 15-E-0302, Proceeding on Motion of
18 the Commission to Implement a Large-Scale
19 Renewable Program and a Clean Energy Standard,
20 Order Adopting a Clean Energy Standard (issued
21 August 1, 2016), the Commission establishes a

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1 Clean Energy Standard (CES) designed to
2 encourage consumer-initiated clean energy
3 investments; supports new renewable generation
4 resources through regular solicitation of
5 renewable energy credits (RECs) and obligates
6 load serving entities to provide retail
7 customers with increasing amounts of electricity
8 from new renewable generation sources; supports
9 the maintenance of certain at-risk facilities;
10 maximizes the value of potential new offshore
11 wind resources; and supports the preservation of
12 existing at-risk nuclear zero-emissions
13 attributes to serve retail customers.

14 Q. Does the Project, as proposed by the Applicant,
15 contribute to the goals as effectuated through
16 the Renewable Energy Standard?

17 A. Yes. As proposed, the energy for this Project
18 will be generated within the State of New York.
19 The Project's renewable attributes will likely
20 be sold to New York's load serving entities and
21 energy from the Project will be delivered for

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1 consumption by New York customers.

2 Q. Is New York a member of any regional cap and
3 trade system aimed at reducing greenhouse gas
4 emissions?

5 A. Yes, New York is a member of RGGI which is a
6 regional marketplace that limits CO₂ emissions
7 through a cap and trade program.

8 Q. Does the Project help the State of New York
9 contribute to a regional marketplace for
10 greenhouse gas emissions reductions?

11 A. Yes, the direct benefits of CO₂ emissions
12 reductions are realized through the broader
13 regional marketplace that New York participates
14 in through RGGI.

15 Q. Based on the Application, do there appear to be
16 socioeconomic benefits associated with the
17 proposed Project?

18 A. Yes, but according to the pre-filed direct
19 testimony of Ms. Edmundson, there is a great
20 deal of uncertainty associated with the
21 Applicant's secondary jobs estimates, especially

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1 given that these estimates do not reflect any
2 offsetting negative impacts. Thus, Ms.
3 Edmundson testifies that only the Applicant's
4 direct jobs estimates should be considered as
5 benefits.

6 Q. Please summarize Staff's positions on the
7 Applicant's Revised Proposed Certificate
8 Conditions, including Attachment A?

9 A. The Applicant's Revised Proposed Certificate
10 Conditions, including Attachment A, as filed on
11 July 10, 2019, reflect resolution of numerous
12 issues through settlement discussions amongst
13 the parties. Accordingly, Staff used the
14 Applicant's Revised Proposed Certificate
15 Conditions as a base document for proposing its
16 own Certificate Conditions, and the redline
17 markups reflect alternative language and
18 additional conditions proposed by Staff. Where
19 Staff agrees with the conditions proposed by the
20 Applicant, no changes are shown.

21 Q. Please explain why Staff agreed to certain, but

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1 not all of the conditions in the Applicant's
2 Proposed Certificate Conditions?

3 A. Staff agreed to those conditions where it did
4 not object to the language proposed by the
5 Applicant or where Staff's concerns were
6 satisfactorily resolved during settlement.
7 However, the Applicant's Revised Proposed
8 Certificate Conditions do not adequately
9 establish compliance requirements and protocols
10 for construction and operation of the Facility
11 to minimize the environmental and other adverse
12 impacts to the maximum extent practicable.
13 Where Staff did not agree on certain conditions
14 in the Applicant's Revised Proposed Certificate
15 Conditions, we have provided testimony
16 establishing our positions.

17 Q. Does Staff agree to Attachment A of the
18 Applicant's Revised Proposed Certificate
19 Conditions?

20 A. Generally, yes. Substantively, Attachment A is
21 organized to establish practical sets of

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1 compliance filings and information reports, in
2 the form of packages, which collectively would
3 provide information needed prior to
4 construction. The packages would also allow for
5 a phased approach to submitting compliance
6 filings and information reports in order to
7 allow flexibility for the Certificate Holder
8 during construction.

9 Q. Please explain the proposed SEEP Specifications
10 included as Exhibit__(SPP-3)?

11 A. Staff's Proposed SEEP Specifications are a set
12 of guidelines for final engineering,
13 construction, and environmental plans and
14 details that should be required as compliance
15 filings for Siting Board review and approval
16 prior to construction and operation of the
17 Facility. The SEEP Specifications have been
18 proposed by Staff in other cases to establish a
19 single filing, in the form of a SEEP, that would
20 satisfy the requirements of numerous individual
21 compliance filings needed for construction, and

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1 to create a single package of plans and details
2 for contractors and regulatory agencies.
3 Alternatively, the SEEP could be phased at the
4 Applicant's option, as per 16 NYCRR 1000.2(i).
5 The combined phased filings would ultimately
6 address compliance and information reporting
7 requirements of the Certificate. In this case,
8 Staff acknowledges the Applicant's preference to
9 submit final plans and other compliance filings
10 in the forms of the packages indicated in
11 Attachment A of the Applicant's Revised Proposed
12 Certificate Conditions. However, the manner in
13 which compliance filings are grouped does not
14 alter what information should be included.
15 Staff maintains that there is still significant
16 substantive value in the SEEP Specifications as
17 a guidance document for the preparation of such
18 plans and compliance filings, and the Attachment
19 A packages should adhere to the specifications
20 where applicable and appropriate. In fact, by
21 using the SEEP Specifications as a guidance

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1 document for the preparation of the Attachment A
2 packages, the Certificate Holder would be able
3 to develop compliance filing packages that are
4 comprehensive and satisfy the informational
5 needs of regulatory compliance Staff.

6 Q. Please explain why the Panel recommends that the
7 Siting Board adopt Staff's Proposed Certificate
8 Conditions.

9 A. Staff's Proposed Certificate Conditions reflect
10 extensive efforts amongst parties to identify
11 and agree upon conditions that would avoid,
12 minimize or mitigate environmental and other
13 adverse impacts of the proposed Project, and
14 also include modifications proposed by Staff to
15 further ensure such adverse impacts are avoided,
16 minimized, and mitigated to the maximum extent
17 practicable. Staff's Proposed Certificate
18 Conditions would ensure that impacts from
19 construction and operations of the Facility are
20 avoided, minimized, and mitigated to the maximum
21 extent practicable with respect to bat impacts

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1 and wind turbine curtailment practices;
2 decommissioning requirements; siting and
3 construction protocols to minimize impacts
4 associated with existing infrastructure;
5 conditions for Facility vegetation management;
6 measures to avoid and protect known
7 archeological resources, and responsive measures
8 in the event of unanticipated discovery of
9 additional archeological sites; details of
10 protective measures for construction impacts on
11 protected streams and regulated wetlands;
12 measures for long-term monitoring of wind
13 turbine operational effects on bird and bat
14 species; offset measures for impacts on wetlands
15 and threatened bat species; standards applicable
16 to final exterior lighting to minimize off-site
17 lighting effects and glare; and many other
18 measures. In addition, many of the proposed
19 conditions are administrative, or standard
20 construction conditions and in the expert
21 opinions of Staff are reasonable for any major

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1 electric wind generation project. If the Siting
2 Board imposes Staff's Proposed Certificate
3 Conditions, compliance requirements, and
4 modifications to Facility design that are
5 recommended in Staff's testimonies, the Facility
6 would avoid or minimize the potential for the
7 Project to result in adverse impacts in the
8 following areas: Land Use, Visual Resources,
9 Cultural Resources, Wetlands and Aquatic
10 Resources, Terrestrial Ecology and Rare Species,
11 Topography, Geology, Soils and Groundwater,
12 Transportation and Communication, and Noise.
13 Further, Staff's Proposed Certificate Conditions
14 are consistent with Siting Board policy and
15 precedent set in Case 14-F-0490, with
16 modifications to reflect Project-specific
17 concerns and resolution of issues amongst
18 settlement parties, and include requirements for
19 both pre-construction and post-construction
20 environmental and engineering surveys,
21 construction monitoring and compliance measures,

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1 and adherence to local setback requirements.

2 Q. Is there anything else the Siting Board should
3 consider in rendering its determination?

4 A. If the Siting Board issues a Certificate, it
5 should at a minimum adopt all of the Certificate
6 Conditions proposed by Staff, provided in
7 Exhibit__(SPP-2), including many provisions for
8 Compliance Filings to be submitted for review
9 and approval pursuant to 16 NYCRR §1002.2 and
10 §1002.3; and Information Reports documenting
11 compliance, submitted pursuant to 16 NYCRR
12 §1002.4. Further, any grant of a Certificate
13 should include delegation of inspection and
14 stop-work authority to appropriate Department
15 Staff to enforce the environmental, engineering,
16 public safety and public interest requirements
17 in those Certificate Conditions.

18 Q. Does this conclude the Panel's testimony at this
19 time?

20 A. Yes, it does.

NEW YORK STATE
PUBLIC SERVICE COMMISSION

2135

CASE 16-F-0205 - Application of Canisteo Wind Energy LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a Wind Energy Facility in Steuben County.

AFFIDAVIT AFFIRMING PRE-FILED TESTIMONY AND EXHIBITS

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

Jeremy Rosenthal, being duly sworn, deposes and says:

1. I, Jeremy Rosenthal, am employed as Utility Analyst (Environment 3) by the New York State Department of Public Service, and I am appearing as a witness in this proceeding on behalf of New York State Department of Public Service.

2. I, Jeremy Rosenthal, previously prepared written testimony labeled, "Prepared Testimony of Jeremy Rosenthal" and "Prepared CONFIDENTIAL Testimony of Jeremy Rosenthal" as well as exhibits labeled, "Prepared Exhibits of Jeremy Rosenthal" and numbered JR-1 through JR-4, which were filed under this case number with the Secretary of the Public Service Commission on July 12, 2019, and filed corrected written testimony labeled "Prepared Testimony of Jeremy Rosenthal," which was filed under this case number with the Secretary on August 8, 2019.

3. Upon review of my previously filed testimony and exhibits, no further corrections to either are necessary.

4. I, Jeremy Rosenthal, hereby affirm that the testimony and exhibits identified above are true and correct to the best of my knowledge, information and belief. I affirm that, with the corrections noted above, the written testimony is the same testimony I would give orally if I appeared in person at the

hearing scheduled in this case. I adopt that testimony as my sworn testimony in this proceeding.


Jeremy Rosenthal

Sworn to before me this 15th day of August, 2019.


Notary Public

HEATHER P. BEHNKE
Notary Public, State of New York
Reg. No. 02BE6021326
Qualified in Albany County
Commission Exp. 3/8/2023

BEFORE THE
STATE OF NEW YORK
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

In the Matter of

Canisteo Wind Energy LLC

Case 16-F-0205

July 12, 2019

Prepared Testimony of:

Jeremy Rosenthal
Utility Analyst (Environment)
Electric Gas and Water
State of New York

State of New York
Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

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1 Q. Please state your name and business address.

2 A. Jeremy Rosenthal, Three Empire State Plaza,
3 Albany, New York 12223.

4 Q. By whom are you employed and in what capacity?

5 A. I am employed by the Department of Public
6 Service (Department) as a Utility Analyst
7 (Environment) 3, in the Office of Electric, Gas
8 and Water, Environmental Certification and
9 Compliance Section.

10 Q. Mr. Rosenthal, please state your educational
11 background and professional experience.

12 A. I received a Master of Public Administration
13 from the State University New York at Albany;
14 Rockefeller College of Public Affairs and Policy
15 in May 2005 with concentrations in Government
16 Fiscal Management and Environmental Management
17 and Policy. My undergraduate degree is a
18 Bachelor of Arts in Environmental Sciences from
19 the State University of New York, Plattsburgh
20 received May 1993. Before joining the
21 Department, I worked for four years as an

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1 Environmental Analyst at the New York State
2 Department of Environmental Conservation. In
3 2009, I joined the Department's Office of Energy
4 Efficiency and the Environment and was assigned
5 to work on the Energy Efficiency Portfolio
6 Standard, Environmental Disclosure Program, and
7 related issues. In 2016, I transferred to my
8 current position in the Office of Electric, Gas
9 and Water, Environmental Certification and
10 Compliance section. My primary responsibilities
11 include evaluating the environmental impacts
12 associated with siting, construction and
13 operation of gas and electric transmission lines
14 under Article VII and electric generation
15 facilities under Article 10 of the Public
16 Service Law (PSL).

17 Q. Have you testified before the New York State
18 Public Service Commission (Commission) or the
19 Board on Electric Generation Siting and the
20 Environment (Siting Board)?

21 A. I am currently involved in the review of over a

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1 dozen PSL Article 10 cases and affiliated PSL
2 Article VII cases. For example, I testified
3 regarding Exhibit 22 - Terrestrial Ecology and
4 Wetlands - in the Cassadaga Wind Project
5 (Cassadaga) Case 14-F-0490, the Number Three
6 Wind, LLC Case 16-F-0328, Baron Winds, LLC Case
7 15-F-0122 and the Eight Point Wind, LLC Case 16-
8 F-0062 (Article 10), in addition to the Case 18-
9 T-0202 (Article VII).

10 Q. Please describe your role in this case and the
11 purpose of your testimony.

12 A. I am responsible for reviewing Canisteo Winds
13 Energy LLC's (the Applicant) Application and
14 evaluating the probable environmental impacts
15 from the construction and operation of the
16 proposed major electric generation wind project
17 (the Project) to terrestrial ecology. My
18 testimony will focus on the potential impacts of
19 the Project on bat species, including an
20 evaluation of proposed actions to minimize and
21 mitigate impacts to those species.

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1 Q. In your testimony, will you refer to, or
2 otherwise rely upon, any information produced
3 during the discovery phase of this proceeding?

4 A. Yes. I will refer to, and have relied upon,
5 responses to Department Staff Information
6 Requests (IRs). The IRs that I rely upon are
7 included in Exhibit__(JR-1).

8 Q. Are you sponsoring any exhibits to accompany
9 your testimony?

10 A. Yes. I will refer to several source documents
11 as referenced in Exhibit__(JR-1) which is IR
12 responses; Exhibit __ (JR-2) generally, journal
13 articles related to the impacts of wind energy
14 facilities to bats, and the Vermont wind
15 facility siting guidelines; Exhibit __ (JR-3),
16 the RoxWind Incidental Take Plan; and,
17 Exhibit__(JR-4), which is a regression analysis
18 of curtailment.

19 Q. Do you have concerns with this Project as it
20 relates to impacts on bats?

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1 A. Yes, I am concerned about the impacts to the
2 Northern Long Eared Bats (NLEB) and migratory
3 bats.

4 Q. Could the proposed Project add to cumulative bat
5 mortality from wind facilities in New York
6 State?

7 A. Yes. Without adequate avoidance or minimization
8 measures the proposed wind turbine facilities
9 will contribute to bat mortality, particularly
10 migratory bat species.

11 Q. Why are you concerned about impacts to migratory
12 bats in particular?

13 A. The majority of bat mortality from wind farm
14 operation is attributable to migratory bat
15 species, which the Application stated accounts
16 for 86% of all bat fatalities in New York State.
17 (Exh. JR-1). Migratory bat species in New York
18 State include the eastern red bat [*Lasiurus*
19 *borealis*], the hoary bat [*Lasiurus cinereus*],
20 and the silver-haired bat [*Lasionycteris*
21 *noctivagans*]. Frick, W.F. et al, 2017 (Exh. JR-

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1 2), forecasts that at the current level of bat
2 mortality impacts from wind turbines in North
3 America, in the absence of adequate minimization
4 measures, impacts could "drastically reduce
5 population size and increase the risk of
6 extinction" for migratory bats.

7 Q. Should measures be taken at the proposed Project
8 site to minimize impacts to all bats?

9 A. Yes. Migratory bat species are considered
10 Species of Greatest Conservation Need in New
11 York. Since they are not listed as Threatened
12 or Endangered species, and thus are not
13 "protected" species, there is no regulatory
14 requirement that there be a Net Conservation
15 Benefit Plan (NCBP) for those bats. This,
16 however, does not mean that wind facilities do
17 not pose a risk to such species or that such
18 species are not important to the overall ecology
19 of the State. Therefore, operation of the
20 proposed Project should include a curtailment

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1 regime that adequately minimizes impacts to all
2 vulnerable bat species including migratory bats.

3 Q. What do you mean by a curtailment regime?

4 A. A curtailment regime is the operational
5 management of wind turbines such that the
6 conditions under which turbine blades are
7 permitted to spin is constrained to prevent
8 certain species from being killed by moving
9 blades. Cut-in speed refers to the lowest wind
10 speed at which turbine blades are permitted to
11 freely spin.

12 Q. Does the Application propose a curtailment
13 regime with a cut-in speed?

14 A. The Applicant proposes a curtailment regime in
15 the Net Benefit Plan for Listed Bats (NBPLB)
16 submitted with the Application.

17 Q. Have you evaluated the proposed curtailment
18 regime from the NBPLB?

19 A. Yes. I have reviewed the Applicant's NBPLB and
20 conclude that the proposal will provide an
21 inadequate amount of risk reduction for all bat

1 species. The Applicant's proposed curtailment
2 is developed within the context of minimizing
3 impacts solely to NLEBs and ignores impacts to
4 migratory bats, which are the species most
5 impacted by mortality from wind energy turbines.

6 Q. What is the curtailment regime protocol proposed
7 by the Applicant?

8 A. <BEGIN CONFIDENTIAL INFORMATION> [REDACTED]

9 [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 [REDACTED]

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1 [REDACTED] <END

2 CONFIDENTIAL INFORMATION>

3 Q. Does the NBPLB contain a comparison of the
4 Applicant's proposed curtailment to other
5 curtailment regimes?

6 A. <BEGIN CONFIDENTIAL INFORMATION> [REDACTED]

7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 [REDACTED]

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1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 Q. [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 A. [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 [REDACTED]

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1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED] <END CONFIDENTIAL INFORMATION> To the
11 contrary, a 2007 article titled "Variation in
12 bat and bird fatalities at wind energy
13 facilities: Assessing the Effects of Rotor Size
14 and Tower Height" by Robert M.R. Barclay et al,
15 concludes that replacing smaller turbines with
16 fewer larger ones may result in increased
17 numbers of bat fatalities. Bat fatality
18 estimates should be made with the established
19 per MW method that is supported by existing post
20 construction monitoring studies and consistent
21 with other Article 10 proceedings.

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- 1 Q. Is the Applicant's proposed <BEGIN CONFIDENTIAL
2 INFORMATION> [REDACTED] <END CONFIDENTIAL
3 INFORMATION> calculation of mortality consistent
4 with other Article 10 Cases?
- 5 A. No. Other Article 10 applications contain
6 methodologies consistent with my recommendation.
7 In addition, the Siting Board found the per/MW
8 basis reasonable in Case 14-F-0490 in making its
9 determination on possible impacts to bats.
- 10 Q. In your testimony, above, you identified the
11 specifics of the Applicant's proposed
12 curtailment regime protocol. Do you agree with
13 the Applicant's proposal?
- 14 A. No. I disagree with the Applicant's proposed
15 curtailment regime protocol.
- 16 Q. What curtailment regime do you recommend for
17 minimizing risk to bats?
- 18 A. I recommend a curtailment regime with a cut-in
19 speed between 6.0 m/s and 6.9 m/s. Since bats
20 are nocturnal, and are particularly active
21 during warm summer nights, I would recommend a

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1 curtailment regime of at least 6.0 m/s during
2 July 1 to October 1, the period during the year
3 when most bat mortality occurs, to apply from
4 one half hour before sunset to one half hour
5 after sunrise when temperatures are greater than
6 50 degrees Fahrenheit.

7 Q. Do you recommend any other elements to
8 complement the curtailment strategy?

9 A. Yes, the Applicant proposes a <BEGIN

10 **CONFIDENTIAL INFORMATION>** [REDACTED]

11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 [REDACTED]

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<END

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15 Q.

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17 A.

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CONFIDENTIAL INFORMATION> As such I recommend a blade feathering protocol from April 1 to June 31 and October 2 to October 31 for all of the Project's wind turbines starting one half hour before sunset and ending one half hour after sunrise when wind speeds are below the turbine's normal cut-in speed (3.0 m/s).

Why do you recommend a curtailment regime with a minimum cut-in speed of 6.0 m/s?

A cut-in speed of 6.0 m/s would afford greater protection to more species of bats than the Applicant's proposed **<BEGIN CONFIDENTIAL**

INFORMATION> **<END CONFIDENTIAL**

INFORMATION> cut-in speed. This greater benefit

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1 is particularly important to migratory bats that
2 have the highest rates of wind turbine caused
3 mortality and fly at higher wind speeds.

4 Q. Why is higher curtailment more protective of
5 bats?

6 A. As illustrated in Exhibit__(JR-4), there is a
7 strong trend indicating that increased cut-in
8 speeds correlate with decreased bat mortality.

9 Q. What is the source data for Exhibit__(JR-4)?

10 A. The source of data for Exhibit__(JR-4) is the
11 "American Wind Wildlife Institute White Paper,
12 Bats and Wind Energy: Impacts, Mitigation and
13 Tradeoffs," prepared by Taber D. Allison, PhD,
14 AWWI Director of Research, November 15, 2018
15 (White Paper).

16 Q. Has this recommended cut-in speed been adopted
17 elsewhere?

18 A. Yes. A 6.0 m/s cut-in speed aligns with
19 curtailment requirements in neighboring Vermont
20 as presented in Vermont Agency of Natural
21 Resources Fish and Wildlife Bat-Wind Guidelines,

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1 September 2016. In the State of Maine, the
2 incidental take plan for the RoxWind project
3 dated October 2018 adopted a much more stringent
4 curtailment plan. The plan calls for
5 curtailment that "commences daily 1/2 hour
6 before dusk to 1/2 hour after dawn of the
7 following day, when ambient air temperatures are
8 at or above 32 degrees Fahrenheit. April 15-
9 July 15 Cut-in speed is increased from
10 manufactures designed speed to 6 meters per
11 second (m/s); July 16 - September 15, Cut-in
12 speed is increased to 6.6 m/s; and, September
13 16-September 30, cut-in speed returns to 6 m/s."

14 Q. Does a 6.0 m/s cut-in speed achieve total
15 avoidance of bat mortality?

16 A. No. A 6.0 m/s curtailment regime will not
17 achieve what is considered complete or total
18 avoidance for migratory bats or the NLEB. While
19 a cut-in speed of 6.9 m/s could achieve total
20 avoidance for impacts on the NLEB, if the Siting
21 Board approves a lower cut-in speed, the

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1 Applicant should also be required to provide a
2 NLEB NCBP as reflected in the proposed
3 stipulated Certificate Condition.

4 Q. Have you considered the increased costs
5 associated with higher cut-in speeds?

6 A. Yes. I would expect curtailment from 6.0 m/s to
7 6.9 m/s would result in small decreases in
8 energy production ranging from 0.3% to 2.0% and
9 closely parallel impacts to revenues. This is
10 based on calculations made for other Article 10
11 projects including those in Steuben County. The
12 Applicant provided estimates of impacts to
13 generation from curtailment for two cut-in
14 speeds <BEGIN CONFIDENTIAL INFORMATION> [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 <END CONFIDENTIAL INFORMATION> including other
18 Invenergy projects, that I have reviewed to
19 date. (NBPLB page 5.) The numbers provided by
20 the Applicant seem drastically out of line with
21 what other Applications have shown, which calls

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1 into question the efficacy of the data provided.

2 However, even with using the energy impacts

3 forecasted by the Applicant, higher curtailment

4 speeds are not unreasonable in this case.

5 Q. Did the Siting Board establish a cut-in speed in
6 Case 14-F-0490 (Cassadaga)?

7 A. Yes. In Cassadaga the Siting Board ultimately
8 determined that a cut-in speed of 5.0 m/s was
9 appropriate with additional mitigation. This
10 decision, however, acknowledged potential
11 impacts to migratory bats with the rationale
12 that "[w]ith respect to bat species that are not
13 listed as threatened or endangered, we are
14 required to find that impacts to those species
15 will be minimized or avoided to the maximum
16 extent practicable. A final Net Conservation
17 Benefit Plan designed for NLEB will also benefit
18 non-NLEB species." (Cassadaga, Order Granting
19 Certificate of Environmental Compatibility and
20 Public Need, With Conditions, p.48)

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1 Q. What was Cassadaga Wind's Net Conservation
2 Benefit Plan (NCBP)?

3 A. Cassadaga Wind's NCBP ultimately resulted in
4 telemetry studies of the NLEB on Long Island,
5 and potentially to identification and protection
6 of the NLEB's roost tree habitats.

7 Q. Did this assist in studying migratory tree bats?

8 A. No, the NLEB telemetry studies identified the
9 location of several roost trees used by the NLEB
10 on Long Island. The telemetry work did not
11 study migratory tree bats or their use of
12 habitat.

13 Q. Should the curtailment regime remain constant
14 throughout the life of the Project?

15 A. Not necessarily, changes in bat populations can
16 occur over time and new technologies to minimize
17 impacts may develop as well. Accordingly, I
18 recommend Certificate Condition 62 that a plan
19 to evaluate bat populations, minimization
20 efforts, and potential modifications to
21 operations at least once every five years should

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1 be developed by the Certificate Holder and be
2 submitted for Department Staff's acceptance.

3 Q. Is it reasonable to expect the Applicant to
4 agree to an unknown future cost that could arise
5 from future curtailment regime modification?

6 A. The concern of incurring unknown future costs is
7 legitimate. The cost uncertainty should be
8 addressed through language as proposed in
9 Condition 62 for Siting Board's consideration.
10 Specifically, the Certificate Holder should not
11 be subject to adopting future curtailment or
12 other mortality reduction methods that are
13 costlier than the curtailment regime initially
14 adopted. However, it should be noted that in
15 Cassadaga the Applicant's Brief on Exceptions
16 expressed a willingness to consider an adaptive
17 management approach to curtailment based on
18 post-construction monitoring. More recently,
19 the Recommended Decision (RD) in Case 15-F-0559
20 (Baron Winds) supports the adoption of proposed
21 certificate conditions including Certificate

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1 Condition 62. In Baron Winds, Certificate
2 Condition 62 mirrors proposed Certificate
3 Condition 62 in this case that calls for a
4 review of curtailment operations and bat
5 mortality rates every five years.

6 Q. Should a method for verifying compliance be part
7 of a curtailment regime?

8 A. Yes. A curtailment regime should include a
9 means to verify compliance. The Applicant
10 should provide a record of curtailment pursuant
11 recommended Certificate Condition 62.

12 Q. Please describe.

13 A. I recommend the following Certificate Condition
14 62:

15 **Curtailment Plan** which shall be provided prior
16 to the commencement of commercial operation for
17 minimization of impacts to bat species, which
18 shall include:

19 a) Description and implementation of a
20 curtailment regime during the period July 1
21 through October 1 requiring a minimum

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1 curtailment of 6.0m/s, 30 minutes prior to
2 sunset through 30 minutes after sunrise,
3 when temperatures are greater than 10
4 degrees Celsius.

5 b) Description and implementation of a blade
6 feathering protocol from April 1 through
7 June 30, and October 2 through October 31,
8 requiring feather all Project wind turbines
9 30 minutes prior to sunset through 30
10 minutes after sunrise, when wind speeds are
11 below the wind turbines normal cut-in-speed
12 (3.0 m/s).

13 c) The Certificate Holder shall submit a
14 review of curtailment operations and bat
15 mortality rates at least once every five
16 years to DPS and DEC. The review will
17 assess if changes in technology or
18 knowledge of impacts to bats supports
19 modification of the existing curtailment
20 regime. Modifications to the existing
21 curtailment regime that further decrease

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1 mortality may be proposed or negotiated.

2 Any such modifications shall not be

3 costlier than the existing curtailment

4 regime, unless voluntarily supported by the

5 Certificate Holder.

6 The curtailment review in (c) above shall

7 include records that document and verify

8 curtailment protocol and blade feathering

9 protocol implementation.

10 Q. Does this conclude your testimony?

11 A. Yes, at this time.

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2 STATE OF NEW YORK

3 I, HANNAH ALLEN, do hereby certify that the foregoing was
4 reported by me, in the cause, at the time and place, as
5 stated in the caption hereto, at Page 1 hereof; that the
6 foregoing typewritten transcription consisting of pages
7 1719 through 2160, is a true record of all proceedings had
8 at the hearing.

9 IN WITNESS WHEREOF, I have hereunto
10 subscribed my name, this the 18th day of *September* 2019.

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13 HANNAH ALLEN, Reporter

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