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August 12, 2019

Via First-Class Mail & Electronic Filing

Hon. Kathleen H. Burgess
Secretary to the Commission
New York State Public Service Commission
Agency Building 3
Albany, NY 12223

Re: Case No. 18-F-0262: Application of High Bridge Wind, LLC, for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 for Construction of the High Bridge Wind Project in the Town of Guilford, Chenango County, NY

Dear Secretary Burgess:

High Bridge Wind, LLC ("High Bridge Wind" or "Applicant") is proposing to construct and operate an approximately 100.8-megawatt wind electric generating facility in the Town of Guilford, Chenango County, New York ("the Facility"). To construct and operate the Facility, High Bridge Wind is seeking a Certificate of Environmental Compatibility and Public Need from the New York State Board on Electric Generation Siting and the Environment (the "Siting Board") pursuant to Article 10 of the Public Service Law ("PSL") and the Siting Board's rules (16 NYCRR Part 1000 et seq.).

Pursuant to PSL § 164 and 16 NYCRR § 1000.6, and as agreed by the parties, High Bridge Wind hereby files its Application, electronically with the Secretary through the Public Service Commission's Document Matter Management ("DMM") System, and by serving paper copies on the service list discussed in greater detail below. A check in the amount of \$100,800 for application intervenor funding as required by PSL § 164(6) will be submitted under separate cover.

The Application follows the statutory requirements of Article 10 (PSL § 164(1)), the Siting Board's rules (16 NYCRR Part 1001 et seq.), and the High Bridge Stipulations. The Application contains, among other things, a description of the proposed Facility and the studies or program of studies conducted to evaluate potentially significant adverse environmental and health impacts, and the results of those studies along with proposed minimization and mitigation measures, where necessary.

Enclosed with the Application is the testimony of each expert witness the Applicant intends to offer at any hearing as required by PSL § 165 (16 NYCRR § 1000.6(c)(1)). The testimony includes the qualification of each witness and specifies the portion of the Application for which each witness is responsible for or supports. See ‘Attachment 1’ to this letter for copies of the pre-filed testimony.

Pursuant to PSL § 164(2) and 16 NYCRR § 1000.6(a), copies of the Application are being served upon the parties listed on the attached Service List. (See ‘Attachment 2’ of this letter for a copy of the Service List; an Affidavit of Service upon the Service List will be submitted when available.)

Pursuant to 16 NYCRR § 1000.7(a) and 1000.7(b)(1), notice of the Application with a summary and map (the “Application Notice”) was published in the *Evening Sun* on July 17, 2019 and in the *Pennysaver* on July 16, 2019, which is at least three (3) days in advance of the date on which the Application is being filed as required by the applicable regulation. Proof of publication is appended as Attachment 3.

Pursuant to 16 NYCRR § 1000.7(b)(2), on July 17, 2019, at least three (3) days in advance of the date on which the Application is being filed, a letter enclosing a copy of the Application Notice was served on each member of the State Legislature in whose district any portion of the Facility is proposed to be located. A similar letter was sent to the Supervisor of the Town of Guilford, and on Siting Board Information Coordinator James Denn. See ‘Attachment 4’ to this letter for a copy of the letter and Application Notice, together with proof of service.

Pursuant to 16 NYCRR § 1000.7(b)(3), on July 17, 2019, at least three (3) days in advance of the date on which the Application is being filed, an email attaching a copy of the Application Notice was served on all persons who have filed a statement with the Secretary to the Siting Board that they desire to receive all such notices (the “Party List”). See ‘Attachment 5’ to this letter for a copy of the email and Application Notice, together with proof of service.

Pursuant to the Applicant’s Public Involvement Program Plan (“PIP”), a letter enclosing a copy of the Application Notice was served on the Master Stakeholder List, including host and adjacent landowners, on July 18, 2019, via regular mail. See ‘Attachment 6’.

A copy of the Notice submitted to the stakeholders as outlined above was uploaded to the website for the Project at: <http://www.calpine.com/highbridgewind>. A copy of that posting is included as “Attachment 7”.

Pursuant to 16 NYCRR § 1000.6(c)(5), the following are the names, addresses, telephone numbers and e-mail addresses of the Applicant and its Attorney:

Applicant:

High Bridge Wind, LLC
Alec Jarvis, Director of Development
Calpine Corporation
717 Texas Avenue, Suite 1000
Houston, TX 77002

Applicant's Attorney:

James A. Muscato II
Young/Sommer LLC
Executive Woods
Five Palisades Drive
Albany, New York 12205

Tel. (207) 956-1169
Alec.Jarvis@calpine.com

Tel. (518) 438-9907 ext. 243
Fax (518) 438-9914
jmuscato@youngsommer.com

Finally, enclosed is a copy of the cover letter for the Applicant's motion and comprehensive brief pursuant to 16 NYCRR § 6-1.4, to submitted to Presiding Examiners, whereby the Applicant requests protection from public disclosure of certain information and documents contained in its Application. (See 'Attachment 8' to this letter for a copy of the letter requesting confidentiality.)

Please do not hesitate to call me with any questions.

Respectfully submitted,

/s/ Laura K. Bomyea

James A. Muscato II
Laura K. Bomyea
Attorney for High Bridge Wind, LLC

Enclosures:

- Attachment 1: Pre-Filed Testimony
- Attachment 2: Application Service List
- Attachment 3: Application Notice and Affidavits of Publication
- Attachment 4: Proof of Notice served on State Legislature and Town Supervisors
- Attachment 5: Proof of Notice served on DMM Party List and Siting Board Coordinator
- Attachment 6: Proof of Notice served on Stakeholders
- Attachment 7: Project Website Posting
- Attachment 8: Request to Examiners for Confidentiality

cc: Service List

Attachment 1

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

Application of High Bridge Wind, LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction
of the High Bridge Wind Project Located in the Town
of Guilford, Chenango County

Case No. 18-F-0262

PRE-FILED TESTIMONY OF
GIRISH BEHAL, PMP
DIRECTOR – STRATEGIC INITIATIVES AND DEVELOPMENT
SNC-LAVALIN

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

2 A: Girish Behal, PMP, SNC-Lavalin, 150 State Street, Suite 120, Rochester, New York 14614.

3 **Q: What is your position at SNC-Lavalin?**

4 A: Director – Strategic Initiatives and Development.

5 **Q: How long have you been employed with SNC-Lavalin?**

6 A: I have been employed with SNC-Lavalin since 2011.

7 **Q: Please describe your educational background and professional experience.**

8 A: I received a Diploma and Bachelor of Civil Engineering from Maharaja Sayajirao University, Baroda,
9 Gujarat, India. I also received a Graduate Certificate in Power Systems and a Master of Science in
10 Electrical and Computer Engineering (Power Systems) from Worcester Polytechnic Institute. In
11 2017, I received a Master of Business Administration from the Simon Business School, University of
12 Rochester. I have more than 14 years of experience in onshore and offshore renewables,
13 transmission and distribution projects for voltage levels from 11 kV to 345 kV, involving substation,
14 overhead and underground transmission lines. A copy of my resume is submitted as Exhibit ____
15 (GB-PF1): Resume of Girish Behal.

16 **Q: Please describe your current responsibilities with SNC-Lavalin.**

17 A: I am responsible for leading and managing project development in the area of onshore and off-shore
18 renewables, portfolio management of key projects in the area of FERC 1000 competitive
19 transmission, interregional transmission planning, and strategic due diligence. I also provide project-
20 specific oversight to the engineering teams that perform interconnection analysis, congestion
21 analysis and additional studies and engineering to support projects in the power sector.

22 **Q: Have you previously testified before the New York State Public Service Commission or Siting**
23 **Board on Electric Generation?**

24 A: No. However, I have submitted pre-filed testimony to the Siting Board in conjunction with the following
25 wind energy projects in New York: Bluestone Wind Farm (Case No. 16-F-0559); Galloo Island Wind
26 Energy Facility (Case No. 15-F-0327); and Deer River Wind Farm (Case No. 16-F-0267).

27 **Q: Have you previously served as an expert witness before any other court, agency, or other**
28 **body on the subject you plan to offer testimony on today?**

29 A: I have testified in various local and state proceedings, as listed below, as it relates to the siting of
30 Power Facilities:

31 2013 Station 251 Project, Town of Brighton Planning Board, Brighton, New York

32 2011 Station 124 Expansion Project, Town of Penfield, Planning and Zoning Commission,
33 Penfield, New York

34 2010 New 115-kV Substation in Westport, CT, Connecticut Siting Council, Westport, Connecticut

35 2010 115-kV Circuit Separation Project, Massachusetts Department of Public Utilities, Boston,
36 Massachusetts

37 2008 New 115-kV Substation in Waterford, CT, Connecticut Siting Council, Waterford,
38 Connecticut

39 2006 New 115-kV/11.5-kV Substation, Connecticut Siting Council, New Britain, Connecticut

40 **Q: What is the purpose and scope of your testimony in this proceeding?**

41 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

42 **Q: What portion(s) of the Application is your testimony sponsoring?**

43 A: Exhibit 8, Electric System Production Modeling.

44 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction**
45 **and supervision.**

46 A: Yes.

47 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or**
48 **documents produced by persons other than yourself/your company? If so, please cite these**
49 **sources. [These are independent studies, etc.]**

50 A: See Exhibit 8 for any references.

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

52 A: Yes.

<p>2015 - 2017</p>	<p>due diligences</p> <ul style="list-style-type: none"> › Lead, Mentor and Manage multi-location and multi-cultural project teams for Project Execution › Grow, maintain and manage client relationships <p><i>Power Transmission & Distribution - Montreal</i> Senior Project Manager – Strategic Initiatives</p> <p>Lead and Manage Project Development in the area of onshore and offshore Renewables, portfolio management of key projects in the area of FERC 1000, Inter-regional transmission planning mandates and strategic due diligences</p> <p>Lead, Mentor and Manage multi-location and multi-cultural project teams for Project Execution</p> <p>Grow, maintain and manage client relationships</p> <p>Create cross functional teams to address client needs</p> <p>Support Organization’s key strategic growth initiatives</p> <p><i>Project Manager, SPP-MISO Interregional Model Development , Strategic Planning, Confidential, United States (06/2016 - 02/2017)</i></p> <p>The Client Mandated SNC-Lavalin to create an inter-regional system model and perform production cost analysis utilizing PROMOD to evaluate interregional transmission project opportunities for SPP and MISO.</p> <p><i>Galloo Island Wind Project , Planning, Apex, New York, United States (11/2016 - 02/2017)</i></p> <p>SNC-Lavalin performed production cost analysis utilizing Promod for the New York State Department of State Article X filing to support the project.</p> <p><i>Project Manager, South Fork Offshore Wind Farm , Preliminary engineering, Deep Water Wind South Fork LLC, New York, United States (07/2017)</i></p> <p>South Fork Wind Farm (SFWF) is a 90 MW offshore wind farm connecting to Long Island. It is a unique project that entails a very long undersea cable for the interconnection to the project point of interconnection.</p>	<p>Site Experience</p> <ul style="list-style-type: none"> › India › United States <hr/> <p>Computer Applications</p> <ul style="list-style-type: none"> › Primavera › Microsoft Project › Microsoft office suite › Lotus Notes › SAP › Autocad
<p>2012 - 2015</p>	<p><i>Power Transmission & Distribution - Calgary</i> Senior Project Manager</p> <ul style="list-style-type: none"> › Lead, mentor and manage a group of project managers and project teams in the planning, execution and management of a portfolio of mid to large size brown field and green field substation and transmission line capital projects. › Managed team to deliver CAPEX portfolio value of \$58.9M, \$51.3M and \$67.4M for the years 2012, 2013 and 2014 to the client. › Recruit and retain project team members including Project Managers, Construction and Commissioning Managers, Engineers and Project Support staff. › Direct project leadership on specific projects. › Maintain and manage client relationships for a portfolio of projects currently managed by SNC-Lavalin. › Support marketing and business development efforts as needed. 	

Project Manager, Station 124 Phase Shifting Transformer, Project Management, Iberdrola USA, Penfield, New York, United States, CA \$34 000 000 (03/2012 - 08/2014)

The project involved engineering, procurement and construction of two (2) 115 kV, + 20% Phase Shifting Transformers, 138/184/230 MVA at station 124 in RG&E territory to comply with FERC ruling. The project was required to support 20% increase in the power output from the interconnected Nuclear station facilities. This project involved major expansion of existing facilities. The substation (Station 124) also required significant Federal State and Local environmental permitting.

- › Completed Project ahead of schedule and under budget.
- › Completed complex outage during the nuclear unit outage and avoiding future outages that would require down powering of the unit.

Rochester Gas and Electric Program Portfolio, Project Management, Iberdrola USA, New York, United States (03/2012 - 12/2014)

Managed a group of Project Managers to deliver a portfolio of projects to the Client at various voltages and various stages of project lifecycle. The team delivered variety of projects from substation upgrades to major expansions of the transmission and distribution system.

Delivered CAPEX portfolio value of \$58.9M, \$51.3M and \$67.4M for the years 2012, 2013 and 2014 to the client.

Station 124 Static Var Compensator , Project Management, Iberdrola USA, Penfield, New York, United States, CA \$30 500 000 (04/2012 - 08/2013)

Engineer, procure and construct a -100/+200 MVAR Static Var Compensator (SVC) at Station 124 to provide reliability support in the area. The SVC is installed at 14kV and connected to the 115 kV system through two (2) 200 MVA transformers. This project involved significant expansion of existing Station 124 resulting in needs for Federal, State and local environmental permitting.

- › Completed the project on schedule and on budget
- › Negotiated savings to the tune of US\$ 140K for the client on change orders for the contractors
- › Resolved significant technical design issues to ensure the functionality of the system being installed.

2011 - 2012

Project Manager

- › Developed project scope, budget and schedule for electrical transmission capital improvement projects.
- › Managed and delivered technically complex key projects to the client on schedule
- › Built rapport with client's management and staff gaining their trust and confidence.
- › Represented the client organization in public and regulatory forums.
- › Collaborated with cross functional teams in developing, evaluating and recommending contracts and procurement of equipment and services.
- › Assembled and directed a distributed project execution team in a Multi-Office Execution arrangement.

Project Manager, Substation Automation Project , Project Management, Iberdrola USA, Rochester, New York, United States, CA \$36 000 000, Multiple (08/2011 - 04/2012)

The project mandate was to create the project scope of work documents, project estimates and project schedule for the client for various automation upgrades for 12 substations. The mandate included pre-conceptual engineering for the project.

- › Project estimates and scopes delivered to the client on schedule and on budget.
- › Exceeded client CAPEX goals for the project.



University of Rochester Substation Project , Project Management, Iberdrola USA, Rochester, New York, United States, CA \$28 000 000, 115 kV/12 kV, 3000 Amp rated substation (08/2011 - 12/2012)

The University of Rochester (U of R) has requested additional supply to be provided by RG&E to serve its projected growth load and resolve reliability issues. The substation will be a new 115 kV/11.5 kV breaker and a half substation with two (2) 115 kV/11.5 kV 70 MVA transformers. Remote work is planned at stations 33, 82, and Mortimer/National Grid for line protection. Fiber optics will be installed from station 251 to stations 33, 82, and Mortimer for communications.

- › Project Option Evaluations completed on schedule and under budget.
- › Lead the project team through successful project siting process.

Station 124 Phase Shifting Transformer, Project Management, Iberdrola USA, Penfield, New York, United States, CA \$34 000 000 (12/2011 - 12/2012)

The project involved engineering, procurement and construction of two (2) 115 kV, + 20% Phase Shifting Transformers, 138/184/230 MVA at station 124 in RG&E territory to comply with FERC ruling. The project was required to support 20% increase in the power output from the interconnected Nuclear station facilities. This project involved major expansion of existing facilities. The substation (Station 124) also required significant Federal State and Local environmental permitting.

Completed Project ahead of schedule and under budget.

Completed complex outage during the nuclear unit outage and avoiding future outages that would require down powering of the unit.

Station 124 Static Var Compensator Project, Project Management, Iberdrola USA, Penfield, New York, United States, CA \$30 500 000, -100/+200 MVAR SVC (12/2011 - 12/2012)

Engineer, procure and construct a -100/+200 MVAR Static Var Compensator (SVC) at Station 124 to provide reliability support in the area. The SVC is installed at 14kV and connected to the 115 kV system through two (2) 200 MVA transformers. This project involved significant expansion of existing Station 124 resulting in needs for Federal, State and local environmental permitting.

- › Completed the project on schedule and on budget
- › Negotiated savings to the tune of US\$ 140K for the client on change orders for the contractors
- › Resolved significant technical design issues to ensure the functionality of the system being installed.

Project Manager, Station 124-42-204 Fiber , Project Management, Iberdrola USA, Rochester Area, New York, United States, CA \$1 750 000 (12/2011 - 12/2012)

Design, permit, procure and install 24.2 miles of fiber for system protection communication between station 124, 42 and station 204.

Project completed under budget

2004 - 2011

NORTHEAST UTILITIES SERVICE COMPANY, BERLIN, CONNECTICUT, UNITED STATES

Transmission Business Projects

2006 - 2011

Project Lead

- › Responsible for development of project scope, budget, schedule performance for assigned electrical transmission capital improvement projects.
- › Responsible for representing the organization in public and regulatory forums.
- › Responsible for assembling and leading a diverse, multifunctional project team consisting of internal company employees, contractors, consultants to effectively and efficiently deliver projects on time.

- › Responsible for establishing outage dates and coordinating outages with system operators and the outage teams.
- › Responsible for creating detailed project schedules, including identification of major milestones, for overseeing, controlling, communicating and managing all activities required to complete assigned transmission system capital improvement projects.
- › Responsible for monitoring and controlling project costs through preparation of monthly cash flows, verification of actual or committed costs to estimated costs and identification of cost variances that require further action to ensure completion within budget.
- › Responsible for working with cross functional teams in developing, evaluating and recommending construction contracts and procurement of high value project specific equipment and services.

Project Manager, Hollow Core and Obsolete Equipment Replacement Program, Project Management, Northeast Utilities (CL&P and WMECO), Multiple, Connecticut, United States, CA \$170 000 000, 115 kV/345-kV (10/2010 - 05/2011)

This program was a five year system wide equipment replacement program which involved replacement of obsolete equipment in both 115-kV and 345-kV systems across 80 plus substations in two operating companies owned by Northeast Utilities.

- › Created an extensive program execution plan
- › Managed and negotiated long term outage plan for multiple stations
- › Managed and negotiated work agreements with union workforce

Project Manager, Sherwood Substation, Project Management, Northeast Utilities (CL&P), Westport, Connecticut, United States, CA \$23 860 000 (03/2010 - 05/2011)

Build a new greenfield substation 115-13.8 kV to support local load growth. The project involved tapping into the existing 115-kV lines and adding two 115-13.8 kV auto-transformers and four switchgear units.

- › Successfully lead the permitting of the new Substation
- › Managed critical relationships with neighboring property owners

Project Manager, IEC 61850 Simulator Laboratory Program, Project Management, Northeast Utilities, Berlin, Connecticut, United States, CA \$2 500 000 (04/2009 - 08/2010)

Design and implement a prototype IEC 61850 technology laboratory to create standards and implementation across the Northeast Utilities organization. This project involved a new technology for the organization, significant organization change and learning implementation in addition to establishment of the laboratory.

- › Successfully tested and implemented a new technology

Project Manager, Waterford Substation, Project Management, Northeast Utilities, Waterford, Connecticut, United States, CA \$25 000 000 (08/2007 - 05/2010)

Build a new greenfield substation 115-27.6 kV to support local load growth. The project involves tapping into the existing 115-kV lines and adding two 115-27.6 kV auto-transformers.

- › Successfully led the project team through permitting process.
- › Complex remote end work completed within the tight project schedule.

Project Manager, Critical Infrastructure Protection program, Project Management, Northeast Utilities, Connecticut, United States, CA \$24 000 000 (02/2008 - 05/2009)

This project involves creating separate communication networks, modifications to existing systems and enhancing physical security for critical cyber assets across three states (Service Territories).

- › Completed project under budget and on schedule

- › Ensured compliance with regulatory requirements
- › Managed multi-locational teams

Project Manager, Ludlow Auto Transformer Replacement , Project Management, Northeast Utilities, Ludlow, Massachusetts, United States, CA \$10 250 000, 345 kV (09/2007 - 12/2009)

Design, procure and install three-single phase 200 MVA units at Ludlow in spare position for connections at a later date.

- › Project Completed on schedule and budget.

Project Manager, Wilton Substation, Project Management, Northeast Utilities, Wilton, Connecticut, United States, CA \$11 500 000 (11/2006 - 05/2008)

Build a new greenfield 115-27.6 kV Substation for local load growth. The project involves tapping into the existing 115-kV lines and adding two 115-27.6 kV auto-transformers. The most unique part of the project is extremely small construction site bordered by wetlands with species of special concern.

- › Complex construction due to limited space.

Project Manager, Devon Substation Upgrade Project , Project Management, Northeast Utilities, Milford, Connecticut, United States, CA \$8 520 000, 115-kV (04/2006 - 10/2008)

The project involves replacement of existing equipment and addition of new equipment for increase in thermal ratings and reliability of the station. The most unique part of the project is to enable reliable supply to the distribution system downstream with multiple concurrent and overlapping equipment outages.

- › Completed complex outage schedule (72+ outages) with Zero incidents
- › Negotiated and awarded lump sum construction contract for construction resulting in change orders less than 3% of the contract value.

Assistant Project Manager, Bethel to Norwalk Project , Project Management, Northeast Utilities , Connecticut, United States, CA \$397 000 000 (01/2006 - 08/2006)

Build a new 345-kV overhead and underground Transmission line between Danbury, CT and Norwalk CT with two transition stations. Re-conductor and upgrade existing 115 kV lines. Build new 115 kV line. Install two 400MVA shunt reactors to the system. Build extensive upgrades and expansions for Substations in Norwalk CT and Danbury CT including two new 345-kV GIS substations.

2005 - 2006

Transmission Business Projects

Associate Engineer/Project Lead

- › Responsible for development of project scope, budget, schedule performance for assigned electrical transmission capital improvement projects.
- › Responsible for representing the organization in public and regulatory forums.
- › Responsible for assembling and leading a diverse, multifunctional project team consisting of internal company employees, contractors, consultants to effectively and efficiently deliver projects on time.
- › Responsible for establishing outage dates and coordinating outages with system operators and the outage teams.
- › Responsible for creating detailed project schedules, including identification of major milestones, for overseeing, controlling, communicating and managing all activities required to complete assigned transmission system capital improvement projects.
- › Responsible for monitoring and controlling project costs through preparation of monthly cash flows, verification of actual or committed costs to estimated costs and identification of cost variances that require further action to ensure completion within budget.

- › Responsible for working with cross functional teams in developing, evaluating and recommending construction contracts and procurement of high value project specific equipment and services.

Assistant Project Manager, Bethel to Norwalk Project , Project Management, Northeast Utilities, Connecticut, United States, CA \$397 000 000, 115-kV, 345-kV (09/2005 - 08/2006)

Build a new 345-kV overhead and underground Transmission line between Danbury, CT and Norwalk CT with two transition stations. Re-conductor and upgrade existing 115 kV lines. Build new 115 kV line. Install two 400MVA shunt reactors to the system. Build extensive upgrades and expansions for Substations in Norwalk CT and Danbury CT including two new 345-kV GIS substations.

2004 - 2005

Transmission Business Projects
Assistant Engineer

- › Complete responsibilities for assigned portions of project management responsibilities.
- › Assist Project Manager in developing and evaluating construction contracts and procurement of high value items like Shunt Reactors.
- › Assist Project Managers in managing overall scope, budget and schedule of high profile electrical transmission projects including schedule adherence, project communications and projects engineering, design and construction services.
- › Coordinate project team efforts with maintenance for project turnover to maintenance.
- › Perform technical and commercial review and provide recommendation to the management for project changes.
- › Performed first line technical and commercial approval of contractor invoices.
- › Performed technical and commercial review of bids.

Assistant Project Manager, Bethel to Norwalk Project , Project Management, Northeast Utilities, Connecticut, United States, CA \$397 000 000 (2004 - 09/2005)

Build a new 345-kV overhead and underground Transmission line between Danbury, CT and Norwalk CT with two transition stations. Re-conductor and upgrade existing 115 kV lines. Build new 115 kV line. Install two 400MVA shunt reactors to the system. Build extensive upgrades and expansions for Substations in Norwalk CT and Danbury CT including two new 345-kV GIS substations.

2003 - 2004

CURTIS PARTITION CORP, NEW YORK, NEW YORK, UNITED STATES
Project Engineer

- › Assist project managers in daily field operations including manpower allocations, create and track RFI's submitted to GC, attend project meetings, prepare project catch-up plans.
- › Evaluate general contractor schedule, prepare resource-loaded schedule for the company to assist in manpower optimization.
- › Evaluate new project management software's and recommend project management software for organization wide implementation.

1999 - 2001

LARSEN & TOUBRO LTD, BARODA, GUJARAT, INDIA
Project Engineer

- › Assisted project manager in preparation of project progress reports, scheduling, schedule updating, vendor follow up and contractor invoice processing.
- › Assisted project manager in consolidating change order documentation.
- › Coordinated with client/owner's engineers, detail engineering contractor, site engineering for design review and drawing submittal etc. at design/build refinery project site.
- › Reviewed and processed site and contract related drawings and documentation (RFI's).
- › Construction observation, inspection and issuance of rectification "punch lists".
- › Assisted engineering manager in project engineering issues, including discussions and clarifications of contractual and

technical issues with detail engineering subcontractor for shop drawings review.

- › Provided field support for preparation of "As-Built" drawings.
- › Technical discussions and clarifications with engineering and vendor as required.

Assistant Project Manager, Milk Powder Plant and Liquid Milk Plant expansion Project, Project Management, National Dairy Development Board (NDDB), Banaskantha, Gujarat, India, CA \$29 540 000 (08/2000 - 07/2001)

This project was an Engineering Procurement and Construction contract for design, supply and construction Liquid Milk Plant (35MMTPA) and Milk Powder plant (20MMTPA). This was expansion project.

Assistant Project Manager, Hydrogen plant, De-Hydrogenisation De-sulphurisation plant, Offsite and Utilities Package, Project Management, Hindustan Petroleum Corporation Limited, Vishakhapatnam, Odisha, India, CA \$261 000 000 (07/1999 - 09/2000)

: This project was an Engineering Procurement and Construction contract for design, supply and construction of Hydrogen plant, De-Hydrogenisation De-sulphurisation plant including all related offsite and Utilities as needed for Plant operation.

PROFESSIONAL ASSOCIATIONS

- | | |
|------------|---|
| SINCE 2015 | Institute of Electrical & Electronic Engineers, Membership no. 93512798 |
| SINCE 2007 | Project Management Institute (PMI), Membership no. 1021284 |

PROFESSIONAL DEVELOPMENT

- | | |
|------|--|
| 2007 | Certificate in Project Management, Boston University, Boston, Massachusetts, United States |
| 2007 | Project Management Professional, Project Management Institute, Newtown Square, Pennsylvania, United States |

ADDITIONAL TRAINING

- | | |
|------|--|
| 2013 | Leadership Training, Knightsbridge, Toronto, Ontario, Canada |
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PUBLICATIONS AND PRESENTATIONS

- HVDC - Powering the Future, Rochester, United States, 2017
- Eroding Values and Emerging Ethical Issues in contemporary Indian Management, Baroda, Gujarat, India, 2000
- Environmental Impact Assessment Methodologies: Critical Review, Jhansi, Uttar Pradesh, India, 1998

COMMITTEES

- | | |
|------------|--|
| SINCE 2015 | WG 15.05.08 HVDC and FACTS Economics and Operating Strategies, United States |
| SINCE 2015 | WG 15.05.18 Studies for Planning of HVDC |
| SINCE 2015 | WG 15.05.19 Practical Technologies for VSC HVDC Systems |

DIRECTORSHIPS

SINCE 2017 | Co- Vice Chair

AWARDS AND SCHOLARSHIPS

- 2015 | The Simon School of Business Scholarship (25% tuition fees), University of Rochester, Rochester, New York, United States
- 2001 | University Fellow, The Ohio State University, Columbus, Ohio, United States
- 2000 | First place in Young Managers Competition, Baroda Management Association, Baroda, Gujarat, India
- 1999 | Express Group Gold Medal, The Maharaja Sayajirao University, Baroda, Gujarat, India
- 1999 | Shri K H Patel Gold Medal, The Maharaja Sayajirao University, Baroda, India
- 1999 | Late Friend (Dr.) Piyush Parikh Gold Medal Fund, The Maharaja Sayajirao University of Baroda, Baroda, India

ACADEMIC POSTS

2002 - 2003 | Graduate Research Assistant, The Ohio State University, Columbus, Ohio, United States

PUBLIC HEARINGS

- 2017 | Pre-filed Testimony for Article 10, Exhibit 8 for Case 15-F-0327 for Galloo Island Wind Energy Facility, New York State Department of Public Services, United States
- 2013 | Station 251 Project, Town of Brighton Planning Board, Brighton, New York, United States
- 2011 | Station 124 Expansion Project, Town of Penfield, Planning and Zoning Commission, Penfield, New York, United States
- 2010 | New 115-kV substation in Westport, CT, Connecticut Siting Council, Westport, Connecticut, United States
- 2010 | 115-kV Circuit Separation Project, Massachusetts Department of Public Utilities, Boston, Massachusetts, United States
- 2008 | New 115-KV Substation in Waterford, CT, Connecticut Siting Council, Waterford, Connecticut, United States
- 2006 | New 115 kV/11.5 KV substation, Connecticut Siting Council, New Britain, Connecticut, United States

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

Application of High Bridge Wind, LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction
of the High Bridge Wind Project Located in the Town
of Guilford, Chenango County.

Case No. 18-F-0262

PRE-FILED TESTIMONY OF
MICHELE A. FIORILLO, P.E.
GEOTECHNICAL DEPARTMENT MANAGER,
TERRACON CONSULTANTS-NY, INC.

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

2 A: Michele A. Fiorillo, Terracon Consultants-NY, Inc. (Terracon), 15 Marway Circle, Suite 2B,
3 Rochester, New York 14624.

4 **Q: What is your position at Terracon?**

5 A: I am Geotechnical Department Manager at Terracon.

6 **Q: How long have you been employed with Terracon?**

7 A: I have been employed by Terracon since 2016.

8 **Q: Please describe your educational background and professional experience.**

9 A: I have a Bachelor and Master of Science in Geological Sciences from the University of Rome, Italy,
10 "La Sapienza" and a Master of Engineering in Geotechnical Engineering from the State University of
11 New York at Buffalo. I am professional engineer licensed by the States of New York, Connecticut,
12 Pennsylvania and Ohio. I have more than 20 years of experience in the geotechnical engineering
13 and construction materials testing fields. Among other things, I have served as the lead geotechnical
14 engineer or as the geotechnical engineer of record for a wide variety of projects, including bridge
15 repair/reconstruction projects and projects involving the construction of "big box" stores and other
16 buildings, elevated walkways/promenades, communications towers, and other structures. Of
17 particular relevance, I have overseen subsurface drilling investigations and geotechnical evaluations
18 for the design of proposed wind turbines at various sites in New York and Pennsylvania, including
19 providing recommendations for both shallow foundations and drilled shafts. I have provided similar
20 services in conjunction with the construction of new substations and photovoltaic solar facilities and
21 improvements at existing substations. A copy of my resume is submitted as Exhibit ____ (MAF-PF1):
22 Resume of Michele A. Fiorillo.

23 **Q: Please describe your current responsibilities at Terracon.**

24 A: As Geotechnical Department Manager at Terracon, I am responsible for overseeing geotechnical
25 engineering services related to site characterization and exploration, soils laboratory services,
26 geotechnical engineering design, transportation design-build, geotechnical consulting and other
27 specialty services.

28 **Q: Have you previously testified before the New York State Public Service Commission or Siting**
29 **Board on Electric Generation?**

30 A: No. However, I submitted pre-filed testimony to the Siting Board in conjunction with the Bluestone
31 Wind Energy Project (Case No. 16-F-0559).

32 **Q: Have you previously served as an expert witness before any other court, agency, or other**
33 **body on the subject you plan to offer testimony on today?**

34 A: No.

35 **Q: What is the purpose and scope of your testimony in this proceeding?**

36 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

37 **Q: What portion(s) of the Application is your testimony sponsoring?**

38 A: Exhibit 21: Geology, Seismology and Soils.

39 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction**
40 **and supervision.**

41 A: Yes.

42 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or**
43 **documents produced by persons other than yourself/your company? If so, please cite these**
44 **sources. [These are independent studies, etc.]**

45 A: References are provided in Exhibit 21.

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

47 A: Yes.

Michele A. Fiorillo, P.E.

GEOTECHNICAL DEPARTMENT MANAGER

PROFESSIONAL EXPERIENCE

Mr. Fiorillo brings over 20 years of experience in the geotechnical engineering and construction materials testing services fields. His projects have included investigations into slope failures and recommendations regarding corrective action; retaining wall design; pavement evaluation and redesigns; foundation recommendations for various projects; and slope stability recommendations. Some of the projects Mr. Fiorillo has worked on are presented below.

PROJECT EXPERIENCE – BRIDGES

NYSDOT I-690 over Teall Avenue & Beech Street Design-Build – Syracuse, NY Contract No. D900035

Mr. Fiorillo is the Lead Geotechnical Engineer for this \$61M Design-Build project. The project consisted of reconstructing a ¾ mile section of I-690 in the City of Syracuse, Onondaga County, New York. The existing bridges carrying I-690 over Beech Street and Teall Avenue were replaced with new structures that would provide a minimum 75-year life service. The existing viaduct, including the spans over Beech Street, was replaced with a single-span bridge over Beech Street and conventional roadway embankment for the bridge approaches. Due to the poor geological conditions (peat, soft clay and marl) the proposed embankment and associated Mechanically Stabilized Earth (MSE) walls will be supported by a ground improvement system consisting of Controlled Modulus Columns (also designated as “rigid inclusion elements”) and an engineered geosynthetic-reinforced Load Transfer Platform (LTP). The existing viaduct superstructure was removed in two stages to allow for ground improvement while providing lanes for traffic. Temporary Geosynthetic Reinforced Soil Systems (GRSS) were constructed between the two phases. Temporary shoring consisting of sheet piles with tieback anchors were also proposed to support the excavation for the Teall Avenue bridge. The project, as it relates to the Design Builder’s geotechnical scope of work, consisted of the following:

- Replacement of Beech Street viaduct (BIN 1051139).
- Reconstruction of I-690 between Lodi Street and Peat Street.
- Replacement of Teall Avenue Bridge (BIN 1051149).
- Reconstruction of the existing interchange intersections with Teall Avenue.
- Reconstruction of the existing ramp configurations at Teall Avenue to maintain direct access from the Teall Avenue area to the interstate.
- Reconstruction of the Teall Avenue intersection with Canal Street and Post Office driveways.
- Minimizing public impacts to area businesses and the public in this very heavily traveled corridor.

NYSDOT I-390 Interchange Improvements Design-Build Contract No. D900018 - Rochester, NY

Mr. Fiorillo is the Lead Geotechnical Engineer for this \$30.7M Design-Build project. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the proposed construction of a new rigid frame bridge replacement over the Erie Canal (BIN 4443310); construction of a grade separated crossing for the new Ramp NFE over relocated Ramp DH (BIN 1079660); construction of four new interchanges at Route 15A (on/off ramps) to improve traffic flow, safety, and roadway capacity; installation of a new, energy-efficient high-mast lighting system; construction of a temporary pedestrian bridge over the canal; protection of one of the City’s 24” water distribution mains located adjacent to the new bridge abutment; pedestrian access to the Erie Canal Trail system.

State Route 427 Bridge over Chemung River BIN 1061330 / PIN 6039.11 – Design-Build Contract D900019 - Chemung, NY

Mr. Fiorillo is the Lead Geotechnical Engineer for this \$20M Design-Build project. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the proposed replacement of the existing seven span, 802-foot long,

EDUCATION

B.S., Geological Sciences, University of Rome, Italy, “La Sapienza”, 1994

M.S., Geological Sciences, University of Rome, Italy, “La Sapienza”, 1994

M.E. (Master of Engineering), Geotechnical Engineering, SUNY at Buffalo, 2000

REGISTRATIONS

Professional Engineer:

New York – Lic #085888
Connecticut– Lic # PEN.0029949
Pennsylvania– Lic # PE080766
Ohio– Lic #77791

AFFILIATIONS

Association of Bridge Design and Construction
American Society of Civil Engineers - Rochester Chapter - member
American Society of Civil Engineers - member
American Council of Engineering Companies

WORK HISTORY

Terracon Consultants-NY, Inc.,
Geotechnical Department Manager,
2016-Present

ROC Geotechnical Consulting
Engineers, PLLC:
Owner / Senior Geotechnical
Engineer, 2011-2016

Tierney Geotechnical Engineering,
P.C.:
Geotechnical Engineer 2004-2011

Empire Geo-Services, Inc.
Geotechnical Engineer 2002-2004

Van Der Horst, Geotechnical
Engineering, P.C.
Geotechnical Engineer, 1999-2002

CME Associates, Inc.
Engineering Technician, 1998-1999

Rochester Asphalt Materials (RAM);
QC/QA Technician, 1997-1998

CME Associates, Inc.
Engineering Technician 1995-1997

steel, multi-girder SR 427 bridge over Chemung River, including new foundations; removal of existing substructure and superstructure; approach roadway reconstruction necessary to connect existing roadways to the new bridge.

Kendrick Road Bridge (BIN 4443840) – Rochester, New York

Mr. Fiorillo is the Lead Geotechnical Engineer for this \$15M Design Build project. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the proposed EH Ramp structure, the widening of the existing Kendrick Road abutments and pier, and the MSE wall proposed for the new acceleration lane from the I-390 Northbound on-ramp structure, in accordance with the methodologies presented in the AASHTO LFRD Bridge Design Specifications. Driven steel H-piles were proposed as a foundation system for the new structures.

I-81 Bridges over Route 80 (BIN 1030661 and BIN 1030662) – Contract No. D900023

Mr. Fiorillo is the Lead Geotechnical Engineer for this \$8M Design Build project. The project consisted of replacement of the two existing bridges (BIN 1030661 I-81 SB and BIN 1030662 I-81 NB) including new foundations; approach roadway reconstruction and resurfacing; reconstruction/widening along Route 80 under I-81. Mr. Fiorillo was responsible for the preparation of Geotechnical Work Plan and Geotechnical Interpretative and Foundation Design Report. As part of the preparation of these reports, soil and rock profiles were completed for the purpose of geotechnical analysis, design, and construction. Geotechnical design recommendations (in accordance with AASTHO LFRD Bridge Design Manual) for shallow foundations for the new bridges. The design included both static and dynamic loads, and downdrag and liquefaction potential of the on-site soils. Global stability analyses for the new structures. Review of design of temporary support structures.

Hulberton Road Bridge (BIN 3319220) - Murray, New York

Mr. Fiorillo is the geotechnical engineer of record for this project. The project consisted of replacement of an existing bridge with a 3-sided buried pre-cast bridge structure supported on cast in-place concrete shallow foundations bearing directly upon bedrock. The design was completed in accordance with the methodologies presented in the AASHTO LFRD Bridge Design Specifications. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation and recommendations for foundation types.

Harrison Road Bridge (BIN No. 2217130) – Town of Hornby, New York

Mr. Fiorillo worked as staff engineer for this project. The project included replacement of an existing bridge with a new bridge along the alignment of Harrison Road over Dry Run Creek. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation and recommendations for foundation types.

PROJECT EXPERIENCE – UNIVERSITY OF ROCHESTER

Mr. Fiorillo performed oversight of subsurface drilling investigation and geotechnical evaluation for design of numerous structures located within the University of Rochester Campus. Some of projects included:

Science Quad Elevated Walkway – University of Rochester River Campus, New York

Mr. Fiorillo is the geotechnical engineer of record for this project. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the proposed elevated walkway. Geotechnical recommendations for foundations were provided.

Institute of Data Science - University of Rochester River Campus, New York

Mr. Fiorillo is the geotechnical engineer of record for this project. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the proposed multistory building and associated underground utilities. Geotechnical recommendations for deep foundations and floor slabs were provided.

Schlegel Hall Addition - University of Rochester River Campus, New York

Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the proposed multistory building and associated underground utilities. Geotechnical recommendations for a structural mat foundation was provided.

Fauver Stadium Residence Hall - University of Rochester River Campus, New York

Mr. Fiorillo provided geotechnical recommendations for design of the proposed multistory building. Geotechnical recommendations for shallow foundations and floor slabs were provided. Geotechnical recommendations were also provided for design of a relief reinforced earth structure, which was recommended in order to reduce the earth pressure on the below grade wall along column line A/B.

PROJECT EXPERIENCE – OTHERS

Warsaw Central School District – Warsaw, New York

Mr. Fiorillo is the geotechnical engineer of record for this project. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the proposed campus building additions, parking lot expansions and parking lot rehabilitation. Evaluation of existing pavement, and geotechnical recommendations for foundations and floor slabs were provided.

Rochester Institute of Technology Gene Polisseni Hockey Arena – Rochester, New York

Mr. Fiorillo is the special inspector of record for this project. Mr. Fiorillo performed special inspection oversight on this project, as well as the pile driving inspection.

Promenade at Erie Harbor – Rochester, New York

Mr. Fiorillo is the geotechnical engineer of record for this project. The Promenade at Erie Harbor project consists of a public promenade constructed along the east side of the Johnson-Seymour Mill Race, within the area referred to as Erie Harbor Park. Our scope of work consists of providing geotechnical recommendations for the following proposed structures:

- **PEDESTRIAN BRIDGE:** Construction of a new twin-plate girder pedestrian bridge to connect the northern end of the promenade with the south sidewalk of the existing Court Street Bridge. The pedestrian bridge consisted of a 3-span structure that is approximately 200 feet long and 12 feet wide. Span 1 of the bridge will extend from a new concrete abutment (designated as “Begin Abutment”) constructed with the elevated promenade over to the existing stone pier that is partially supporting the former Lehigh Valley Terminal Building. Span 2 will extend from this stone pier (designated as Pier #1) to a new single, circular column concrete pier installed in the Genesee River just south of the Court Street Bridge. The foundation for this pier (designated as Pier #2) was drilled and socketed into the Genesee River bedrock. Span 3 was cantilevered from the new river pier over to the south fascia of Court Street Bridge.
- **RETAINING WALL:** Construction of an approximately 95-foot long, new retaining wall at the southern end of the proposed Promenade. The proposed retaining was supported on a cast-in-place concrete footing.
- **RACEWAY WALL:** Reconstruction and preservation of the Johnson-Seymour Raceway Wall. The existing wall was fully removed down to rock and replaced. A new 360-foot-long raceway was constructed. As part of the construction, new grouted anchor dowels were installed for the proposed Raceway Wall.

Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the proposed bridges, retaining and raceway walls. Mr. Fiorillo performed special inspection oversight on this project, as well as the drilled shaft inspection.

New Pasteurizer Building at Genesee Brewing Company – Rochester, NY

Mr. Fiorillo is the geotechnical engineer of record for this project. Mr. Fiorillo oversaw the geotechnical investigation for a 1-story slab-on-grade structure. This project was located within close proximity to the existing bank of the Genesee River. Geotechnical recommendations for foundations and floor slabs were provided.

Wal-Mart: Various Sites in NY

Mr. Fiorillo is the geotechnical engineer of record for these projects. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the Walmart stores and associated pavement and stormwater management areas. Some of services generally performed included:

- Subsurface exploration and geotechnical recommendations for proposed buildings, pavement, stormwater management structures, slopes, retaining walls.
- Shallow and deep foundation design recommendations; settlement analyses
- Design of mechanically stabilized earth walls and reinforced slopes; global stability of slopes Hydraulic conductivity (i.e. slug testing; double ring-infiltrometer testing)
- Infiltration testing in accordance with NYSDEC Stormwater Management Design Manual, Appendix D. Infiltration Testing Requirements).
- On-site inspections during construction.

ALDI Stores: Various Sites in NY

Mr. Fiorillo is the geotechnical engineer of record for these project. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the Aldi stores and associated pavement and stormwater management areas. Mr. Fiorillo performed special inspection oversight on these projects.

PROJECT EXPERIENCE – ENERGY AND COMMUNICATIONS TOWERS

Electric Substations: Various Sites in NY

Mr. Fiorillo is the geotechnical engineer of record for these project. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the improvements proposed at existing substations, and development of new substations. Some of the site are:

- New Substation, Civero, NY
- Substation improvements, Stillwater, NY
- Substation Improvements, Clyde, NY
- Substation Improvements, Amenia, NY
- Substation Improvements, Dover Plains, NY
- Substation Improvements, Dingle Ridge, NY
- Substation Improvements, Sackett Lake, NY

Communications Towers: Various Sites in NY and PA

Mr. Fiorillo is the geotechnical engineer of record for these project. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of proposed monopole and self-supporting communications towers. Recommendations for both shallow foundationsd and drilled shafts were generally presented.

Wind Turbines: Various Sites in NY and PA

Mr. Fiorillo is the geotechnical engineer of record for these project. Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of proposed wind turbines. Recommendations for both shallow foundationsd and drilled shafts were generally presented. Some of the site are:

- Bluestone Wind Project, Broome County, NY
- More than 100 Residential-Commercial-Farm sized Wind Turbunes (Endurance Wind Power; Bergery Wind Power) across New York State

Photo Voltaic Power Plants (Solar Array): Various Sites in NY and PA

Mr. Fiorillo is the geotechnical engineer of record for several solar projects. Some of the sites are:

- Mohawk Solar Project, Montgomery County, NY
- Pattersonville Solar Project, Pattersonville, Schenectady, NY
- Brickchurch Solar (NY), Sodus, Wayne, NY
- Salt Point Solar, Hyde Park, Dutchess County, NY
- Dubois Solar, Crawford, Orange County, NY
- Reischer Solar, Ellenville, Ulster County, NY
- Livingston 4 Solar, Caledonia, Livingstone County, NY
- Costanza Solar, Westerlo, Albany County, NY
- Entersolar Amphenol Solar, Sidney, Delaware County, NY
- AEGIS Solar, LLC, Canandaigua, Ontario County, NY
- Cowburn Solar, Newfield, PA
- Java Solar Power Facility, Java, Wyoming County, NY
- Harford Solar Array, Harford, Cortland County, NY

Mr. Fiorillo performed oversight of the subsurface drilling investigation, laboratory testing, and geotechnical evaluation for design of the foundations for the rack-supported solar panels and associated ancillary structures. Recommendations for ground-screw piles (i.e. Krinner ground screw), driven steel piles, pre-cast ballasted foundations, drilled shafts, and shallow foundations were generally presented.

SPECIALTY FOUNDATIONS

Texas Roadhouse Restaurant – Greece, Monroe County, New York

Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the foundations for the new building. Recommendations for Ramped Aggregate Piers (RAPs) for support of shallow foundations were presented. Mr. Fiorillo is the special inspector of record for this project. The type of RAPs used for this project consisted of VibroPier installed by Hayward-Baker. Mr. Fiorillo performed special inspection oversight on this project, as well as during the VibroPier installation. For this project a total of 167 VibroPiers were installed by Hayward-Baker.

Aldi Store – Norwich, Chenango County, NY

Mr. Fiorillo performed oversight of the subsurface drilling investigation and geotechnical evaluation for design of the foundations for the new building. Recommendations for Drillend-In-Displacement Micropiles (DDM) for support of the building were presented. Mr. Fiorillo is the special inspector of record for this project. The type of DDM used for this project consisted of Stelcore piles manufactured by Ideal Foundations and installed by CMI Structural Solutions. Mr. Fiorillo performed special inspection oversight on this project, as well as during the DDM installation.

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

Application of High Bridge Wind, LLC for a
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Public Need Pursuant to Article 10 for Construction
of the High Bridge Wind Project Located in the Town
of Guilford, Chenango County

Case No. 18-F-0262

PRE-FILED TESTIMONY OF

PATRICK J. HEATON

ENVIRONMENTAL DESIGN & RESEARCH,

LANDSCAPE ARCHITECTURE, ENGINEERING &

ENVIRONMENTAL SERVICES, D.P.C.

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

2 A: Patrick J. Heaton, Environmental Design & Research, Landscape Architecture, Engineering &
3 Environmental Services, D.P.C. (EDR), 217 Montgomery Street, Suite 1000, Syracuse, New York
4 13202.

5 **Q: What is your position at EDR?**

6 A: I am a Principal and Director of Cultural Resources Services.

7 **Q: How long have you been employed with EDR?**

8 A: I have been employed with EDR since 2010.

9 **Q: Please describe your educational background and professional experience.**

10 A: I received a Bachelor of Arts degree in Anthropology from Hartwick College in 1994. I received a
11 Master of Arts degree in Anthropology from New York University in 1999. I have over 20 years of
12 experience in performing and/or overseeing cultural resources compliance, environmental
13 permitting, and historic preservation projects. A copy of my resume is submitted as Exhibit ____
14 (PJH-PF1): Resume of Patrick J. Heaton.

15 **Q: Please describe your current responsibilities with EDR.**

16 A: As a Principal within EDR's Environmental Division, I oversee all aspects of the firm's projects related
17 to cultural (i.e., archaeological and historic) resources, as well as managing environmental permitting
18 projects. I am responsible for managing cultural resources surveys and visual impact analyses on
19 behalf of EDR's clients. I have over 20 years of experience performing and/or supervising projects
20 involving cultural resources, environmental impact assessments, visual impact assessments, natural
21 resource management plans and recreation planning.

22 **Q: Have you previously testified before the New York State Public Service Commission or Siting
23 Board on Electric Generation?**

24 A: Yes, I previously testified before the Public Service Commission related to cultural resources studies
25 and visual impact assessment in support of the Article VII application for Central Hudson Gas &
26 Electric's A and C Transmission Line Rebuild Project. I also testified on cultural resources and visual
27 impact assessment before the Siting Board on Electric Generation in support of the Cassadaga Wind
28 Energy Project (Case No. 14-F-0490) and the Baron Winds Project (Case No. 15-F-0122). In
29 addition, I submitted pre-filed testimony to the Siting Board on cultural resource impacts in
30 conjunction with the Galloo Island Wind Energy Project (Case No. 15-F-0327) and the Bluestone
31 Wind Energy Facility (Case No. 16-F-0559).

32 **Q: Have you previously served as an expert witness before any other court, agency, or other**
33 **body on the subject you plan to offer testimony on today?**

34 A: I have provided testimony before the Public Service Commission of Maryland regarding the review
35 of environmental impacts (including cultural resources and visual impacts) for the Great Bay Solar I
36 Project. In addition, I have provided testimony before the Ohio Power Siting Board regarding the
37 review of environmental impacts (including cultural resources and visual impacts) for the Icebreaker
38 Wind Project.

39 **Q: What is the purpose and scope of your testimony in this proceeding?**

40 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

41 **Q: What portion(s) of the Application is your testimony sponsoring?**

42 A: Exhibit 20, Cultural Resources.

43 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction**
44 **and supervision.**

45 A: Yes.

46 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or**

47 **documents produced by persons other than yourself/your company? If so, please cite these**
48 **sources. [These are independent studies, etc.]**

49 A: References are listed in Exhibit 20.

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

51 A: Yes.



Patrick J. Heaton, RPA
Principal, Director of Cultural Resources

education

New York University, New York, New York, *Master of Arts in Anthropology*, 1999.

Hartwick College, Oneonta, New York, *Bachelor of Arts in Anthropology*, 1994.

professional affiliations

Registered Professional Archaeologist (RPA), 2000

Meets the Secretary of Interior's Standards for Historic Preservation Projects (36 CFR Part 61)

Vice-President, Board of Directors, Preservation Association of Central New York (PACNY)

Member, Council for Northeast Historical Archaeology

Member, New York Archaeological Council

Member, New York State Archaeological Association (NYSAA), William M. Beauchamp Chapter

Executive Board (2006-2007), Professional Archaeologists of New York City (PANYC)

employment history

Principal and Director of Cultural Resources Services, Environmental Design & Research, Landscape Architecture, Engineering and Environmental Services, D.P.C., 2013 to Present.

Project Manager, Environmental Design & Research, Landscape Architecture, Engineering and Environmental Services, D.P.C., 2010 to 2013.

Associate, Principal Archaeologist, and Project Manager, John Milner Associates, Inc., Croton-on-Hudson, NY, 2004 to 2010.

Project Archaeologist, John Milner Associates, Inc., Croton-on-Hudson, New York, 2000 to 2004.

Graduate Teaching Assistant, Anthropology Department, New York University, 1997 to 2000.

Research Consultant, Sass Conservation, Inc., Yonkers, New York, 1998 to 2000.

Archaeological Field Technician, Various Firms, New York, Rhode Island, Massachusetts, Pennsylvania, Connecticut, 1995 to 1997.

publications/presentations

Presenter. It's a Brave New World: Online Consultation with the New York State Historic Preservation Office (SHPO). 2015 New York State Wetlands Forum Conference, Syracuse, NY. April, 2015.

Poster Presentation. The Effect of Larger Rotor Diameters and Taller Hub Heights on Shadow Flicker Impacts. 2013 American Wind Energy Association (AWEA) Wind Conference, Chicago, IL. May, 2013.

Presenter. Cultural Heritage Planning: History as a Marketable Asset. Annual Conference of the New York Upstate Chapter of the American Planning Association, Corning, NY. September, 2012.

Presenter. Use of Visualization Techniques and Computer Graphics to Address the Visibility and Appearance of Off-shore Wind Projects. 2011 AWEA Offshore Wind Conference, Baltimore, MD. October, 2011.

Heaton, Patrick J., J. Sanderson Stevens, L.E. Branch-Raymer, & J. Wettstaed. 2010. Archaeological Investigations of an Early Farmstead Site in Shelby County, Indiana. Indiana Archaeology 5(2):74-95.

Heaton, Patrick J. 2003. The Rural Settlement History of the Hector Backbone. Northeast Historical Archaeology 32:19-28.

Heaton, Patrick J. 2003. Farmsteads and Finances in the Finger Lakes: Using Archival Sources in a GIS Database. Northeast Historical Archaeology 32:29-44.

Six, Janet, Patrick J. Heaton, Susan Malin-Boyce, & James A. Delle. 2003. The Artifact Assemblage from the Finger Lakes National Forest Archaeology Project. Northeast Historical Archaeology 32:79-94.

Delle, James A., & Patrick J. Heaton. 2003. The Hector Backbone: A Quiescent Landscape of Conflict. Historical Archaeology 37(3):93-110.

Heaton, Patrick J. 2000. Book review of Nineteenth- and Early Twentieth-Century Domestic Site Archaeology in New York State, edited by John P. Hart and Charles L. Fisher, New York State Museum Bulletin No. 495, Albany, NY, 2000. Published in Northeast Anthropology 60:93-94.

project experience

Interstate 81 (I-81) Viaduct Project – Archaeological Assessment – Project Manager for Phase 1A Archaeological Sensitivity Assessment and Section 106 of the National Historic Preservation Act consultation and National Environmental Policy Act (NEPA) review as part of a consultant team with Parsons and AKRF, Inc. on behalf of the New York State Department of Transportation (NYSDOT) for the replacement of approximately 5 miles of elevated highways through the City of Syracuse, Onondaga County, NY (NYSDOT PIN 3501.60, D031085). Coordinated State Historic Preservation Office (SHPO) consultation and assisted with public outreach events/meetings and preparation.

Interstate 81 (I-81) Viaduct Project – Visual Impact Assessment – Project Manager for Visual Impact Assessment conducted in accordance with Federal Highway Administration (FHWA) Visual Impact Assessment protocol as part of NEPA review as part of a consultant team with Parsons, AKRF, Inc., and TWMLA for the replacement of approximately 5 miles of elevated highways through the City of Syracuse, Onondaga County, NY (NYSDOT PIN 3501.60, D031085).



Patrick J. Heaton, RPA
Principal, Director of Cultural Resources

Great Bay Solar I – Principal-in-Charge and Project Manager for 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 in Somerset County, MD.

Arkwright Summit Wind Farm – Project Manager for environmental permitting for a proposed 36-turbine, 78-megawatt (MW) wind energy facility and associated 3-mile generator lead line in Chautauqua County, NY. Services include managing review under New York State Environmental Quality Review Act (SEQRA), including Lead Agency coordination, preparation of Supplemental Environmental Impact Statement (SEIS), Final Environmental Impact Statement (FEIS), Visual Impact Assessment, shadow flicker analysis, supplemental Phase 1B Archaeological Survey, Historic Resources Assessment, and preparation of Joint Application for Permit for wetland permitting for submission to the U.S. Army Corps of Engineers and New York State Department of Environmental Conservation (NYSDEC).

Solar Development Project (Private Client) – Principal-in-Charge for environmental Critical Issues Analysis and comprehensive Permitting Matrix for utility-scale solar energy project in Worcester County, MD.

Cassadaga Wind Farm – Technical Director for Phase 1 Archaeological Survey, Historic Resources Survey, State Historic Preservation Office (SHPO) consultation, and Visual Impact Assessment 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 in Chautauqua County, NY.

University at Albany Emerging Technology and Entrepreneurship Complex (ETEC) – Principal-in-Charge and Project Manager for SEQRA review, 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 on the New York State Office of General Services (OGS) Harriman Campus in Albany County, NY.

New York State Thruway Authority (NYSTA) Term Contract for Bridge Rehabilitation in Western New York – Principal-in-charge for environmental and cultural resources services to support environmental permitting as part of consultant team with Stantec for NYSTA bridge rehabilitation projects. Services include: preparation of Section 106 Project Submittal Packages; Phase 1A Archaeological Assessments and/or Phase 1 Archaeological Surveys; wetland reconnaissance and/or delineations; rare, threatened, and endangered (RTE) species assessments; Section 4(f) Consultation correspondence; and, the environmental portions of Design Approval Documents.

Onondaga Lake Parkway/NY Route 370 – Principal-in-Charge for environmental permitting studies as part of coordinated SEQRA/NEPA review as part of a consultant team with Lochner for the reconstruction and safety improvements of 2-mile parkway in the City of Syracuse, Onondaga County, NY (NYS DOT PIN 3287.17). Services include wetland delineation and permitting, rare, threatened, and endangered (RTE) species assessments, groundwater modeling, historic landscape inventory, and visual impact assessment.

Onondaga Creekwalk Phase II – Principal-in-Charge for environmental permitting services as part of a consultant team with C&S Engineers for the a 2.2-mile recreational trail along Onondaga Creek in the City of Syracuse, Onondaga County, NY (NYS DOT PIN 355.14). Services provided as part of coordinated SEQRA/NEPA review included: preparation of a Section 106 Project Submittal Package; Phase 1A Archaeological Assessment; rare, threatened, and endangered (RTE) species assessments; Section 4(f) Consultation correspondence; and, the environmental portions of a NYSDOT Design Approval Document.

Interstate 690 (I-690) Teall Avenue & Beech Street Interchange – Project Manager and Technical Director for Visual Assessment and Archaeological Resources Screening as part of National Environmental Protection Act (NEPA) review and Section 106 consultation as part of a consultant team with Parsons and AKRF, Inc. on behalf of the NYSDOT for a bridge replacement and intersection improvement of 0.5-mile elevated highway in the City of Syracuse, Onondaga County, NY.

Canalways Trail – Technical Director for Section 106 Project Submittal Package and Phase 1A Archaeological Assessment as part of a consultant team with CHA for the design and construction of a 2.7-mile recreational trail along the shoreline of Onondaga Lake in the City of Syracuse, Onondaga County, NY (NYS DOT PIN 3950.49).

Penn Forest Wind Farm – Project Manager for preliminary visual assessment, visual fieldwork, viewshed analysis, visual simulations, and preparation of public outreach materials for proposed 40-turbine wind energy facility in Carbon County, PA.

Stiles Brook Wind Farm – Project Manager for preliminary visual assessment, visual fieldwork, viewshed analysis, visual simulations, and preparation of public outreach materials for proposed 30-turbine wind energy facility located in Towns of Windham and Grafton, VT.

Village of Mohawk Substation Relocation – Principal-in-Charge and Project Manager for Phase 1 Archaeological Survey conducted as part of Section 106 of the National Historic Preservation Act consultation for a proposed 1.2-acre substation relocation project in Herkimer County, NY. Project sponsored by New York Governor's Office of Storm Recovery (GOSR) and Federal Emergency Management Agency (FEMA).



Patrick J. Heaton, RPA
Principal, Director of Cultural Resources

Town of Nichols Highway Garage – Principal-in-Charge and Project Manager for Phase 1 Archaeological Survey conducted as part of Section 106 of the National Historic Preservation Act consultation for a 7.0-acre site proposed for relocation of a municipal highway garage in Tioga County, NY. Project sponsored by New York Governor's Office of Storm Recovery (GOSR) and U.S. Department of Housing and Urban Development (HUD).

Jericho Rise Wind Farm – Technical Director for Phase 1B archaeological survey, historic resources survey and effects analysis, and SHPO consultation in support of SEQRA review and U.S. Army Corps of Engineers wetland permitting for a proposed 37 wind turbine, 78 MW wind energy facility in Franklin County, NY.

Liverpool Village Cemetery Long-Term Maintenance and Restoration Plan – Principal-in-Charge for a landscape preservation planning project, associated NYS Consolidated Funding Application (CFA), and public outreach for a 6-acre cemetery listed on the National Register of Historic Places (NRHP) located in the Village of Liverpool, Onondaga County, NY.

Cumberland Bay State Park, Camping Area Comfort Station Replacements – Principal-in-Charge and Project Manager for Phase 1 Archaeological Survey for proposed comfort station replacements in a state park on Lake Champlain in Clinton County, NY. Services provided as part of a consultant team with Beardsley Architects & Engineers, D.P.C. for a Term Services Agreement with the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP).

Montezuma Heritage Park and Giardina Park – Principal-in-Charge and Project Manager for Phase 1A Archaeological Resources Surveys in support of historic preservation planning for a proposed 168-acre heritage park that interprets archaeological remains of the Erie and Cayuga-Seneca Canals and an additional 16-acre town park in the Town of Montezuma, Cayuga County, NY.

Rochester Genesee Regional Transit Authority (RGRTA) Main Street Campus Improvements – Principal-in-Charge and Project Manager for preparation of Phase 1B Archaeological Survey in support of NEPA review of 3-acre transit facility in the City of Rochester, Monroe County, NY.

Galloo Island Wind Farm – Project Manager for preliminary visual assessment, viewshed analyses, visual simulations, preparation of public outreach graphics, and public meeting support for proposed 30-turbine wind energy facility located on an island in Lake Ontario in Jefferson County, NY.

Binghamton University School of Pharmacy - Principal-in-Charge and Project Manager for SEQRA review (including preparation of a Full Environmental Assessment Form, or EAF) and Phase 1A Archaeological Assessment on behalf of the State University Construction Fund (SUCF) for a 5.5-acre site proposed for new academic building in the Village of Johnson City, Broome County, NY.

Maxwell Field Streambank Stabilization Project – Principal-in-Charge and Project Manager for Phase 1 Archaeological Survey for 0.3-acre streambank stabilization project in the City of Oneida, Madison County, NY.

Chain Works District Redevelopment Project – Principal-in-Charge for preparation of Phase 1A Archaeological Survey in support of SEQRA review of 95-acre historic industrial site proposed for redevelopment in the City of Ithaca, Tompkins County, NY.

Central Hudson Gas & Electric W-H and G Transmission Lines – Technical Director for SHPO consultation, archaeological surveys, and visual impact studies in support of NYS Public Service Commission Part 102 Applications for the refurbishment of a 13-mile transmission-line in Ulster County and an 11-mile transmission line Dutchess County, NY.

Coye Hill Wind Farm – Project Manager for Natural Resources Impact Evaluation Report and consultation with the Connecticut SHPO in support of Petition for a Declaratory Ruling from the Connecticut Siting Council for proposed 4-turbine, 12 MW wind energy project in Tolland County, CT.

NFG Dunkirk Pipeline – Principal-in-Charge and Project Manager for SHPO consultation and Phase 1A/1B Archaeological Surveys in support of NYS Public Service Commission Article VII Application for a proposed 9-mile natural gas pipeline located in Chautauqua County, NY.

Rochester Genesee Regional Transit Authority (RGRTA) Orleans County Transit Facility – Project Manager for preparation of Phase 1A Archaeological Survey in support of NEPA review of proposed 2-acre bus storage/service facility in Orleans County, NY.

Great Bay Wind Project – Project Manager for preparation of cultural resources surveys, consultation with the Maryland Historical Trust (MHT), and Visual Impact Assessment for a proposed 35-turbine, 100 MW wind energy project in Somerset County, MD. Services provided in support of Maryland Public Service Commission review for a CPCN and Section 106 consultation as part of NEPA review by the U.S. Fish and Wildlife Service in association with Bald and Golden Eagle Protection Act take permit review.

Onondaga Lake West Revitalization Area – Project Manager for preparation of Phase 1 cultural resources surveys of 400-acre brownfield area and proposed streetscape improvements in the Village of Solvay, Onondaga County, NY.

Van Dyke Road Substation – Technical Director for Visual Impact Assessment and Phase 1 archaeological survey for a proposed 4.3-acre substation site and 1.6-mile underground transmission duct bank located in Albany County, NY.

Batavia Senior Housing Project – Project Manager for Phase 1 Archaeological Survey and prepared Phase 2 Archaeological Site Investigation Work Plan for a 13.5-acre site proposed for development as a senior housing facility in Genesee County, NY.



Patrick J. Heaton, RPA
Principal, Director of Cultural Resources

Copenhagen Wind Project – Technical Director for preparation of Phase 1A/1B Archaeological Survey and Historic Resources Survey, New York SHPO consultation, Visual Impact Assessment, and prepared sections of Draft Environmental Impact Statement (DEIS) and FEIS as part of SEQRA review for proposed 47-turbine, approximately 79 MW wind energy project in Lewis County, NY.

Black Oak Wind Farm – Technical Director for Phase 1A Cultural Resources Survey, Historic Resources Visual Effects Analysis, and SHPO consultation in support of SEQRA review for a proposed 7-wind turbine, 14-MW wind energy project in Tompkins County, NY.

Downtown Syracuse Commercial Historic District – Project Manager for preparation of National Register of Historic Places (NRHP) nomination and Multiple Property Documentation Form on behalf of the Downtown Committee of Syracuse, Inc. for a proposed 21-acre historic district located in the City of Syracuse, Onondaga County, NY. The nomination was approved by the National Park Service and listed on the NRHP on May 7, 2013.

Chittenango Landing Dry Dock Complex Cultural Landscape Report – Project Manager for preparation of Part 1 of a Cultural Landscape Report (CLR) on behalf of the Chittenango Landing Canal Boat Museum for a 6-acre historic site/museum listed on the NRHP. The interpretive site includes a 19th-century dry dock complex and associated buildings located on the Erie Canal in the Town of Sullivan, Madison County, NY.

Aquidneck Island Reliability Project – Technical Director for visual fieldwork, visual simulations, and report preparation for a Visual Impact Assessment (VIA) for the proposed upgrade of approximately 4.4 miles of National Grid 69 kV transmission line to 115 kV in Newport, RI.

Mary Cariola Children's Center – Project Manager for a Phase 1 Archaeological Survey conducted as part of SEQRA review for a proposed residential facility for disabled children located on 1.3 acres in the Town of Henrietta, Monroe County, NY.

Central Hudson Gas & Electric A and C Transmission Lines – Technical Director for SHPO consultation, Phase 1 Archaeological Survey, and Visual Impact Assessment in support of Article VII application for the rebuild of 11 miles of 115 kV transmission lines in Dutchess County, New York.

Indian Point Energy Center (IPEC) – On behalf of Scenic Hudson, Inc., and Riverkeeper, coordinated preparation of visual simulations and Visual Impact Assessment for a proposed closed-cycle cooling (CCC) system at a nuclear energy facility located in Westchester County, NY.

Scioto Ridge Wind Farm – Prepared Cultural Resources Survey Work Plans in support of Ohio Power Siting Board (OPSB) Certificate Application for proposed wind energy project with up to 176 wind turbines and a generating capacity of up to 300 MW in Hardin and Logan Counties, OH.

University at Buffalo School of Medical and Biological Sciences – Project Manager for SEQRA 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 gross square foot medical/educational facility located on the University at Buffalo's Downtown Campus in the City of Buffalo, Erie County, NY.

Wild Meadows Wind Project – Technical Director for visual fieldwork/photography and presented visual resources analyses and simulations at public open houses conducted in support of Section 106 of the National Historic Preservation Act (NHPA) consultation for a proposed 37-turbine, 74 MW wind energy project in Grafton and Merrimack Counties, NH.

Loveless Farms – Technical Director for Phase 1 Archaeological Survey and Visual Impact Assessment in support of SEQRA review for a proposed 18-lot subdivision located on 47 acres in the Town of Skaneateles in Onondaga County, NY.

White Pine Commerce Park – Project Manager for Phase 1 Archaeological Survey and SHPO consultation for Onondaga County Industrial Development Authority (OCIDA) in support of SEQRA review for a 300-acre parcel and 4-mile sewer line in the Town of Clay, Onondaga County, NY.

Empire Brewing Company Farmstead Brewery – Project Manager for visual assessment, viewshed analyses, visual simulations, and analysis of visual effects on NRHP-listed properties as part of SEQRA review for a proposed craft brewery in the Town of Cazenovia, Madison County, NY.

Wilcox Estates – Project Manager for a Phase 1 Archaeological Survey as part of SEQRA review for a proposed 32-lot subdivision located on 20 acres in the Town of Barton in Tioga County, NY.

Barcelona Water Improvement District – Project Manager and Technical Director for a Phase 1 Archaeological Survey as part of Section 106 of the NHPA review for a 4-mile long public water system located in the hamlet of Barcelona, on behalf of the Town of Westfield in Chautauqua County, NY.

Village of Danforth Historic Resources Survey – Project Manager for development of public outreach strategy, historic resource inventory forms, and visual field guide to enable community volunteers to conduct a Neighborhood Historic Resource Survey and NRHP eligibility evaluation of over 300 buildings for the City of Syracuse Bureau of Planning and Sustainability in Syracuse, Onondaga County, NY.

SUNY Cortland Student Life Center – Project Manager for SEQRA process on behalf of the State University Construction Fund, including preparation of DEIS, support studies (including, Visual Impact Assessment, Phase 1A Cultural Resources Survey, and Phase 1 Environmental Site Assessment), FEIS and SEQRA Findings Statement for proposed recreational athletic facility in the City of Cortland, Cortland County, NY.

Newfield Covered Bridge – Project Manager for preparation of a Phase 1A Cultural Resources Survey for a NRHP-listed historic bridge rehabilitation (NYSDOT PIN 37550) in the Town of Newfield, Tompkins County, NY.

Owasco River Greenway Trail – Technical Director for Phase 1A Cultural Resources Survey for a proposed 8.4-mile-multi-modal recreational trail (NYSDOT Project 375557) in the City of Auburn and Town of Fleming, Cayuga County, NY.



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Principal, Director of Cultural Resources

Niagara Falls Underground Railroad Heritage Area Management Plan – Cultural resources specialist for preparation of a Heritage Area Management Plan (HAMP) authorized under Section 35.05 of the New York State Parks, Recreation, and Historic Preservation Law to identify and encourage heritage tourism opportunities related to the Underground Railroad in the Niagara Falls vicinity, Niagara County, NY.

Seneca Park Zoo Parking Lot Expansion – Project Manager for a Phase 1 Archaeological Survey in support of SEQRA review on behalf of Monroe County Parks Department for a 1.5-acre parcel in the City of Rochester and Town of Irondequoit, Monroe County, NY.

Crown City Wind Project – Technical Director for Cultural Resources Survey, Visual Impact Assessment, and prepared DEIS sections as part of SEQRA review for proposed 44-turbine, approximately 71 MW wind energy project in Cortland County, NY.

Buckeye II Wind Project – Technical Director for Visual Impact Assessment for a proposed 56-turbine, 140 MW wind energy project in Champaign County, OH in support of an Application for a Certificate of Environmental Compatibility and Public Need to the Ohio Power Siting Board (OPSB).

Monticello Hills Wind Project – Project Manager for SEQRA process and preparation of permitting support studies (including Full Environmental Assessment Form, Visual Impact Assessment, wetland delineation, shadow-flicker analysis, Phase 1A Cultural Resources Survey, Historic Resources Survey, and Phase 1B Archaeological Survey) for a proposed six-turbine, 18 MW wind energy project in Otsego County, NY.

South Mountain Wind Project – Project Manager for preparation of environmental permitting studies in support of SEQRA review (including wetland delineation, threatened and endangered species habitat assessment, and timber rattlesnake survey) for a proposed community-scale wind energy project in Delaware County, NY.

Smokey Avenue Wind Project – Project Manager for preparation of environmental permitting studies in support of SEQRA review (including Shadow Flicker Analysis, ballooning fieldwork and visibility study, and Phase 1A Cultural Resources Survey) for proposed community-scale wind energy project in Otsego County, NY.

Roaring Brook Wind Power Project – Technical Director for supplemental/addendum Phase 1B Archaeological Survey in association with project layout revisions for a proposed 79MW wind energy project located in Lewis County, NY.

Sackets Harbor Battlefield National Historic Landmark (NHL) Nomination – Prepared sections of NHL nomination and Battlefield Preservation Plan for the 260-acre War of 1812 battlefield in Sackets Harbor, Jefferson County, NY, under a grant from the American Battlefield Protection Program of the National Park Service.

Warren Hull Family Home and Farmstead – Coordinated preparation of graphic displays for cultural landscape historic overview and treatment plan to support restoration of the landscape at a ca. 1825 landmark house museum in Erie County, NY.

Long Island - New York City Offshore Wind Project – Project Manager for preparation of visual simulations, web-based presentation, and associated visualization services for a proposed 350 MW offshore wind energy project located in the Atlantic Ocean approximately 13 miles off the coast of Queens, Nassau, and Suffolk Counties, NY.

Allegheny Wind Power Project – Technical Director for supplemental/addendum Phase 1B Archaeological Survey in association with review of construction plans by New York SHPO for a proposed 29-turbine, 72.5 MW wind energy project located in Cattaraugus County, NY.

Horse Creek Wind Farm – Technical Director for a Visual Impact Assessment, including viewshed analysis, field work, photographic simulations, and VIA report for a proposed 50-turbine, 100 MW wind energy project in Jefferson County, NY.

Tioga Downs Wastewater Improvement Project – Project Manager for a Phase 1 Archaeological Survey and Phase 2 Archaeological Site Investigation of a pre-contact Native American archaeological site for a wastewater treatment facility and 0.5-mile water line in Tioga County, NY.

Collegetown Terrace – Served as Lead Agency's consultant for SEQRA review and prepared FEIS on behalf of the City of Ithaca Planning & Development Board for a 16-acre, 1,260-unit student housing project in Tompkins County, NY.

Big Savage 138 kV Generator Lead – Technical Director for Visual Impact Assessment and Cultural Resources Assessment for Maryland Public Service Commission CPCN review of a proposed 7-mile transmission line in Allegany County, MD.

Marble River Wind Project – Technical Director for cultural resources and visual impacts analyses for SEQRA permitting review of a revised layout for a 74-wind turbine, 222 MW wind energy project located in Clinton County, NY.

Amherst State Park Veterans Memorial – Project Manager for a Phase 1B Archaeological Survey for a proposed veterans' memorial and 1,500-foot footpath in Amherst State Park, Erie County, NY.

Timber Road II Wind Project – Technical Director for a Visual Impact Assessment for a 109-turbine, 150 MW wind energy project in Paulding County, OH in support of an Application for a Certificate of Environmental Compatibility and Public Need submitted to the Ohio Power Siting Board (OPSB).

Hardscrabble Wind Power Project – Technical Director for supplemental Phase 1B Archaeological Survey, construction monitoring, and compliance with U.S. Army Corps of Engineers/SHPO Memorandum of Agreement for a 37-turbine, 74 MW wind energy project in Herkimer County, NY.

Benson Mines Meteorological Tower – Technical Director for visual assessment, ballooning fieldwork, and visual simulations in accordance with the Adirondack Park Agency (APA) Visual Analysis Methodology for a proposed 160-foot meteorological tower in St. Lawrence County, NY.



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Deerfield Wind Power Project – Prepared sections of Supplemental DEIS for a 15-turbine, 30 MW wind energy project located in the Green Mountain National Forest, Bennington County, VT as part of NEPA review on behalf of the U.S. Department of Agriculture (USDA) National Forest Service.

National Grid 115 kV Line, Lighthouse Hill to Coffeen Street – Prepared visual impact assessment portion of Part 102 Report for a 40-mile 115 kV transmission line maintenance and refurbishment project in Oswego and Jefferson Counties, NY.

National Grid Eastover Road Substation and Tap Line – Ballooning/visual impact assessment fieldwork for a proposed 6.4-acre 230/115 kV substation and 0.75-mile 155 kV tap line located in the Town of Schaghticoke, Rensselaer County, NY.

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

Application of High Bridge Wind, LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction
of the High Bridge Wind Project Located in the Town
of Guilford, Chenango County

Case No. 18-F-0262

PRE-FILED TESTIMONY OF

DENNIS J. HYNES

ELECTRICAL ENGINEER,

MOTT MCDONALD GROUP

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

2 A: Dennis J. Hynes, Mott MacDonald Group (Mott MacDonald), 101 Station Drive, Suite 130,
3 Westwood, MA 02090.

4 **Q: What is your position at Mott MacDonald?**

5 A: I am an Electrical Engineer.

6 **Q: How long have you been employed by Mott MacDonald?**

7 A: I have been employed by Mott MacDonald since 2009.

8 **Q: Please describe your educational background and professional experience.**

9 A: I have a Bachelor of Science in Electronics Engineering Technology from the Wentworth Institute of
10 Technology and a Power Systems Certificate, also from the Wentworth Institute. I have 10 years of
11 power engineering experience in detailed design, procurement and project management support of
12 generation interconnection and utility substation projects. My areas of expertise include wind farm
13 design, arc flash analysis, substation detailed design, and transmission line design. Over the years,
14 I have prepared designs and calculations for substations and transmission associated with on and
15 offshore wind energy projects and solar facilities, as well as evaluating bid documents, performing
16 ground grid analyses, bus calculations, and lightning and lighting studies, and providing construction
17 support. In conjunction with a major offshore wind farm project, I reviewed and developed multiple
18 large scale offshore windfarm transmission network and interconnection options for HVDC and
19 HVAC transmission networks. I also provided engineering support for a second offshore wind energy
20 project, including developing interconnection substation and transmission system EPC scope
21 documents. I also have conducted arc-flash studies for numerous projects. Prior to joining Mott
22 MacDonald, I was employed as an engineer at Vanderwell Engineers. A copy of my resume is
23 submitted as Exhibit ____ (DJH-PF1): Resume of Dennis Hynes.

24 **Q: Please describe your current responsibilities with Mott MacDonald.**

25 A: In my current position, I am responsible for providing engineering and utility connection support for
26 large-scale onshore and offshore wind energy projects and solar projects. Specific responsibilities
27 include preparing detailed designs, drawings and calculations in conjunction with collection and
28 transmission, evaluating bid documents, performing ground grid analyses, bus calculations, lightning
29 and lightning studies, and providing construction support.

30 **Q: Have you previously testified before the New York State Public Service Commission or Siting
31 Board on Electric Generation?**

32 A: No.

33 **Q: Have you previously served as an expert witness before any other court, agency, or other
34 body on the subject you plan to offer testimony on today?**

35 A: No.

36 **Q: What is the purpose and scope of your testimony in this proceeding?**

37 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

38 **Q: What portion(s) of the Application is your testimony sponsoring?**

39 A: Exhibit 5, Electrical System Effects.

40 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction
41 and supervision.**

42 A: Yes. See response to question below for additional information.

43 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or
44 documents produced by persons other than yourself/your company? If so, please cite these
45 sources. [These are independent studies, etc.]**

46 A: Yes. The System Reliability Impact Study (SRIS) referenced in Exhibit 5 was developed in
47 accordance with procedures set forth in the Open Access Transmission Tariff (OATT). That process

48 involves input from the developer, transmission owner, and New York Independent System Operator
49 (NYISO). NYISO uses the information provided and other critical infrastructure information to run a
50 standardized set of models and complete the SRIS. I have reviewed the SRIS and am familiar with
51 the information/conclusions it contains.

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

53 **A:** Yes.

Dennis Hynes

Personal summary

Education:

BSc Electronics Engineering
 Technology, Wentworth
 Institute of Technology

Professional certifications:

Power Systems Certificate,
 Wentworth Institute of
 Technology

Professional memberships:

Member of the Institute of
 Electrical and Electronics
 Engineers

Key skills:

Wind Farm design
 Arc-flash Analysis
 Substation detailed design
 Transmission line design

Years in practice:

10

An electrical project engineer with 10 years of power engineering experience in detailed design, procurement and project management support of generation interconnection and utility substation projects. Substation engineering and design experience with substation voltages up to 500kV including developing primary equipment layouts, substation studies, material specification, schematics and wiring diagrams. Offshore wind farm Owners engineering and utility interconnection support. Wind farm collection system and substation development including detailed material lists, specifications, calculations, conduit, grounding and arrangements drawings. Arc flash analysis studies on generation facilities have included detailed data acquisition and modelling of facilities as well as understanding of NFPA 70E and IEEE 1584 requirements.

Employment history

2009 - Present	Mott MacDonald
2008 - 2009	Vanderweil Engineers
2008	National Grid

Selected projects

Avangrid Montague Wind Project, OR - RES: Detailed design of the electrical physical drawings and calculations for the 230-34.5kV collector substation consisting of 2 x 110MVA main transformers, GIS switchgear: 4 x 34.5kV collector feeders, 2 x 35MVAR capacitor & reactor banks, 2 x 16MVAR DVAR; evaluated bid documents; performed ground grid analysis, bus calculations, lightning, and lighting studies.

Article 10 Solar and Wind Facilities Design Support, NY: Developed substation drawings and reports in conjunction with collection and transmission design for multiple clients and large scale renewable generation projects in NY for article 10 permitting application process. Clients include Avangrid Renewables, Calpine and Hecate Energy.

Blue Cloud Wind Farm, TX – Burns & McDonnell: Detailed design of 230/34.5KV AIS collector substation – prepared the physical design of the electrical equipment; evaluated bid documents; performed lighting studies and prepared reports, and provided construction support

Baxter Wilson 500-115kV Substation Upgrades, MS – Entergy: Replacement of 500kV breakers & switches and 115kV switches; Detailed physical design drawings and material for breaker & switch replacements retrofit to existing foundations and steel structures.

Sunstreams Solar Project, AZ – First Solar: Developed detailed substation EPC package for 500kV Chuckar substation and first phase 500/34.5kV collection substation including arrangements, material list, conduit, grounding, lightning protection.

Offshore Wind Farm Interconnection Studies: Reviewed and developed multiple large scale offshore wind farm transmission network & interconnection options for HVDC and HVAC transmission networks: Developed one-lines, arrangements, interconnection facilities layouts, comparative analysis.

8me Mt. Signal 3 230-34.5kV Solar Collector Substation, CA – Mortenson: Detailed design of the electrical physical drawings and calculations for the 230-34.5kV collector substation consisting of 2 x 167MVA main transformers, 5 x 34.5kV overhead collectors and 6 x 14MVAR capacitor banks; evaluated bid documents; performed ground grid analysis, bus calculations, lightning, and lighting studies, and provided construction support.

Enel Stillwater 2, 63-13.8kV Solar Collector Substation and 63kV Metering Switchyard, NV – Mortenson: Detailed design of the electrical physical drawings and calculations for the 63-13.8kV collector substation consisting of a 24MVA main transformer, 2 x 13.8kV underground collector feeders, 63kV Metering switchyard and coordination with 63kV underground transmission line; evaluated bid documents; performed ground grid analysis, bus calculations, lightning, and lighting studies, and provided construction support.

EDPR Jericho Rise Wind Farm – NYPA Interconnection Facility Upgrades, NY: electrical project engineering for NYPA Willis substation 115kV expansion including development and coordination of physical, elementary and wiring detailed design packages.

E. Brookfield Solar Interconnection Substation & Switchyard, MA - JRC: Project engineer performing detailed electrical engineering and design of 20MW PV Collector POI Substation and National

Grid Harrington 2234 Interconnection Switchyard. Developed the primary electrical design, grounding study, schematics and equipment specifications and provided procurement, construction and project management support.

Hecate Solar Farm Interconnection Substations, MA: Project engineer performing detailed engineering and design of two 5MW PV collector system POI Substations and National Grid Macomber Road Interconnection Switchyard. Developed the primary design, schematics, specifications and provided procurement and project management support.

Fishermen's Energy, Atlantic City Wind Farm, NJ: Owners engineering support for offshore windfarm development and electrical interconnection. Developed interconnection substation and transmission cable system EPC scope documents.

National Grid West Newbury Substation EMS upgrade, MA: performed detailed engineering and design of substation upgrades including 13.2kV recloser and regulator replacement and EMS controls

National Grid Meadowbrook Substation upgrade, MA: provided detailed primary engineering and design support of 13.2/115kV substation upgrades including physical layout.

National Grid East Longmeadow Substation upgrade, MA: provided detailed primary engineering and design support of 13.2/115kV substation major upgrades including physical layout and material specification of new 115kV arrangement and 13.2kV feeder bay.

Patton Wind Farm, PA: Engineering design support of collector system and substation drawings and material lists including major components, conduits and grounding. Transitioned to lead engineer role during construction and commissioning phases.

Twin River Casino Arc Flash, RI: Provided field survey of casino electrical system for arc-flash modeling.

Takoradi T3 CC Power Plant, Ghana: Detailed design of plant above ground conduit and cable tray layouts. Design support of interconnection wiring diagrams. Created raceway and cable schedules for power plant.

Freshwater Wind Cleveland: Provided off-shore wind farm interconnection package and assistance including system one-line diagrams.

Smart Line HVDC Link: Provided interconnection package and support of HVDC sub-marine transmission link.

Calpine Arc-flash Studies: Developed system models of multiple generation facilities using ETAP simulation software and provided reports for arc-flash considerations and provisions in accordance with NFPA 70E and IEEE 1584. Data collection included site visit to 1000MW Bethlehem Energy Center with appropriate PPE and site safety training.

NUSCO Arc Flash Substation Upgrades, CT: Updated substation wiring, schematic, physical, three-line and single line diagrams according to Arc-flash provisions.

Stephentown Substation, NY: Provided engineering of substation arrangement drawings and material lists.

Noble Duley and Ryan Substations, NY: Engineering and CAD support of substation final and as-built documentation.

South Oswego, Lighthouse Hill refurbishment: Completed field survey of transmission line and engineering support for project scope documentation.

Coffeen St., Lighthouse Hill refurbishment: Provided engineering and CAD support for project scope documentation.

Ticonderoga, Whitehall refurbishment/ lightning improvement: Provided engineering and CAD support for transmission line project scope documentation and CFI (Construction Field Issue).

Ticonderoga, Republic refurbishment/ lightning improvement: Provided engineering and CAD support for transmission line project scope documentation and CFI (Construction Field Issue).

Distribution System Upgrades: Aided in field support for various distribution projects; service requests, re-conductoring, pole replacement, cut-out replacement, etc.

G.I.S. System Update: Implemented grid as-built information into G.I.S. with work order information.

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PRE-FILED TESTIMONY OF

ALEC J. JARVIS

DEVELOPMENT DIRECTOR, CALPINE CORPORATION

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

2 A: Alec J. Jarvis, Calpine Corporation (Calpine), 717 Texas Avenue, Suite 1000, Houston, TX 77002

3 **Q: What is your position at Calpine?**

4 A: I am a Development Director at Calpine.

5 **Q: How long have you been employed with Calpine?**

6 A: I have been employed by Calpine since September 2015.

7 **Q: Please describe your educational background and professional experience.**

8 A: I have a Bachelor of Science/Bachelor of Arts from Miami University in Oxford, Ohio, and a Master
9 of Science in Forestry from Michigan Technological University, Houghton, Michigan. After an initial
10 career in the timber industry, I worked for several companies in Maine overseeing development of
11 renewable and other energy projects. As Development Manager at First Wind Energy, LLC, I
12 originated and oversaw development of two wind projects totaling 336 megawatts of electricity
13 generation. My responsibilities included interfacing with federal, state and local permitting authorities,
14 managing stakeholder outreach, negotiating purchase and sale agreements, leases, and land option
15 agreements, and managing other aspects of project development. In my almost eleven years in the
16 renewable energy industry, I have also been tasked with overseeing business development,
17 providing regulatory expertise, managing client relationships, and supporting asset valuation and due
18 diligence initiatives. A copy of my resume is submitted as Exhibit ____ (AJJ-PF1): Resume of Alec
19 J. Jarvis.

20 **Q: Please describe your current responsibilities with Calpine.**

21 A: As Development Director for Calpine, I am responsible for leading Calpine's greenfield development
22 efforts in the Northeast, including managing wind energy projects that are currently under
23 development in New York, including High Bridge Wind.

24 **Q: Have you previously testified before the New York State Public Service Commission or Siting
25 Board on Electric Generation?**

26 A: Yes. I testified before the Siting Board in conjunction with the Bluestone Wind Energy Project (Case
27 No. 16-F-0559).

28 **Q: Have you previously served as an expert witness before any other court, agency, or other
29 body on the subject you plan to offer testimony on today?**

30 A: No.

31 **Q: What is the purpose and scope of your testimony in this proceeding?**

32 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

33 **Q: What portion(s) of the Application is your testimony sponsoring?**

34 A: Exhibit 1, General Information; Exhibit 2, Overview and Public Involvement; Exhibit 6, Wind Power
35 Facilities; Exhibit 9, Alternatives; Exhibit 10, Consistency with Energy Planning Objectives; Exhibit
36 13, Real Property; Exhibit 25, Effect on Transportation (limited to road use agreements and aviation);
37 Exhibit 26, Communications (limited to outreach relating to aviation/radar impacts); Exhibit 29, Site
38 Restoration and Decommissioning; Exhibit 31, Local Laws and Ordinances; Exhibit 32, State Laws
39 and Regulations; and Exhibit 33, Other Applications and Filings.

40 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction
41 and supervision.**

42 A: Yes.

43 **Q:** In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or
44 documents produced by persons other than yourself/your company? If so, please cite these
45 sources. [These are independent studies, etc.]

46 A: See Exhibits listed above for references, if any.

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

48 A: Yes.

Alec Joseph Jarvis

34 Ash Swamp Road, Scarborough, ME 04074 • 207-956-1169 •
hata_mba@yahoo.com

Summary

Senior energy professional with extensive project development and M+A experience. Experience managing multi-disciplinary teams, market analysis, site prospecting, securing regulatory approvals, negotiating commercial agreements, performing asset due diligence, and managing project budgets & schedules. Deep knowledge of utility interconnection processes, origination, and creation and maintenance of project budgets. Proven record of solving complex issues through implementation of clear and effective strategies. Specific experience in green field development of wind projects in Northeastern US, federal wetland permitting for interstate natural gas pipelines, and forest sector analysis in Latin America. Significant experience consulting and negotiating with federal, state and local regulators with demonstrated success implementing grid scale wind projects. Fluent in Spanish and Guaraní with previous work experience and project due diligence in El Salvador, Guatemala, Mexico, New Zealand, Paraguay, and Puerto Rico.

Experience

9/2015- present

Calpine Corporation (Portland, ME)

Development Director

- Responsible for leading Calpine's greenfield development efforts in the Northeast
 - Originated and managing development of 124 MW Bluestone Wind – (NY)
 - Originated and managing development of 100MW High Bridge Wind – (NY)
- Support project due diligence and M+A opportunities
- Coordinate all regulatory, origination, meteorological, and development efforts for targeted greenfield development projects in the Northeast

4/2015- 9/2015

Sgurr (Portland, ME)

Project Consultant

- Focused business development with a goal of increasing Sgurr's presence as leader in third party renewable energy independent engineering technical due diligence
- Supported asset valuation and due diligence initiatives
- Latin American and Aid Funded new client business development

9/2012- 3/2015

Kleinschmidt (Falmouth, ME)

Senior Manager Project Development

- Business development leader focusing on existing company permitting, engineering, regulatory and environmental consulting platform to increase industry presence in marine renewables, onshore and offshore wind and energy and linear project sectors
- Regulatory and stakeholder expert role on interstate natural gas pipeline and wind projects
- Managed of new and existing client relationships
- Supported asset valuation and due diligence initiatives
- Performed emerging market evaluation

9/2007 – 6/2012

First Wind Energy, LLC (Portland, ME)

Development Manager

- Originated and developed Oakfield Wind Project (150 MW) and Bingham Wind Project (186MW)

Alec Joseph Jarvis

- Fed development pipeline with 1000MW + prospective early stage development sites
- Principal interface with federal, state, and local permitting authorities
- Managed all facets of stakeholder outreach at local, regional, state level
- Responsible for ensuring projects met financial objectives via appropriate modeling and cost control
- Negotiated purchase and sale agreements, leases, and land option agreements
- Managed prospecting pipeline in coordination with in-house technical staff
- Assisted in appropriate site selection for meteorological tower placement and deployment
- Assisted origination staff with PPA negotiations
- Performed due diligence on several Puerto Rican and Mexican wind prospects, including site visits and meeting with local stakeholders

9/2003 – 3/2007

Hancock Land Company (Casco, ME)

Vice President Non-Timber Resources

- **Maine and New Hampshire**
 - Increased company timberland value through the exploration and development of non-timber assets (*recreation, conservation easements, non-traditional forest wood products, renewable energy, sporting leases*)
 - Directed all company land sales and acquisitions
 - Lead member in the exploration of funding opportunities for conservation easements on company ownership
 - Worked with state and local level governments in the planning and permitting of new projects on company land
 - Assisted field foresters in a broad range of forest operations, including timber harvest layout, stand inventory and ecological monitoring. Monitored subcontracted timber harvesting crews to insure adherence to prescribed silvicultural treatments and forest stewardship council (FSC) operational guidelines
 - Worked with landowners to create long-term management plans to meet their economic and silvicultural goals
- **Guatemala/Argentina**
 - Director of timberland acquisition project in Guatemala for pine plantation investment
 - Investigated financial, logistical, and legal aspects of the creation of a new branch of the company in Guatemala, with aims to effectively purchase and manage a Guatemalan pine plantation
 - Participated as lead negotiator in purchase process of Guatemalan timberland
 - Participated in Forestry Sector Tour in Argentina as newest member of CAMCORE (November 2006)

7/2001 – 11/2001

Project Concern International (El Salvador)

Project Manager

- Conducted assessments of latrine and potable water systems in rural earthquake affected communities
- Managed USAID-funded emergency sanitation projects in six rural communities with over 1,650 beneficiaries
- Organized and designed latrine construction workshops with local community leaders
- Collaborated with local officials, NGO's, and host country nationals to develop project plans

1/2001 – 5/2001

Plato Industries, Inc. (Asuncion, Paraguay)

Supervisor

- Supervised integrated pest management product distribution throughout Paraguay, Argentina and Brazil
- Monitored crop infestation levels throughout region
- Worked with researchers and Paraguayan government officials to register new products in the country
- Conducted community workshops with local farmers on the correct use of Plato products

Alec Joseph Jarvis

8/1998 – 12/2000

United States Peace Corps (Paraguay)

Agroforestry Extension Agent

- Provided technical assistance to farmer cooperatives on a variety of soil conservation, reforestation and sanitation projects
- Organized and assisted in the construction and development of several private tree nurseries used for community reforestation projects and commercial sale
- Formed and trained many workgroups including bee keeping groups and soil conservation committees designed to supplement income for individual members in addition to providing funding for other community projects
- Developed “farmer-to-farmer” workshops that provided a venue to exchange and generate technical information and ideas between farmers and create long term planting alternatives

Education

-
- 2002 Michigan Technological University, Houghton, MI
M.S., Forestry – Masters Thesis: Paraguayan Tung (*Aleurites fordii* Hemsl.): An Important Small Farmer Crop Diversification Strategy
- 1995 Miami University,
Oxford, OH B.S.
and B.A., Botany

Training, Seminars and Licenses

-
- School for Tropical Rainforest Management, 4 months of economic, forestry/science and environmental management training, Queensland, Australia
 - Participant in Harvard Business School Negotiation workshop – Dr. John Hammond, 2004
 - Group Study Exchange Participant – professional Rotary exchange to Turkey, May/June 2005
 - Smartwood Forest Management Auditor Training, April 2007
 - Maine Master Logger Auditor – New Gloucester, ME 2007
 - Spanish (fluency level: advanced)
 - Guarani (fluency level: advanced)

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

Application of High Bridge Wind, LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction
of the High Bridge Wind Project Located in the Town
of Guilford, Chenango County.

Case No. 18-F-0262

PRE-FILED TESTIMONY OF

DENNIS JIMENO

TELECOMMUNICATIONS ENGINEER III, COMSEARCH

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

2 A: My name is Dennis Jimeno. My employer is Comsearch (A Commscope Company), 19700 Janelia
3 Farm Boulevard, Ashburn, VA 20147.

4 **Q: What is your position at Comsearch?**

5 A: I am a Telecommunications Engineer III.

6 **Q: How long have you been employed with Comsearch?**

7 A: I have been employed with Comsearch for approximately 16 years.

8 **Q: Please describe your educational background and professional experience.**

9 A: I have a Bachelor of Science degree in Electrical Engineering from Virginia Tech and a Master of
10 Science degree in Electrical Engineering from George Washington University. My entire professional
11 experience has been focused in the field of wireless network communications and microwave
12 engineering. From 1995 to 1998, I was employed by MLJ, Inc. as a Design Engineer. From 1998
13 to 2000, I worked as an RF Engineering Consultant for Nextel. I was employed as a Radio Frequency
14 (RF) Planning Engineer for Winstar from 2000 to 2001. From 2001 to 2004, I worked as an RF
15 Engineering Contractor for AT&T / Cingular Wireless. Since then, I have been with Comsearch. A
16 copy of my resume is submitted as Exhibit ____ (DJ-PF1): Resume of Dennis Jimeno.

17 **Q: Please describe your current responsibilities with Comsearch.**

18 A: At Comsearch, my current responsibilities include the planning, analysis, and optimization of wireless
19 communication and microwave networks for various applications. I supervise engineering studies to
20 assess the potential impact of wind energy facilities on surrounding communications systems,
21 including microwave paths, mobile phone, over-the-air (OTA) television, AM/FM broadcast radio,
22 radar, and land mobile radio. I provide technical expertise for various RF engineering projects with
23 respect to the design and deployment of wireless networks for terrestrial, maritime, and airborne
24 applications.

25 **Q: Have you previously testified before the New York State Public Service Commission or Siting**
26 **Board on Electric Generation?**

27 A: No. However, I submitted pre-filed testimony to the New York State Public Service Commission on
28 the Central Hudson Gas and Electric Corporation's Article VII Application for the A and C Line
29 Rebuild Project. Also, I have submitted pre-filed testimony to the Siting Board on Electric Generation
30 in conjunction with the Article 10 application for the Eight Point Wind Energy Project (16-F-0062), the
31 Bluestone Wind Energy Facility (Case No. 16-F-0559), and the Deer River Wind Farm (Case No. 16-
32 F-0267).

33 **Q: Have you previously served as an expert witness before any other court, agency, or other**
34 **body on the subject you plan to offer testimony on today?**

35 A: Yes. I served as an expert witness for the Freeborn Wind Project before the Minnesota Public Utilities
36 Commission, the Lone Tree Wind Project before the Bureau County, Illinois, Zoning Board, and the
37 Broad Mountain Wind Project before the Packer Township, Pennsylvania, Zoning Board.

38 **Q: What is the purpose and scope of your testimony in this proceeding?**

39 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

40 **Q: What portion(s) of the Application is your testimony sponsoring?**

41 A: Exhibit 26, Effect on Communications.

42 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction**
43 **and supervision.**

44 A: Yes. Comsearch prepared impact assessment studies for the following communication systems on
45 which Exhibit 26 is based: Microwave, Land Mobile & Emergency Services, Mobile Phone, Amateur
46 Radio, Government and Commercial Doppler RADAR, New York State Mesonet,, AM and FM
47 Broadcast Radio and OTA Television.

48 **Q:** In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or
49 documents produced by persons other than yourself/your company? If so, please cite these
50 sources. [These are independent studies, etc.]

51 **A:** References are provided in the Exhibit.

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

53 **A:** Yes.



Dennis Jimeno
Telecommunications Engineer III

QUALIFICATIONS

- Master of Science in Electrical Engineering
- Experienced in contract negotiations and managed multiple agreements between major wireless service provider and power utilities, municipalities and various communication companies in support of microwave relocation and wireless small-cell site deployment projects
- Experienced in Microwave Path Engineering
- Experienced in RF Planning of wireless networks for ground, maritime, and airborne applications
- Managed wind energy services group tasked with providing engineering studies to assess impact caused by wind energy facilities to surrounding communication systems including: microwave paths, mobile wireless, television, AM/FM radio, radar, and land mobile & emergency services
- Experienced in evaluating compliance with FCC guidelines for human exposure to RF emissions
- Experienced in Network Optimization of mobile wireless networks
- Experienced in analyzing drive test data to validate propagation model and optimize network performance
- Formally trained in wireless networks, satellite communications, and signal propagation
- Experienced in engineering software tools: Matlab, Atoll, CelPlan, Actix RPS, Menthum Planet, and MapInfo®
- U.S. Citizen

PROFESSIONAL EXPERIENCE

Telecommunications Engineer III, Comsearch
Ashburn, VA

2004 - Present

- Performed RF Coverage and Frequency Planning for 900 MHz Point-to-Multipoint SCADA system
- Designed nationwide sensor network as part of spectrum access system (SAS) for sharing 3.5 GHz frequency band between commercial and naval radio communications while minimizing interference
- Engaged in discussions with various power utilities and municipalities to negotiate terms and conditions on behalf of AT&T to attach small cell equipment and antennas on utility poles nationwide
- Reviewed, edited, and approved impact assessment studies of wind turbines with respect to microwave, radar, TV broadcast, AM/FM radio, and land mobile & emergency services
- Designed ADS-B (Automatic Dependent Surveillance Broadcast) service volume coverage throughout U.S. airspace for FAA as part of NextGen program to modernize air transportation system using GPS satellite technology
- Generated ADS-B coverage predictions for ground-to-air and air-to-ground communications with primary objective of matching or exceeding Secondary Surveillance Radar (SSR) coverage from ground level up to 60,000 ft MSL
- Performed link budget analyses to verify coverage for at least 98% of a given service volume in various interference conditions and scenarios using 1090ES and UAT links
- Designed airport surface coverage using 3D ray-tracing model with task of covering 100% of surface movement area including glide approach path from five (5) nautical miles to touchdown threshold
- Identified potential site locations using commercial towers, oil platforms, and public-use airport facilities that satisfied coverage objectives while minimizing interference to active radars
- Performed power-flux density calculations from ADS-B stations to predict interference and satisfy conditional requirements to co-exist with surveillance radars and multi-lateration systems
- Designed coverage layout for Automated Weather Observing System (AWOS) in Gulf of Mexico using oil platform locations
- Reviewed and approved antenna configuration drawings prior to installation
- Attended zoning hearings to seek board approval of permit to construct new cell sites
- Performed RF hazard analysis per OET Bulletin 65 guidelines regarding safe RF exposure limits
- Evaluated and approved site candidates for implementation

- Designed E-911 networks for Tier I and Tier II Public Safety Access Points (PSAPs) using U-TDOA and AOA geo-location technology
- Analyzed PCS and cellular network performance data to evaluate location accuracy performance and verify compliance with E-911 requirements
- Defined drive-test routes for location accuracy testing and optimization

RF Engineering Contractor, AT&T / Cingular Wireless

2001 - 2004

Various locations

- Designed expansion sites for dual-band GSM network in NY/NJ market (Paramus, NJ)
 - Evaluated potential site candidates and performed site visits
 - Attended zoning hearings to seek board approval to install new antennas on existing towers
 - Tuned RF propagation model using drive test data
 - Analyzed drive test data to identify coverage-limited areas
- Generated RF design for GSM network in south Florida market consisting of 400 sites (Lake Mary, FL)
 - Implemented overlay/underlay site designs using micro-cell solutions
 - Predicted FER performance for BCCH and TCH channels using Monte Carlo simulations
 - Performed link budget analyses and verified design ERP levels
 - Performed HSN and MAIO planning for frequency hopping algorithm
 - Managed network parameters using Nokia OSS/CM Tools and checked daily alarm reports
 - Performed on-air cell verification tests
 - Planned MSC, BSC and LAC boundaries
- Generated GSM overlay design for existing TDMA network (Bothell, WA)
 - Optimized antenna configuration based on required number of TRXs per sector
 - Generated cell neighbor lists for optimized handoffs
 - Dimensioned BSCs according to current and projected traffic load
- Designed WCS Fixed Wireless Network in 2.3 GHz band using OFDM technology (Dublin, OH)
 - Generated coverage predictions based on tuned propagation models using dB Planner tool
 - Processed drive test data and validated propagation models for 50 planned hubs
 - Analyzed drive test data to optimize coverage and minimize interference across network
 - Managed drive test team and coordinated daily activities to meet project milestones

RF Planning Engineer, Winstar

2000 - 2001

Herndon, VA

- Designed Point-to-Multipoint (PMP) fixed broadband wireless networks in 39 and 28 GHz bands
- Predicted and analyzed interference between hub and subscriber locations
- Performed coverage and capacity design trade-offs for PMP hubs for 64QAM, 16QAM, and QPSK modulation schemes
- Performed link reliability and rain fade analyses using Crane model
- Performed frequency planning
- Evaluated RF software tools and recommended technical enhancements for site coverage planning
- Performed field surveys to evaluate proposed site locations and verify radio line-of-sight (RLOS) conditions

RF Engineering Consultant, Nextel

1998 – 2000

Reston, VA

- Managed RF Engineering group in local market to design and optimize iDEN network (Mexico City)
- Responsible for planning, roll-out optimization, and setting schedules milestones for project
- Supervised frequency planning, capacity planning, and interference analysis
- Approved search rings and site candidates
- Optimized network parameters to meet key performance objectives for interconnect and dispatch services
- Planned new cell sites to meet target expansion coverage and increase traffic capacity
- Provided basic training on iDEN network optimization, design, and frequency planning
- Led RF Engineering team to optimize iDEN network (White Plains, NY)
- Performed frequency planning and interference analysis for 500+ sites for NY/NJ market
- Optimized Interconnect Location Area (ILA) & Dispatch Location Area (DLA) boundaries

- Analyzed drive test data and tuned RF propagation models
- Performed capacity analysis to project required number of base radios (BRs) per site

Design Engineer, MLJ Inc.

1995 – 1998

Arlington, VA

- Provided spectrum sharing engineering services for PCS service providers and incumbent microwave systems in 1.9 GHz band in support of microwave relocation efforts across U.S.
- Performed interference analyses between PCS and microwave point-to-point systems to predict, rank, and mitigate co-channel and adjacent channel interference
- Generated Prior Coordination Notices (PCNs)
- Designed microwave point-to-point systems
- Conducted field test measurements to calibrate RF propagation models
- Performed CDMA optimization for cellular network (Phoenix, AZ)
- Adjusted pilot channel powers to force dominant servers in areas with pilot pollution
- Created neighbor lists for efficient handover
- Performed idle-mode coverage and origination test drives to verify synch and paging channel operation
- Adjusted and tuned search windows (e.g., active, candidate, neighbor, and remaining set) to utilize all good multipath components for optimal pilot selection
- Analyzed drive test and post-test data including FER, Ec/Io, and variable Rx/Tx Power
- Derived cell edge and area service reliability
- Adjusted hand-off parameters including T-Comp, T-Add, Tt-Drop, and T-Drop
- Performed troubleshooting test drives to analyze and resolve performance problems

EDUCATION

M.S., Electrical Engineering

The George Washington University, Washington, DC

B.S., Electrical Engineering

Virginia Polytechnic Institute & State University, Blacksburg, VA

SOFTWARE

- RF Engineering: *Atoll, Mentum Planet, Actix RPS, CelPlan, ATDI, Agilent Wizard, SPLAT*
- GIS Mapping: *MapInfo, Esri ArcView*
- Programming: *Matlab*
- Microwave Engineering: *Pathloss, iQlinkXG*

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

Application of High Bridge Wind, LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction
of the High Bridge Wind Project Located in the Town
of Guilford, Chenango County

Case No. 18-F-0262

PRE-FILED TESTIMONY OF
JEFFREY T. KOPP, P.E.
UTILITY CONSULTING DEPARTMENT MANAGER,
BURNS & MCDONNELL ENGINEERING COMPANY, INC.

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

2 A: Jeffrey T. Kopp, PE, Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell), 9400
3 Ward Parkway, Kansas City, Missouri 64114.

4 **Q: What is your position at Burns & McDonnell?**

5 A: Utility Consulting Department Manager.

6 **Q: How long have you been employed with Burns & McDonnell?**

7 A: I have been employed by Burns & McDonnell for 18 years.

8 **Q: Please describe your educational background and professional experience.**

9 A: I received a Bachelor of Science degree in Civil Engineering from the University of Missouri-Rolla
10 (now called Missouri University of Science and Technology) and received a Master of Business
11 Administration degree from the University of Kansas. I am a licensed professional engineer in the
12 States of Missouri, Florida, Indiana, and Illinois. I have been involved in numerous decommissioning
13 studies and served as project manager on the majority of them. In the past 10 years, I have worked
14 on decommissioning cost evaluations/studies for over 200 facilities for all types of power generating
15 sources including conventional (natural gas, coal-fired and biomass) and renewable (wind, solar, and
16 hydroelectric). These studies evaluated the costs to demolish the units at the end of their useful lives
17 and restore the sites. A copy of my resume is submitted as Exhibit ____ (JTK-PF1): Resume of
18 Jeffrey T. Kopp.

19 **Q: Please describe your current responsibilities with Burns & McDonnell.**

20 A: As the Utility Consulting Department Manager at Burns & McDonnell, I oversee a team of
21 approximately 60 engineers and consultants who provide consulting services to clients primarily in
22 the electric power generation and electric power transmission industries, but also to other industrial
23 and commercial clients. The services provided by this team include decommissioning cost studies,

24 independent engineering assessments of existing power generation assets, economic evaluations
25 of capital expenditures, new power generation development and evaluation, electric and water rate
26 analysis, electric transmission planning, generation resource planning, renewable power
27 development, and other related engineering and economic assessments.

28 **Q: Have you previously testified before the New York State Public Service Commission or Siting**
29 **Board on Electric Generation?**

30 A: No. However, I have submitted pre-filed testimony to the Siting Board on Electric Generation in
31 conjunction with the Article 10 application for the Bluestone Wind Energy Facility (Case No. 16-F-
32 0559).

33 **Q: Have you previously served as an expert witness before any other court, agency, or other**
34 **body on the subject you plan to offer testimony on today?**

35 A: I have previously testified on decommissioning costs and related issues in proceedings before
36 regulatory agencies in eight different states—Alaska, Colorado, Indiana, Florida, Kentucky, New
37 Mexico, North Carolina, and Oklahoma.

38 **Q: What is the purpose and scope of your testimony in this proceeding?**

39 A: To sponsor certain portions of the High Project Wind Project Application or the Exhibits thereto.

40 **Q: What portion(s) of the Application is your testimony sponsoring?**

41 A: Exhibit 29: Site Restoration and Decommissioning.

42 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction**
43 **and supervision.**

44 A: Yes.

45 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or**
46 **documents produced by persons other than yourself/your company? If so, please cite these**
47 **sources.**

48 A: See Exhibit 29 for any references.

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

50 A: Yes.

JEFFREY T. KOPP, PE

Manager, Utility Consulting

Jeff is the Utility Consulting Department Manager at Burns & McDonnell, specializing in consulting services for power generation and transmission and distribution projects. This includes energy project development, due diligence reviews, resource planning, renewable project development, rate studies and analysis, power plant decommissioning studies, and transmission planning.

EDUCATION

- ▶ BS, Civil Engineering
- ▶ MBA, Business Administration

REGISTRATIONS

- ▶ Professional Engineer (FL, IL, IN, MO)

18 YEARS WITH BURNS & MCDONNELL

19 YEARS OF EXPERIENCE

Testimony Experience

Utility Company	Regulatory Agency	Docket No.	Client Represented	Subject
Duke Energy Indiana	Indiana Utility Regulatory Commission	Cause No. 45253	Duke Energy Indiana	Rate Case – Decommissioning Costs
Xcel Energy	New Mexico Public Regulation Commission	Case No. 19-00170-UT	Southwestern Public Service Company	Rate Case – Decommissioning Costs
Calpine	New York State Board on Electric Generation Siting and The Environment	Case No. 16-F-0559	Bluestone Wind, LLC	Application for a Certificate under Article 10 of the Public Service Law
Oklahoma Gas and Electric	The Corporation Commission of the State of Oklahoma	PUD 201800140	Oklahoma Gas and Electric	Rate Case – Decommissioning Costs
Golden Valley Electric Association	The Regulatory Commission of Alaska	U-18-010	Golden Valley Electric Association	Retirement Report for Healy Unit 1 – Decommissioning Costs
Xcel Energy	Public Utilities Commission of the State of Colorado	14AL-0660E	Public Service Company of Colorado	Rate Case – Decommissioning Costs
Xcel Energy	Public Utilities Commission of the State of Colorado	16A-0231E	Public Service Company of Colorado	2016 Revised Depreciation Rates
Florida Power & Light Company	Florida Public Service Commission	160021-EI; 160062-EI	Florida Power & Light Company	Rate Case – Decommissioning Costs

JEFFREY T. KOPP, PE

(continued)

Duke Energy Kentucky	Kentucky Public Service Commission	2017-00321	Duke Energy Kentucky	Rate Case – Decommissioning Costs
Duke Energy Progress	North Carolina Utilities Commission	Docket No. E-2, Sub 1142	Duke Energy Progress	Rate Case – Decommissioning Costs
Duke Energy Carolinas	North Carolina Utilities Commission	Docket No. E-7, Sub 1146	Duke Energy Carolinas	Rate Case – Decommissioning Costs
Oklahoma Gas and Electric	Corporation Commission of Oklahoma	Cause No. PUD 201700496	Oklahoma Gas and Electric	Rate Case – Decommissioning Costs
Progress Energy Florida	Florida Public Service Commission	090079-EI	Progress Energy Florida	Rate Case – Decommissioning Costs
Otter Tail Power Company	Minnesota Public Utilities Commission	E017/M-10-1082	Otter Tail Power Company	Advanced Determination of Prudence – AQCS Upgrades
Otter Tail Power Company	Public Service Commission of the State of North Dakota	PU-11-165	Otter Tail Power Company	Advanced Determination of Prudence – AQCS Upgrades

Decommissioning Study | Calpine New York | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for a wind farm being developed in New York. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support Calpine’s application to construct a major electric generating facility under Article 10 of the New York Public Service Law. Subsequent to the study, Jeff will be available to provide written testimony in the Article 10 public hearings in regards to the study findings.

Decommissioning Study | Southwestern Public Service Texas, New Mexico | 2018

Jeff is currently serving as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by Southwestern Public Service. The evaluation is being performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation includes coal-fired plants, natural gas-fired simple cycle units, and gas fired boiler projects. The report and results are being used in



JEFFREY T. KOPP, PE

(continued)

support of depreciation rates as part of the rate case filing. Jeff is currently providing support through the regulatory process with written and oral testimony in Southwestern Public Service's rate hearing in regards to the study findings.

Decommissioning Study | Duke Energy

Indiana | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by Duke Energy Indiana. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included coal-fired plants, natural gas-fired simple and combined cycle units, solar projects, and a hydro-electric plant. Jeff is currently providing support through the regulatory process with written and oral testimony in Duke Energy Indiana's rate hearing in regards to the study findings.

Decommissioning Study | Golden Valley Electric Association

Alaska | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by Golden Valley Electric Association. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included a coal-fired plant, diesel and naphtha fired combustion turbine units, a battery energy storage facility, and a wind farm. Jeff provided written testimony in Golden Valley's Compliance Hearing regarding the retirement of their Healy Unit 1 project. Jeff also will be available to provide written and oral testimony in Golden Valley's rate hearing in regards to the study findings.

Decommissioning Study | Owensboro Municipal Utilities

Kentucky | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for coal fired generating facility owned by Owensboro Municipal Utilities. The evaluation was performed to determine the options for retiring the plant and associated costs. Options evaluated included placing one of the units into layup with the potential to restart at a later date, retirement in place, or full demolition and site restoration.

Decommissioning Study | Duke Energy

Florida | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by Duke Energy Florida. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included a coal-fired plant, natural gas-fired simple and combined cycle units, and solar projects. Subsequent to the study, Jeff will be available to provide written and oral testimony in Duke Energy Florida's rate hearing in regards to the study findings.

Decommissioning Study | Tucson Electric Power

Arizona | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by Tucson Electric Power. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included a coal-fired plant, natural gas-fired simple and combined cycle units, and solar projects. Subsequent to the study, Jeff will be available to provide written and oral testimony in Tucson Electric Powers's rate hearing in regards to the study findings.



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Decommissioning Study | Public Service of New Mexico

New Mexico | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by Duke Energy Florida. The evaluation is being performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation includes a coal-fired plant, natural gas-fired simple and combined cycle units, and solar projects.

Decommissioning Study | Capital Power

Illinois | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for a wind farm being developed in Illinois. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support the county zoning application. Subsequent to the study, Jeff will be available to provide written and oral testimony in the county zoning hearings in regards to the study findings.

Decommissioning Study | Calpine

New York | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for a wind farm being developed in New York. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support Calpine's application to construct a major electric generating facility under Article 10 of the New York Public Service Law. Subsequent to the study, Jeff provided written testimony in the Article 10 public hearings in regards to the study findings.

Decommissioning Study | Tradewind Energy

Illinois | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for a wind being developed in Illinois. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support the county zoning application. Subsequent to the study, Jeff will be available to provide written and oral testimony in the county zoning hearings in regards to the study findings.

Decommissioning Study | Hawaii Electric Company

Hawaii | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for a reciprocating engine plant that was under construction for Hawaii Electric Company. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life.

Decommissioning Study | EDP Renewables

Indiana | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for a wind farm being developed in Indiana. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support the county zoning application. Subsequent to the study, Jeff will be available to provide written and oral testimony in the county zoning hearings in regards to the study findings.



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Decommissioning Study | EDP Renewables

Illinois | 2018

Jeff served as the Burns & McDonnell project manager on a decommissioning study for a wind farm being developed in Illinois. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life to support the county zoning application. Subsequent to the study, Jeff provided oral testimony in the county zoning hearings in regards to the study findings.

Due Diligence | Centerpoint Energy

Indiana | 2017

Jeff served as the project manager for a due diligence evaluation of Vectren's fleet of power plants being considered as part of a potential full acquisition of Vectren by Centerpoint. The evaluation included a technical, environmental, and contractual review of the coal, simple cycle, and wind farm facilities. As part of the project, Jeff presented the results of the study to CenterPoint's board of directors to support their decision making process for the acquisition.

Due Diligence | PKA AIP

Michigan | 2017

Jeff served as the project manager for a due diligence evaluation of a combined cycle power plant being considered for potential equity investment by PKA AIP. The evaluation included a technical, environmental, and contractual review of the plant.

Decommissioning Study | Tampa Electric Company

Florida | 2017

Jeff served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by Tampa Electric. The evaluation is being performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation includes a coal-fired plant, natural gas-fired simple and combined cycle units, and solar projects. Subsequent to the study, Jeff will be available to provide written and oral testimony in Tampa Electric's rate hearing in regards to the study findings.

Decommissioning Asset Retirement Obligation Study | NRG Energy

Various US Locations | 2017

Jeff served as the Burns & McDonnell project manager on a decommissioning study to evaluate the asset retirement obligation costs for numerous renewable energy facilities owned by NRG Energy throughout the United States. The evaluation was performed to determine the costs for any obligations to remove and/or demolish the facilities and equipment and perform environmental remediation and site restoration activities. The study was performed to support compliance with FAS 143 requirements.

Due Diligence | Confidential Client

Northwest | 2017

Jeff is served as the project manager for a due diligence evaluation of three natural gas fired combine cycle power plants being considered for potential acquisition. The evaluation included a technical, environmental, and contractual review of the facilities.



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Decommissioning Study | Confidential Client

Illinois | 2017

Jeff served as the project manager for a site retirement evaluation to help determine the cost to retire a 600 MW coal-fired project in Illinois at the end of its useful life. Estimates for demolition and site restoration were included in the evaluation. Jeff previously prepared decommissioning study estimates for this plant with the updated study being performed to reflect current pricing and changes in regulations.

Decommissioning Study |AEP

Ohio, Indiana | 2017

Jeff served as the Burns & McDonnell project manager on a decommissioning study for two coal fired power plants owned by Ohio Valley Electric Company and Indiana Kentucky Electric Company, both of which AEP is the largest shareholder. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives for purposes of accruing the costs over the life of the plants.

Decommissioning Study |OGE Energy Corp.

Oklahoma | 2017

Jeff served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by OGE Energy in Oklahoma. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support depreciation rates. The evaluation included several coal-fired plants, natural gas fired boilers, natural gas-fired simple and combined cycle units, and a wind farm. Subsequent to the study, Jeff provided written testimony, and is currently providing support in replying to discovery requests. Jeff will be available to provide oral testimony in OGE Energy's rate hearing in regards to the study findings.

Decommissioning Study |Duke Energy

North Carolina, South Carolina, Kentucky | 2017

Jeff served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by three Duke Energy Utilities, including Duke Energy Carolinas, Duke Energy Progress, and Duke Energy Kentucky. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included several coal-fired plants, natural gas fired boilers, natural gas-fired simple and combined cycle units, hydroelectric plants, and solar projects. Subsequent to the study, Jeff provided written and oral testimony in Duke Energy Carolinas, Duke Energy Progress, and Duke Energy Kentucky's rate hearing in regards to the study findings.

Useful Life Assessment | Confidential Client

Southeast | 2017

Jeff served as the Burns & McDonnell project manager on a useful life assessment for a combined cycle power plant for a confidential client. The evaluation was performed to determine the anticipated life of the facility and associated costs to achieve that life. The study supported financial modeling of the facility as part of the utility's portfolio of assets.



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Useful Life Assessment | Confidential Client Southeast | 2017

Jeff served as the Burns & McDonnell project manager on a useful life assessment for a combined cycle power plant for a confidential client. The evaluation was performed to determine the anticipated life of the facility and associated costs to achieve that life. The study supported financial modeling of the facility as part of the utility's portfolio of assets.

Decommissioning Study | FPL Energy Florida | 2015

Jeff served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by FPL Energy in the State of Florida. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included several coal-fired plants, natural gas-fired simple and combined cycle units, solar generating facilities. Subsequent to the study, Jeff provided written and oral testimony in FPL Energy's rate case hearing in regards to the study findings.

Decommissioning Study | Xcel Energy Colorado | 2014

Jeff served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by Xcel Energy in the State of Colorado. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support regulatory filings. The evaluation included several coal-fired plants, natural gas-fired simple and combined cycle units, hydroelectric plants, and a wind farm. Subsequent to the study, Jeff is provided written and oral testimony in Xcel Energy's rate hearing in regards to the study findings.

Decommissioning Cost Evaluation | Progress Energy Florida Florida | 2008-2009

Jeff served as the Burns & McDonnell project manager on a site retirement cost evaluation for all the fossil fuel-fired power generating facilities owned by Progress Energy in the state of Florida. The evaluation was performed to determine the costs to demolish the units and restore the sites and included a natural gas-fired steam plants, fuel oil-fired steam plants, natural gas-fired combustion turbines, coal-fired facilities, and combined cycle generating facilities. Subsequent to the study, Jeff provided direct testimony in Progress Energy Florida's rate case in regards to the study findings.

Decommissioning Asset Retirement Obligation Study | NRG Energy California | 2016

Jeff served as the Burns & McDonnell project manager on a decommissioning study to evaluate the asset retirement obligation costs for all the fossil fuel-fired power generating facilities owned by NRG Energy in the state of California. The evaluation was performed to determine the costs for any legally obligations to demolish facilities and equipment and perform environmental remediation and site restoration activities. The facilities included a natural gas and fuel oil fired plants consisting of boilers, combustion turbines, and combined cycle generating facilities.

Due Diligence | Confidential Client Northeast | 2016

Jeff served as the project manager for a due diligence evaluation of a portfolio of power generation assets. The assets included gas and oil fired boilers, combined cycle combustion turbines, and simple cycle combustion turbines. The client



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was considering acquiring an equity stake in the facilities. The evaluation included a technical, environmental, and contractual review of the facilities. The review primarily focused on evaluation of recent repairs to the facilities, remaining life of the equipment, and potential large capital cost requirements to identify key risks or fatal flaws.

Due Diligence | Confidential Client Northeast | 2016

Jeff served as the project manager for a due diligence evaluation of a coal fired power generating facility that was being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the facilities. The review primarily focused on evaluation of the condition of the equipment and facilities, upgrades required to comply with environmental regulations, and other major capital or O&M projects to identify key risks or fatal flaws.

Due Diligence | Confidential Client Northeast | 2016

Jeff served as the project manager for a due diligence evaluation of a combined cycle generating facility under development. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. The review primarily focused on evaluation of the project costs, schedule, permitting, and other development activities to determine any development risks or fatal flaws.

Decommissioning Study | PacifiCorp Oregon, Washington, Wyoming | 2016

Jeff served as the BMcD project manager on a decommissioning study for three wind farms owned by PacifiCorp. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives in support of determining depreciation rates.

Due Diligence | Confidential Client Northeast | 2016

Jeff served as the project manager for a due diligence evaluation of a combined cycle generating facility under development. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. The review primarily focused on evaluation of the project costs, schedule, permitting, EPC contract, equipment contracts, and other development activities to determine any development risks or fatal flaws.

Due Diligence | Confidential Client Southwest | 2016

Jeff served as the project manager for a due diligence evaluation of a natural gas fired combined cycle power generating facility that was being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the facility. The review primarily focused on evaluation of the condition of the equipment, sufficiency of contractual arrangements, and environmental compliance to identify key risks or fatal flaws.



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Decommissioning Study | Big Rivers Electric Cooperative Kentucky | 2016

Jeff served as the BMcD project manager on a decommissioning study for two coal-fired power generating facilities owned by Big Rivers Electric Cooperative. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives.

Due Diligence | Confidential Client Northeast | 2016

Jeff served as the project manager for a due diligence evaluation of a natural gas fired combined cycle power generating facility that was being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the facility. The review primarily focused on evaluation of the condition of the equipment, sufficiency of contractual arrangements, design issues surrounding recent plant performance challenges, and environmental compliance to identify key risks or fatal flaws.

Useful Life Assessment | Confidential Client Southeast | 2015

Jeff served as the Burns & McDonnell project manager on a useful life assessment for a combined cycle power plant for a confidential client. The evaluation was performed to determine the anticipated life of the facility to support financing of the project associated with acquisition of the facility.

Decommissioning Study | Nebraska Public Power District Nebraska | 2015

Jeff served as the Burns & McDonnell project manager on a decommissioning study for five power generating facilities owned by Nebraska Public Power District. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives. The evaluation included two coal-fired plants, a natural gas-fired boiler plant, a combined cycle plant, and a wind farm.

Decommissioning Study | Lafayette Utilities System Louisiana | 2015

Jeff served as the Burns & McDonnell project manager on a decommissioning study for a coal fired generating facility in the state of Louisiana. The evaluation was performed to determine the costs for options to retire the units in place or demolish the units and restore the site now that the units are no longer operating. The costs are being used for planning purposes by the client, to determine the preferred decommissioning plan for the plant.

Decommissioning Study | Colstrip Energy Montana | 2015

Jeff served as the Burns & McDonnell project manager on a decommissioning study for a coal fired generating facility in the state of Montana. The evaluation was performed to determine the costs to demolish the unit and restore the site at the end of its useful life. The costs were used for planning purposes by the client, to determine the decommissioning funds that need to be accrued throughout the operating life of the facility.



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Due Diligence | Confidential Client Northeast | 2015

Jeff served as the project manager for a due diligence evaluation of a combined cycle generating facility under development. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. The review primarily focused on evaluation of the project costs, schedule, permitting, and other development activities to determine whether the project was economically attractive and determine any development risks or fatal flaws.

Decommissioning Study | Apex Clean Energy Various Locations | 2015

Jeff served as the Burns & McDonnell project manager for a site retirement cost evaluation for three proposed wind energy facilities under development. The evaluation was performed to support permitting activities on the facilities.

Decommissioning Study | Oklahoma Gas & Electric Oklahoma | 2014

Jeff served as the Burns & McDonnell project manager on a decommissioning study for a power generating facility in the Midwest. The evaluation was performed to determine the costs to demolish the units and restore the site at the end of its useful life. The plant was expected to retire within a year or two of the study, and the costs were used for planning purposes by the client.

Decommissioning Study | Basin Electric Cooperative North Dakota & Wyoming | 2014

Jeff served as the Burns & McDonnell project manager on a decommissioning study for five power generating facilities in the North Dakota and Wyoming. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful life. The costs are being used for planning purposes by the client.

Coal Plant Layup | Hoosier Energy Indiana | 2014

Jeff served as the Burns & McDonnell project manager on the preparation of a plan to place a coal fired generating facility in long term layup reserve status. The project included preparation of three manuals for the implementation of the layup plan, maintaining the plant during the layup period, and reactivating the plant at the end of the layup period.

Decommissioning Study | Apex Clean Energy Illinois | 2014

Jeff served as the Burns & McDonnell project manager for a site retirement cost evaluation for a proposed wind energy facility under development. The evaluation was performed to support permitting activities on the facility.

Due Diligence | Confidential Client Midwest | 2014

Jeff served as the project manager for a due diligence evaluation of a combined cycle generating facility under development. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. The review primarily focused on evaluation of the project



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costs, schedule, permitting, and other development activities to determine whether the project was economically attractive and determine any development risks or fatal flaws.

Due Diligence | Duke Energy Florida | 2014

Jeff served as the project manager for a due diligence evaluation of the Osprey Energy Center combined cycle generating facility being offered for sale. Duke Energy was considering acquiring the facility from the current owner. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. Duke successfully acquired the facility and utilized the Independent Engineer's Report prepared by Burns & McDonnell to support the regulatory process through acquisition of the facility.

Due Diligence | Confidential Client Southeast | 2014

Jeff served as the project manager for a due diligence evaluation of a cogeneration facility being offered for sale. The client was considering acquiring the facility from the current owner. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility, including a review of potential modifications to the facility due to the loss of the steam host and associated costs.

Due Diligence | Indiana Municipal Power Agency Indiana | 2014

Jeff served as the project manager for a due diligence evaluation of a coal-fired generating facility being offered for sale. The client was considering acquiring the assets from the current owner. The evaluation includes a technical, environmental, and contractual review of the coal fired generation facility.

Due Diligence | Kansas Municipal Power Agency Missouri | 2014

Jeff served as the project manager for a due diligence evaluation of a combined cycle generating facility being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility.

Strategic Site Selection Study | Confidential Client Midwest | 2013

Jeff served as the Burns & McDonnell lead on site selection study for a new natural gas fired combined cycle generating resource in the Midwest. The study included evaluating greenfield and brownfield sites to determine the most attractive sites and the limiting factors to development at each site.

Strategic Site Selection Study | Confidential Client Northeast | 2013

Jeff served as the Burns & McDonnell lead on site selection study for a new gas processing facility in the northeast. The study included evaluating potential greenfield locations for a cryogenic gas processing plant to handle wet and dry gas from the Utica and Marcellus Shale areas.



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Site Evaluations | Confidential Client

Southeast | 2013

Jeff served as the Burns & McDonnell lead on the evaluation of three potential sites for a new natural gas fired combined cycle generating facility in the Southeast. The study included reviewing three sites previously selected by the client and ranking those sites relative to one another to determine their suitability for the natural gas-fired generation options under consideration.

Decommissioning Study | Arizona Public Service

Arizona | 2013

Jeff served as the Burns & McDonnell project manager on a decommissioning study for a four steam electric generating facilities in the southwest. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives. The evaluation included two coal-fired plants, and two natural gas and fuel oil fired boilers.

Decommissioning Study | Confidential Client

Texas | 2013

Jeff served as the Burns & McDonnell lead on a decommissioning study for a coal fired generating facility in Texas. The study included evaluating options to place the plant in reserve shutdown status or completely retire the plant and perform full plant demolition.

Decommissioning Study | Confidential Client

Upper Midwest | 2013

Jeff served as the Burns & McDonnell project manager on a decommissioning study for a coal fired generating facility in the upper Midwest. The study included phasing the retirement dates of portions of the facility and performing selective demolition as appropriate with full demolition to be complete at the end of useful life of the entire facility. The study also included evaluating potential value of equipment for sale on the secondary market.

Decommissioning Study | Confidential Client

Ohio River Valley | 2013

Jeff served as the Burns & McDonnell project manager on a decommissioning study for two coal fired generating facilities in the Ohio River Valley. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful life. The costs are being used for planning purposes by the client.

Decommissioning Study | EDP Renewables

Illinois | 2013

Jeff served as the Burns & McDonnell project manager for a site retirement cost evaluation for a proposed wind energy facility under development. The evaluation was performed to support permitting activities on the facility.

Strategic Site Selection Study | Confidential Client

Western Kansas | 2012

Jeff served as the Burns & McDonnell lead on a strategic site selection study for a new natural gas fired generation resource in the state of Kansas. The study resulted in the identification of multiple viable site alternatives to support the natural gas-fired generation options under consideration.



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Due Diligence | Confidential Client Northeast | 2012

Jeff served as the project manager for a due diligence evaluation of a coal-fired generating facility being offered for sale. The client was considering acquiring the assets from the current owner. The evaluation includes a technical, environmental, and contractual review of the coal fired generation facility.

Due Diligence | Old Dominion Electric Cooperative Pennsylvania | 2012

Jeff provided support for a due diligence evaluation of a facility under development, that included a 2-on-1 combined cycle power block, being offered for sale. The client was considering acquiring the site from the current owner. The evaluation included a technical, environmental, and contractual review of the combined cycle generation facility. The evaluation included a review of existing agreements and permits in place to facilitate development of the generation resource. The project also included a review of the project capital costs to determine whether the costs were reasonable, and to identify any gaps that may increase the overall project cost.

Due Diligence | Old Dominion Electric Cooperative New Jersey | 2012

Jeff served as the project manager for a due diligence evaluation of a facility that was under construction at the time, and was being offered for sale. The client was considering acquiring the 2-on-1 combined cycle power generating facility, from the current owner. The evaluation included a technical, environmental, and contractual review of the including a review of existing agreements and permits in place. The project also included a review of the project capital costs to determine whether the costs were reasonable, and to identify any gaps that may increase the overall project cost.

Due Diligence | Old Dominion Electric Cooperative Virginia | 2012

Jeff served as the project manager for a due diligence evaluation of a facility under development, that included a 2-on-1 combined cycle power block, being offered for sale. The client was considering acquiring the site from the current owner. The evaluation included a technical, environmental, and contractual review of the combined cycle generation facility. The evaluation included a review of existing agreements and permits in place to facilitate development of the generation resource. The project also included a review of the project capital costs to determine whether the costs were reasonable, and to identify any gaps that may increase the overall project cost.

Due Diligence | Confidential Client Southeast | 2012

Jeff assisted with a due diligence evaluation of a facility that includes two, 2-on-1 combined cycle power blocks, being offered for sale. The client was considering acquiring the assets from the current owner. The evaluation included a technical, environmental, and contractual review of the combined cycle generation facility.

Development Assistance | Tenaska Ohio | 2012

Jeff served as the Burns & McDonnell project manager assisting a client with the preparation of a Certificate of Environmental Compatibility and Public Need for conversion of an existing simple cycle facility to combined cycle. The



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facility includes five combustion turbines, four of which will be converted to two, 2-on-1 combined cycle power blocks. The project includes full preparation of the Certificate of Environmental Compatibility and Public Need application, as well as public meeting support.

Repower Assessment | Confidential Client North Dakota | 2011

Jeff assisted a client with an evaluation comparing the economic viability of retrofitting an existing coal-fired power plant with air quality control system equipment in comparison to replacing the plant with new natural gas fired generation. The project includes preparing capital cost estimates; operating and maintenance cost estimates, and determining the net present value of each alternative evaluate the relative economic attractiveness of each alternative.

Decommissioning Study | Progress Energy North Carolina & South Carolina | 2011

Jeff served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by Progress Energy Carolinas. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives. The evaluation included several coal-fired plants, as well as several natural gas-fired and fuel oil-fired units.

Decommissioning Study | Minnesota Power Minnesota | 2011

Jeff served as the Burns & McDonnell project manager on a decommissioning study for several power generating facilities owned by Minnesota Power. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives. The evaluation included three coal-fired plants and a biomass fired facility.

Strategic Site Selection Study | Old Dominion Electric Cooperative Virginia, Maryland, Pennsylvania, Delaware | 2011

Jeff served as the Burns & McDonnell project manager on a strategic site selection study for a 750 MW combined cycle facility. The study resulted in the identification of multiple viable site alternatives to support the natural gas-fired generation option under consideration.

Due Diligence Evaluation | Old Dominion Electric Cooperative Pennsylvania | 2011

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation of a 2-on-1 combined cycle facility being offered for sale by Liberty Electric in Pennsylvania. The client was considering acquiring the assets from the current owner. The evaluation included a technical, environmental, and contractual review of the combined cycle generation facility.

Due Diligence Evaluation | Tyr Energy Florida | 2011

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation of a biomass power generating facility under development by American Renewables. The client was considering an equity investment in the facility. The evaluation included a 100 MW bubbling fluidized bed boiler and steam turbine.



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Due Diligence Evaluation | Old Dominion Electric Cooperative

Maryland | 2011

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation of a combined cycle facility under development in Maryland. The client was considering acquiring the site and all the development rights for installation of a 2-on-1 combined cycle facility. The evaluation included a review of existing agreements and permits in place to facilitate development of the generation resource.

Decommissioning Study | Tampa Electric Co.

Florida | 2011

Jeff served as the Burns & McDonnell project manager on a decommissioning study for the power generating facilities owned by Tampa Electric Company. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives. The evaluation included a coal-fired plant, an integrated gasification combined cycle plant, and several natural gas-fired units.

Decommissioning Study | Confidential Client

Illinois | 2011

Jeff served as the project manager for a site retirement evaluation to help determine the cost to retire a 600 MW coal-fired project in Illinois at the end of its useful life. Estimates for demolition and site restoration were included in the evaluation.

Repower Assessment | Confidential Client

Minnesota | 2010

Jeff assisted a client with an evaluation comparing the economic viability of retrofitting an existing coal-fired power plant with air quality control system equipment in comparison to replacing the plant with new natural gas fired generation. The project includes preparing capital cost estimates; operating and maintenance cost estimates, and determining the net present value of each alternative evaluate the relative economic attractiveness of each alternative.

Biomass Plant Site Selection Study | Confidential Client

Texas | 2010

Jeff served as the project manager for a Site Selection Study for a Biomass project to be located in Texas. The project included ranking of candidate sites to determine a preferred site for development of a 20 MW biomass power generating facility.

Due Diligence Evaluation | Tyr Energy

Multiple Locations | 2010

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for several natural gas-fired facilities being offered for sale by Tenaska. The client was considering an equity investment in the facilities. The evaluation included four combined cycle facilities and one simple cycle facility.



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Power Plant Valuation Assessment | Basin Electric Power Cooperative North Dakota | 2010

Jeff served as the Burns & McDonnell project manager to provide a valuation assessment of the Antelope Valley Station Unit 2, which is being considered for purchase by Basin Electric Power Cooperative. The project includes valuing the 25 year old 450 MW coal fired unit in current dollars and at specified dates in the future.

Wind Farm Evaluation | Minnesota Power North Dakota | 2010

Jeff served as the Burns & McDonnell project manager to provide an evaluation of a proposed wind farm development in central North Dakota. The project includes wind resource assessments, conceptual engineering design, capital cost estimates, and estimated busbar costs for development of wind farm project in phases on the land currently under contract.

Decommissioning Cost Evaluations | Horizon Wind Energy Midwest | 2008-2010

Jeff served as the Burns & McDonnell project manager on multiple site retirement cost evaluations for several proposed wind energy facilities under development by Horizon Wind Energy. The evaluations were performed to support permitting activities on the facilities.

Due Diligence Evaluation | Tyr Energy Hawaii | 2010

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for a biomass gasification generating facility under development in Hawaii. The client was considering the facility for investment. The evaluation included a Primenergy gasifier with a net plant output of approximately 12 MW.

Project Development Assistance | Tradewind Energy Kansas | 2009-2010

Jeff served as the Burns & McDonnell project manager to provide development assistance on a wind farm facility in Southern Kansas. The development assistance includes support on land acquisition efforts for the project, transmission line routing and preliminary design, power collection system preliminary design, and general project development assistance.

Project Development Assistance | Tradewind Energy Missouri | 2007-2010

Jeff served as the Burns & McDonnell project manager to provide development assistance on two wind turbine facilities in Northern Missouri. The development assistance includes support on land acquisition efforts for the project, transmission line routing and preliminary design, power collection system preliminary design, and general project development assistance.

Decommissioning Cost Evaluation | Northern Indiana Public Service Co. Indiana | 2008

Jeff served as the Burns & McDonnell project manager on a site retirement cost evaluation for several generating facilities owned by NIPSCO. The evaluation was performed to determine the costs to demolish the units and restore the sites and included several coal-fired facilities and a combined cycle generating facility.



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Due Diligence Evaluation | Grays Harbor Public Utility District Washington | 2008

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for a biomass-fired cogeneration facility being offered for sale in Washington. The facility evaluated was a paper mill that had been shutdown for several years. The facility included a wood waste fired boiler that provided steam to a steam turbine for electric power generation as well as providing plant process steam.

Due Diligence Evaluation | Tyr Energy New Mexico | 2008

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for a natural gas-fired power generating facility being offered for sale in New Mexico. The evaluation included two Mitsubishi 501F combustion turbines operating in combined cycle mode.

Decommissioning Cost Evaluation | Horizon Wind Energy Illinois | 2008

Jeff served as the Burns & McDonnell project manager on a site retirement cost evaluation for a wind farm being proposed by Horizon Wind Energy in Illinois. The evaluation was performed to determine the costs to demolish the units and restore the sites to meet the county zoning requirements.

Due Diligence Evaluation | Tyr Energy Western U.S. | 2008

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for several natural gas-fired power generating facilities being offered for sale throughout the western United States. The evaluation included several GE LM6000 combustion turbines operating in simple cycle mode, several GE LM6000 combustion turbines operating in combined cycle mode, one GE 7EA combustion turbine operating in combined cycle mode, and one GE 7FA combustion turbine operating in simple cycle mode.

Due Diligence Evaluation | Tyr Energy Virginia | 2007

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for a generating facility being offered for sale in Virginia. The evaluation included 7 GE LM6000 fuel oil fired combustion turbines operating in simple cycle mode.

Due Diligence Evaluation | Tyr Energy Colorado | 2007

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for 5 GE LM6000 combustion turbines operating in combined cycle cogeneration mode with 2 steam turbines. The facility includes a greenhouse that serves as the plant's thermal host for cogeneration operations.



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Project Development Assistance | Mesa Wind Power

Texas | 2007

Jeff provided development assistance on a 4,000 MW wind turbine facility located in the panhandle of Texas. The development assistance includes pro forma economic modeling of the project.

Due Diligence Evaluation | Kelson Energy

Ohio | 2007

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for a generating facility being offered for sale in Ohio. The evaluation included a partially constructed 2x1 Siemens Westinghouse 7FA combined cycle generating facility.

Due Diligence Evaluation | Grand River Dam Authority

Oklahoma | 2007

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for a generating facility being offered for sale in Oklahoma. The evaluation included a 4x2 GE 7FA combined cycle generating facility.

Due Diligence Evaluation | Brazos Electric Power Cooperative

Texas | 2007

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for the purchase of an equity share of a generating facility being constructed in Texas. The evaluation included an 890 MW supercritical pulverized coal fired generating facility.

Due Diligence Evaluation | Tyr Energy

Florida | 2007

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for a generating facility being offered for sale in Florida. The evaluation included 3 GE 7FA combustion turbines operating in simple cycle mode.

Cost Estimate Preparation | Direct Energy

Texas | 2007

Jeff served as the Burns & McDonnell project manager for the preparation of planning level cost estimates for a new combined cycle facility to be constructed in Texas.

Due Diligence Evaluation | Tyr Energy

Various U.S. Locations | 2007

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for several generating facilities being offered for sale throughout the U.S. The evaluation included a coal, natural gas, and wind power facilities.

Owner's Engineer Services | Grays Harbor PUD

Washington | 2007

Jeff served as the Burns & McDonnell project manager on an owner's engineer project to evaluate the plans for installation of a refurbished steam turbine at a paper mill. The evaluation included the review of the design for the installation of a 7 MW steam turbine.



JEFFREY T. KOPP, PE

(continued)

Decommissioning Cost Evaluation | Tyr Energy

Various U.S. Locations | 2007

Jeff served as the Burns & McDonnell project manager on a site retirement cost evaluation for several generating facilities owned by Tyr Energy. The evaluation was performed to satisfy FASB 143 accounting standards and included a simple cycle and combined cycle generating facilities.

Due Diligence Evaluation | Tyr Energy

Virginia | 2006-2007

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for a generating facility being offered for sale in Virginia. The evaluation included a 240 MW subcritical pulverized coal fired facility.

Due Diligence Evaluation | Brazos Electric Power Cooperative

Texas | 2006

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for a generating facility being offered for sale in Texas. The evaluation included a 1x1 GE 7FA combined cycle generating facility and 2 GE 7FA combustion turbines operating in simple cycle mode.

Generation Alternatives Study | Ottetail Power Company

North Dakota | 2006

Jeff served as the Burns & McDonnell project manager on a Generation Alternatives Study for the addition of a new 600 MW coal fired unit at an existing coal fired facility. The study includes a pro forma analysis of the technologies considered.

Technology Assessment | Minnesota Power

South Dakota | 2006

Jeff assisted with a technology assessment for the addition of a new 500 MW coal fired unit at an existing coal fired facility. The study includes a pro forma analysis of the technologies considered.

Technology Assessment & Feasibility Study | Ottetail Power Co.

Minnesota | 2006

Jeff served as the Burns & McDonnell project manager on a feasibility study and technology assessment for the addition of a new 500 MW coal fired unit at an existing coal fired facility. The study includes conceptual site layouts, cost estimates, performance estimates, and water balances.

Project Development Assistance | Tradewind Energy

Kansas | 2005-2006

Jeff served as the Burns & McDonnell project manager to provide development assistance on a 250MW wind turbine facility in Central Kansas. The development assistance includes conceptual design and technical support for the development phase of the project.



JEFFREY T. KOPP, PE

(continued)

Siting Study & Technology Assessment | Arizona Public Service

Arizona/New Mexico | 2005-2006

Jeff assisted with a siting study and technology assessment for a 1,800 MW coal fired facility in Arizona and Northwestern New Mexico. Development resulted in the identification of multiple viable site alternatives to support coal-fired generation options.

Due Diligence Evaluation | Tyr Energy

California | 2005-2006

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for four generating facilities being offered for sale in California. The evaluation included simple cycle facilities consisting of Pratt & Whitney FT8 Twinpacs.

Professional Services: 2005-2006

Waste-to-Energy Feasibility Study | CPS Energy

Texas | 2005

Jeff assisted with a feasibility study for a new waste-to-energy facility in the State of Texas. The study included a pro forma analysis of the facility considered.

Due Diligence Evaluation | Tyr Energy

Oklahoma | 2006

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for a generating facility being offered for sale in Oklahoma. The evaluation included a simple cycle facility consisting of four General Electric 7EA turbines.

Due Diligence Evaluation | Cinergy

Indiana | 2005

Jeff served as the Burns & McDonnell project manager on a due diligence evaluation for a generating facility being offered for sale in Indiana. The evaluation included a simple cycle facility consisting of four Siemens Westinghouse 501D5A turbines.

Due Diligence Evaluation | kRoad Power

Various Locations | 2003-2004

Jeff served as the Burns & McDonnell project manager on due diligence evaluations for several generating facilities being offered for sale throughout the United States. The evaluations included four combined cycle plants utilizing Siemens Westinghouse 501G turbines.

Due Diligence Evaluation | kRoad Power

Various Locations | 2003

Jeff served as the Burns & McDonnell project manager on due diligence evaluations for several generating facilities being offered for sale by Duke Energy. The evaluations included two combined cycle plants and one simple cycle plant utilizing General Electric 7FA turbines and General Electric 7EA turbines respectively.



JEFFREY T. KOPP, PE

(continued)

Decommissioning Cost Evaluation | Old Dominion Electric Cooperative

Maryland/Virginia | 2002-2004

Jeff served as the Burns & McDonnell project manager on several site retirement evaluations to help determine the cost to retire the facilities at the end of their useful life. The evaluations included simple cycle plants utilizing General Electric 7FA turbines and Caterpillar Diesel Gensets. Estimates for demolition and site restoration were included.

Decommissioning Cost Evaluation | Western Farmers Electric Cooperative

Oklahoma | 2004

Jeff served as the Burns & McDonnell project manager on a site retirement evaluation to determine the approximate cost to retire the facilities, prepare demolition contract documents, and evaluate bids. The evaluation included a dual fuel genset site.

Decommissioning Cost Evaluation | Panda Energy

North Carolina | 2003

Jeff served as the Burns & McDonnell project manager on a site retirement evaluation to help determine the cost to retire the Panda-Rosemary Project at the end of its useful life. The evaluation included a combined cycle cogeneration facility in Roanoke Rapids, North Carolina. Estimates for demolition and site restoration were included in the evaluation.

Independent Engineer's Report | Panda Energy

North Carolina | 2003-2004

Jeff produced an Independent Engineer's Report for the Panda-Rosemary Project. The report included a due diligence evaluation of plant performance and financial assessment of a combined cycle cogeneration facility in Roanoke Rapids, North Carolina.

Decommissioning Cost Evaluation | Sempra Energy

Arizona | 2003

Jeff provided a site retirement evaluation to help determine the cost to retire the Mesquite Energy Generating Facility at the end of its useful life. The evaluation included a combined cycle plant near Phoenix, Arizona. Estimates for demolition and site restoration were included in the evaluation.

Feasibility Study | Northeast Utility Service Corp.

New Hampshire | 2004

Jeff assisted with a feasibility study to replace an existing coal-fired unit with a new coal fired unit. The study included the installation of a single 600 MW unit in New Hampshire. A pro forma analysis of the new unit was prepared and benchmarked against a pro forma analysis for the existing unit.

Technology Assessment & Feasibility Study | Ottetail Power Corp

South Dakota | 2006

Jeff assisted with a technology assessment and feasibility study for a new coal-fired generation facility in South Dakota. The study included a pro forma analysis of the alternative technologies considered.



JEFFREY T. KOPP, PE

(continued)

Technology Assessment & Feasibility Study | Progress Energy

Florida | 2004

Mr. Kopp assisted with a technology assessment and feasibility study for new solid fuel fired generation in the State of Florida. The study included a pro forma analysis of the alternative technologies considered.

Resources Corporation Project Development Assistance | Peoples Energy

Oregon | 2001-2004

Mr. Kopp provided project development assistance for a 1,200 MW combined cycle power plant in Oregon. Mr. Kopp assisted in the preparation of an Energy Facility Site Certificate including preliminary engineering design, preparation and review of written exhibits, and public presentation support.

Project Development Assistance | Peoples Energy Resources Corporation

New Mexico | 2001-2004

Mr. Kopp provided project development assistance for a simple cycle power plant in New Mexico. Mr. Kopp provided preliminary engineering design and project development assistance. This included preparing preliminary site design drawings that were approved by the county zoning commission during the site design review process as well as public presentation support.



NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

Application of High Bridge Wind, LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction
of the High Bridge Wind Project Located in the Town
of Guilford, Chenango County.

Case No. 18-F-0262

PRE-FILED TESTIMONY OF
RICHARD M. LAMPETER
ASSOCIATE, EPSILON ASSOCIATES, INC.

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

2 A: Richard M. Lampeter, Epsilon Associates, Inc. (Epsilon), 3 Mill & Main Place, Suite 250, Maynard,
3 MA 01754.

4 **Q: What is your position at Epsilon?**

5 A: I am an Associate at Epsilon and manage the Acoustics Group.

6 **Q: How long have you been employed with Epsilon?**

7 A: I have been employed by Epsilon since 2001.

8 **Q: Please describe your educational background and professional experience.**

9 A: I have over 15 years of experience in conducting impact assessments for various developments
10 across the United States. Prior to joining Epsilon, I graduated from Lyndon State College in Vermont
11 with a B.S. in Environmental Science. While at Epsilon, I have been involved in approximately 90
12 wind energy projects evaluating potential impacts from sound and/or shadow flicker. Approximately
13 50 of these studies included a shadow flicker component. The projects ranged in size from 1.5 to
14 over 300 megawatts. To assess shadow flicker, I use the WindPRO software package to calculate
15 shadow flicker durations in the vicinity of the project under review on both a worst-case and expected
16 basis. As part of these project evaluations, I have assisted in refinements of wind turbine layouts to
17 minimize shadow flicker at residences, evaluated curtailment options, and analyzed the impact of
18 existing vegetation on modeled shadow flicker durations. A copy of my resume is submitted as
19 Exhibit ____ (RML-PF1): Resume of Richard M. Lampeter.

20 **Q: Please describe your current responsibilities with Epsilon Associates, Inc.**

21 A: I serve in a variety of roles at Epsilon, ranging from project manager, to modeler to field scientist,
22 depending on the project. I oversee and/or conduct noise studies for wind energy and other projects.

23 I also oversee and/or conduct shadow flicker studies for wind energy projects.

24 **Q: Have you previously testified before the New York State Public Service Commission or Siting**
25 **Board on Electric Generation?**

26 A: Yes. I submitted written testimony for the Eight Point Wind Energy Center Project, Case No. 16-F-
27 0062.

28 **Q: Have you previously served as an expert witness before any other court, agency, or other**
29 **body on the subject you plan to offer testimony on today?**

30 A: Yes. I was the expert witness before the Perquimans County Board of Commissioners and
31 Pasquotank County Board of Commissioners on shadow flicker for the Desert Wind Project in North
32 Carolina in 2011. In 2019, I provided testimony to the North Dakota Public Service Commission
33 regarding sound and shadow flicker for the Burke County Wind Energy Center Project, Docket PU-
34 18-344. In addition, I have testified on sound level modeling and measurement methodologies for
35 wind energy projects in other proceedings.

36 **Q: What is the purpose and scope of your testimony in this proceeding?**

37 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

38 **Q: What portion(s) of the Application is your testimony sponsoring?**

39 A: Exhibit 15: Public Health and Safety (relating to shadow flicker) and Exhibit 24, Visual Impacts
40 (relating to shadow flicker).

41 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction**
42 **and supervision.**

43 A: Yes.

44 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or**
45 **documents produced by persons other than yourself/your company? If so, please cite these**
46 **sources. [These are independent studies, etc.]**

47 A: References are provided in Exhibits 15 and 24.

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

49 **A:** Yes.



EDUCATION

B.S., Environmental Science, Lyndon State College, 2001

PROFESSIONAL SUMMARY

Mr. Lampeter has more than 15 years of experience in conducting community sound level impact assessments. His areas of expertise include the measurement of ambient sound levels, modeling sound levels from proposed developments, evaluation of conceptual mitigation, and compliance sound level measurements. Mr. Lampeter has conducted impact assessments for power generating facilities, commercial developments, industrial facilities, and transfer stations. Richard's understanding of acoustical standards and modeling software has allowed him to provide accurate and reliable modeling results to developers and communities.

Since 2004, Mr. Lampeter has been involved in approximately 90 wind energy projects. In addition to performing numerous sound level impact assessments for wind energy facilities, Mr. Lampeter has conducted shadow flicker analyses for approximately 50 wind energy projects across the United States. Mr. Lampeter frequently presents key aspects of analyses to boards and committees and has provided sworn expert testimony.

Mr. Lampeter utilizes his diverse skill set as he serves in a variety of rolls on projects, ranging from project manager, to modeler, to field scientist. Richard is adept at using Larson Davis, Norsonic, RION, and CEL sound level meters and various modeling software packages including, Cadna/A and WindPRO.

Mr. Lampeter also has experience in air quality modeling and meteorological monitoring. Richard has used a variety of air dispersion models including CAL3QHCR, AERMOD, and CALPUFF and has displayed expertise in working with HOBO and NovaLynx portable weather stations.

Mr. Lampeter has co-authored several papers ranging in topics from wind energy to metal shredders, one of which appeared in a peer-reviewed journal. Mr. Lampeter has been a speaker at CanWEA's annual conference on the topic of low frequency noise from wind turbines and presented shadow flicker guidance and a regulatory update in a New England Wind Energy Education Project webinar.

PROFESSIONAL EXPERIENCE

Noise Impact Assessment – Power Projects – Renewable Energy

- ◆ *NextEra Energy Resources – Tuscola Wind II, Tuscola County, MI.* Project Manager for pre- and post-construction sound level impact assessments for a 100 megawatt (MW) wind energy facility composed of 59 GE wind turbines. Modeling was performed in order to demonstrate compliance with the sound level limits in each community. During multiple public hearings,

Mr. Lampeter responded to questions and comments. Following construction, operational sound levels were measured in each of the four townships per ordinance requirements.

- ◆ *Boreal Renewable Energy Development – Christopher House Wind Turbine Generator Project, Worcester, MA.* Project Manager for a sound level impact assessment prepared for a wind turbine feasibility study. Measured ambient background sound levels and modeled wind turbine sound levels under two scenarios. Impacts were compared to the local zoning ordinance and the Massachusetts Department of Environmental Protection (MassDEP) Noise Policy.
- ◆ *Palmer Renewable Energy Project, Springfield, MA.* Predicted future sound levels from a proposed 38 MW renewable biomass energy plant using the Cadna/A software package. Impacts were compared to state and local regulations with the results presented in the Environmental Notification Form.
- ◆ *NextEra Energy Resources – Pheasant Run Wind Energy Center, Huron County, MI.* Project Manager for a post-construction sound level compliance evaluation for a wind power generation facility composed of 88 wind turbines and an electrical substation. Sound levels were measured and evaluated at 15 residential locations. Following the submittal of a comprehensive report, results were presented to the Huron County Planning Commission.
- ◆ *Zotos International, Inc. – Two Wind Turbine Project, Geneva, NY.* Conducted a sound level impact assessment for two proposed wind turbines at the existing Zotos International facility. Calculated future sound levels using the Cadna/A noise calculation software. Prepared a comprehensive report comparing modeled sound levels to local regulations and relevant criteria. Presented the sound level assessment to the City of Geneva Planning Board.
- ◆ *FPL Energy (now NextEra Energy Resources) – Horse Hollow Wind Energy Center, Taylor County, TX.* Assisted in the development and execution of multiple sound level measurement programs for the 735 MW wind farm which at the time of its in-service date it was the world's largest wind farm. Analyzed sound level data in conjunction with power output data provided by NextEra Energy Resources and assisted in the preparation for legal proceedings.
- ◆ *Iberdrola Renewables – Groton Wind, Groton, NH.* Assisted in the collection of pre-construction ambient sound levels for a proposed 48 MW wind energy facility. Conducted post-construction sound level measurement programs in order to address the requirements of the State of New Hampshire Site Evaluation Committee Order and the Certificate of Site and Facility with Conditions for the Groton Wind Project. Analyzed the data collected for the evaluation of applicable limits.
- ◆ *NextEra Energy Resources – Lake Benton II Wind Project, Pipestone County, MN.* Project Manager for a sound level assessment for a repower project in Minnesota. The assessment consisted of an ambient measurement program and sound level modeling of the proposed wind turbines and existing wind turbines in the vicinity of the project. The findings were presented in a comprehensive report.

- ◆ *Heritage Sustainable Energy – Big Turtle Wind Farm Phase 2, Huron County, MI.* Project Manager for a pre- and post-construction sound level assessment for a wind energy facility to consisting of 14 Gamesa wind turbines. Sound levels were evaluated with respect to limits in the Huron County Wind Energy Facility Overlay Zoning Ordinance. Presented the results of the post-construction compliance evaluation to the Huron County Planning Commission.
- ◆ *Confidential Project, OK.* Project Manager for a sound level impact analysis. Developed and executed sound level measurement program in response to complaints made by a resident living adjacent to the wind farm. Data were compared to a generally accepted guideline and presented in a letter report.
- ◆ *NextEra Energy Resources – Golden West Wind Energy Center, El Paso County, CO.* Project Manager for a post-construction sound level evaluation of 249.4 MW wind power generation facility composed of 145 GE wind turbines. Collected attended and unattended sound level and meteorological data during two measurement programs. Presented the findings of the study to the Board of County Commissioners.
- ◆ *NextEra Energy Resources – Eight Point Wind Energy Center, Steuben County, NY.* Assisted in the sound level modeling for the pre-construction impact assessment required as part of the NY State Article 10 process. Sounds levels were modeled using Cadna/A and incorporated CONCAWE meteorology.
- ◆ *NextEra Energy Resources – Lee/DeKalb Wind Energy Center, Lee and DeKalb Counties, IL.* Developed and executed a post-construction sound level measurement program for a 217.5 MW wind farm consisting of 145 GE 1.5xle wind turbines. Over 5,000 hours were collected over a 5-week period at 16 locations. The results of this program found that sound levels due to the wind turbines under worst-case conditions were at or below the Illinois Pollution Control Board noise limits.
- ◆ *FPL – St. Lucie Wind Turbine Generation Project, St. Lucie County, FL.* Assisted in the development and execution of an extensive sound level measurement and modeling program for a proposed wind farm in St. Lucie County, FL. Collected ambient sound level data and meteorological data. Calculated the sound levels resulting from the operation of the wind turbines using the WindPRO modeling software. Six wind turbines were proposed to be constructed along a beach in Florida.
- ◆ *Boreal Renewable Energy Development – Nauset Regional High School Wind Turbine Generator Project, Eastham, MA.* Conducted a sound level impact assessment for a wind turbine feasibility study. Prepared a comprehensive letter report comparing modeled sound levels to the MassDEP Noise Policy.
- ◆ *NextEra Energy Resources – Tuscola Bay Wind Energy Center, Tuscola, Bay, & Saginaw Counties, MI.* Managed a sound level impact assessment project for a proposed 120 MW wind power generation facility composed of 75 wind turbines. Modeling was performed in order to demonstrate compliance with the sound level limits in each community. During multiple public hearings, Mr. Lampeter responded to questions and comments. Following construction, operational sound levels were measured as required by the township's ordinance.

- ◆ *NextEra Energy Resources - Waymart Wind Farm, Waymart, PA.* Executed multiple post-construction sound level measurement programs around the 65 MW wind turbine facility. Analyzed pre- and post-construction sound level data. Summarized data in succinct letter reports.
- ◆ *Iberdrola Renewables – Wild Meadows, Alexandria & Danbury, NH.* Measured ambient sound levels for a proposed 75.9 MW wind energy facility. Sound levels were measured at eight locations representative of nearby residences in various directions from the proposed wind turbines.
- ◆ *NextEra Energy Resources – Pegasus Wind Energy Center, Tuscola County, MI.* Project Manager for a pre-construction acoustic study for a 62 wind turbine project. Both ambient sound level measurements and sound level modeling were components of the project. Presented analysis findings and responded to questions and comments during multiple public hearings.
- ◆ *John Deere Wind Energy – Michigan Wind 1 Wind Farm, Huron County, MI.* Measured and analyzed post-construction sound level data collected to assess compliance with the Huron County noise ordinance and address complaints. The wind farm is a 69 MW project consisting of 46 GE 1.5sle wind turbines. Sound levels were measured at 14 different locations over a 20-day period. Over 4,000 hours of data were collected and analyzed for this program.
- ◆ *Heritage Sustainable Energy – Big Turtle Wind Farm, Huron County, MI.* Project Manager for a sound level compliance evaluation for an existing 20 MW wind energy facility composed of 10 Gamesa wind turbines. Measured sound levels were evaluated with respect to limits in the Huron County Wind Energy Facility Overlay Zoning Ordinance.
- ◆ *Confidential Project, IA.* Project Manager for a sound level impact assessment for a wind farm in Iowa. Predicted future sound levels due to the operation of the wind turbines in areas surrounding the wind farm. Data were presented in tabular format and overlaid onto aerial photography.
- ◆ *NextEra Energy Resources – Osborn Wind Energy Center, MO.* Provided expert opinions regarding proposed amendments to the Clinton County Zoning Ordinance with respect to sound from a Wind Energy Conversion System. Provided sworn testimony under direct and cross examination at a Clinton County Planning & Zoning Commission hearing.

Noise Impact Assessment – Power Projects

- ◆ *Medical Area Total Energy Plant (MATEP), Boston, MA.* Managed multiple sound level measurement programs for the plant following the installation of two combustion turbines, gas compressors, and cooling towers. These programs included background sound level measurements, compliance operational sound level measurements, and evaluations of noise mitigation. The results of these measurement programs have been summarized in reports submitted to Veolia Energy and regulatory agencies. Assisted in the sound level modeling of a proposed 14.4 MW combustion turbine with a Heat Recovery Steam Generator. Collected

sound level data for various rooftop equipment. Conducted post-construction sound level measurements for the evaluation of the MassDEP Noise Policy.

- ◆ *Lean Flame, Watervliet Arsenal, NY.* Project Manager for a sound level impact assessment for a proposed GE Frame 5 gas turbine on land leased from the Watervliet Arsenal. Developed and executed an ambient sound level measurement program. Calculated sound levels at various locations surrounding the site using modeling software. Presented the analysis in a comprehensive report.
- ◆ *Hollingsworth & Vose, Inc. Combined Heat & Power Project, West Groton, MA.* Conducted a sound level impact assessment for the proposed CHP. Sound levels were modeled using the Cadna/A noise calculation software. Evaluated multiple project designs. Presented the analysis to the local planning board.
- ◆ *National Grid – East Main Street Substation, Westborough, MA.* Managed a sound level impact assessment for the proposed expansion of a substation. The expansion included the installation of a 115/13.8 kV transformer. Predicted future sound levels were compared to existing sound levels for evaluation with the MassDEP Noise Policy. Presented the analysis in a concise report.
- ◆ *St. Joseph's Hospital Combined Heat & Power Project, Syracuse, NY.* Measured existing sound levels and conducted a modeling analysis for a project including a Solar Turbines Mercury 50 gas turbine with an electrical output of 4.5 MW and a Heat Recovery Steam Generator capable of producing 45,000 lbs. of steam. Sound levels were evaluated both in the community and in a patient room above the project. Summarized the results of the post-construction sound level measurement program in a concise letter report.
- ◆ *Advanced Power, Brockton Power Project, Brockton, MA.* Performed acoustical modeling for the 350 MW power generating facility using a noise prediction software package. Completed a Best Available Noise Control Technology (BANCT) Analysis which evaluated various noise control options. Assisted in the preparation for the Energy Facilities Siting Board (EFSB) hearings.
- ◆ *Braintree Electric Light Department – Thomas A. Watson Generating Station, Braintree, MA.* Measured sound levels at various locations for a proposed 116 MW natural gas and oil-fired simple cycle electric power generation facility. Assisted in the acoustical modeling, including several rounds of mitigation analyses. Team member for compliance sound level measurement programs.
- ◆ *Milford Power Company, Milford, CT.* Executed an ambient sound level measurement program over a three-day period for a combined cycle electric generating facility proposed in southern Connecticut. Participated in an additional sound level measurement program while construction was under way to collect sound level data during periods of steam venting.
- ◆ *Union College Combined Heat & Power Project, Schenectady, NY.* Conducted an analysis of the sound associated with the operation of a proposed gas-turbine based CHP plant for Bette & Cringe, LLC. The proposed plant will include a gas turbine generator package with an expected

nominal gross power output of 1,804 kW. The NY DEC guidance document's 6 dBA increase over ambient limit was used as a guideline in evaluating noise impacts from the project.

- ◆ *Franklin Energy Center, Franklin, MA.* Conducted an ambient sound level measurement program around the Garelick Farms facility in Franklin to establish background sound levels before the construction of the cogeneration plant at the facility. Following construction of the plant, post-construction sound level measurements were taken. Drafted a sound level measurement letter report presenting the results of the program with respect to the Massachusetts Noise Policy.
- ◆ *FPL Energy - Jamaica Bay Peaking Facility, Far Rockaway, NY.* Participated in a sound level measurement program. Short-term and continuous measurements were made at the nearest residences.
- ◆ *Billerica Energy, Billerica, MA.* Assisted in the acoustical modeling using Cadna/A for a 480 MW simple cycle turbine facility. Modeled impacts under various scenarios and analyzed noise impacts at multiple locations.
- ◆ *Weaver's Cove Energy, Fall River, MA.* Assisted in the development and implementation of an extensive sound measurement program. Over a three-day period continuous and/or short-term measurements were taken at seven locations around the proposed liquefied natural gas (LNG) terminal. Obtained permission from local residences to install temporary noise equipment. Collected and organized the sound data for this project. Participated in an additional sound level measurement program to collect background sound level data in four communities which were in the vicinity of the proposed offshore berth.
- ◆ *Clifton Street Substation, Marblehead, MA.* Participated in multiple sound level measurement programs. Conducted a baseline noise measurement survey around the existing substation. Conducted a second survey after the existing transformer was replaced to assess compliance with permit conditions. Prepared a letter report summarizing the results.

Noise Impact Assessment – Quarries / Sand & Gravel / Asphalt

- ◆ *Aggregate Industries, Peabody, MA.* Project Manager for sound level measurement programs developed as part of the Special Permit requirements for the quarry and asphalt plant. Gathered data before and after mitigation measures were implemented, analyzed potential impacts due to a proposed relocation of equipment, and presented results at a Peabody Board of Health Meeting.
- ◆ *McCullough Crushing, Calais, VT.* Collected reference sound level data at an operating sand and gravel pit. Modeled future sound levels due to sand and gravel extraction and processing using Cadna/A. Prepared a comprehensive report evaluating potential community noise impacts.
- ◆ *Dalrymple Gravel & Contracting Co., Inc., Erwin, NY.* Measured reference sound levels for an off-road haul truck and associated hopper-loading activities at the existing Scudder Sand and Gravel Pit.

- ◆ *Massachusetts Broken Stone Company, Berlin, MA.* Executed a sound measurement program for an existing asphalt company. Measured sound levels during operational and background conditions. Prepared a letter report summarizing the results.
- ◆ *Ambrose Brothers Inc., Sandwich, NH.* Executed two sound level programs at a sand and gravel excavation site. The first program involved measuring sound levels at the house of a concerned neighbor with a portable crusher at its original location. The second program involved measuring sound levels at the same residence with the crusher at a new location. Prepared letter reports for each of the measurement programs.

Noise Impact Assessment – Industrial

- ◆ *General Electric Company, Hudson River PCBs Superfund Site, Hudson River, NY.* Assisted in the Phase 1 RAM through the routine collection of sound level data in the community surrounding the dredging activity and processing facility. Collected reference sound level data of noise sources for the project.
- ◆ *Cianbro Corporation – Metal Fabrication Plant, Georgetown, MA.* Conducted an operational sound level measurement program around the existing facility during which sound levels were continuously measured at a property line and sound levels associated with individual operations/equipment were measured at a reference distance. Summarized the program and identified mitigation options in a letter report.
- ◆ *Berwick Iron and Metal Recycling, Berwick, ME.* Modeled a proposed metal shredder at an existing metal recycling facility using Cadna/A and proposed mitigation to minimize sound level impacts to the community. Participated in a post-construction sound level measurement program to assess compliance with respect to local sound level limits.
- ◆ *Former Coal Tar Processing Facility, Island End River, Everett, MA.* Participated in multiple sound measurement programs at a former industrial facility. Measured sound levels under existing conditions before and after a pilot study. Measured sound levels at nine locations during a pilot program to generate information about the relationships between dredging operations and their effects on area sound levels. Took individual reference measurements for each of the various types of equipment operated during the pilot study. Collected sound level data during periods of pile driving activity during the sheet pile wall installation phase of the project.
- ◆ *Excel Recycling, Freetown MA.* Conducted attended sound level measurements and detailed sound level modeling to evaluate potential mitigation options for an existing metal shredding and processing facility.
- ◆ *FedEx Distribution Facility, Billerica, MA.* Conducted a third-party review of a noise study for a proposed distribution facility. The review was performed for BETA Group who was hired by the Town of Billerica. Presented findings at a Billerica Board of Health meeting.

Noise Impact Assessment – Transfer Stations / Landfills

- ◆ *Casella Waste Systems, Inc. - Juniper Ridge Landfill, Old Town, ME.* Conducted a sound level impact assessment for the proposed expansion of the existing Juniper Ridge Landfill. The analysis included mobile noise sources associated with the management of solid waste and a new stationary source, the proposed landfill gas to energy facility. Modeled sound levels were evaluated against both state and local regulations.
- ◆ *Holliston Solid Waste Transfer Station, Holliston, MA.* Participated in a sound level measurement program at a solid waste transfer station in Massachusetts. Coordinated with the transfer station and with local residences on the placement of noise equipment. Weekday and weekend measurements (short-term and continuous) were taken at up to six locations around the facility. Participated in additional sound level measurement programs following the enclosure of the C&D facility to evaluate various mitigation options.
- ◆ *Hardwick Landfill, Hardwick, MA.* Conducted multiple sound level measurement programs around an existing landfill. Sound levels were measured to evaluate the effectiveness of backup alarm mitigation and to compare levels with and without a gas flare operating. Presented the results of the measurement programs in concise letter reports.
- ◆ *Resource Recovery of Cape Cod Inc., Sandwich, MA.* Participated in a group effort in conducting two consecutive 12-hour ambient sound level measurements and one 5-hour ambient sound level measurement at multiple locations for a construction & demolition transfer station in Cape Cod. The study was conducted to establish background sound levels around the facility.

Noise Impact Assessment – Institutional

- ◆ *Town Hall Renovation, Orleans, MA.* Project Manager for a sound level impact analysis for the renovation of a town hall. Measured existing sound levels at several locations and calculated future sound levels from the proposed mechanical equipment at multiple evaluation points. Following construction and the installation of the new equipment, additional measurements were collected to compare current operational sound levels to background sound levels. All findings were summarized in concise letter reports.
- ◆ *Institute of Contemporary Art, Boston, MA.* Conducted a sound level measurement program at the future site of the ICA to determine the maximum noise impacts from airplanes taking off from Logan Airport. Coordinated with the Massport Noise Abatement Office to ensure that the desired runway was being used. Gathered detailed information characterizing the noise environment of the site.
- ◆ *Phillips Academy, Andover, MA.* Measured sound levels with and without the compressor system operating at the new ice hockey facility. Prepared a letter report comparing the results to the Massachusetts Noise Policy.
- ◆ *Harvard University, Boston, MA.* Conducted an ambient sound level measurement program. Sound levels were measured around the proposed Northwest Laboratory.

- ◆ *Northeastern University, Boston, MA.* Conducted an ambient sound level measurement program. The college was interested in constructing an additional building on campus and was concerned about the noise issues related to the project.

Noise Impact Assessment – Commercial / Residential

- ◆ *Stop & Shop Supermarkets.* Executed ambient sound level programs at numerous supermarket locations in New England. Gathered reference sound level data for mechanical equipment at an existing store. Analyzed the potential for impacts at residences due to the addition of mechanical equipment using the Cadna/A noise prediction software.
- ◆ *Washington Village Project, Boston, MA.* Evaluated predicted sound levels for the proposed redevelopment of an approximately 4.89-acre site in the South Boston neighborhood. The redevelopment will include eight new residential buildings with most containing ground floor retail, as well as new streets, plazas, and green spaces. Results of the analysis were presented in an Expanded Project Notification Form (PNF).
- ◆ *110 Broad Street Project, Boston, MA.* Conducted a sound level modeling analysis for the redevelopment of 7,680 square foot site. The project includes the restoration of the historic Bulfinch Building at 102 Broad Street and the construction of a new residential building with ground floor commercial/café space at 110-112 Broad Street. The predicted sound levels were evaluated with respect to the City of Boston noise standards with the results presented in an Expanded PNF.
- ◆ *55 India Street Project, Boston, MA.* Modeled and evaluated sound levels for mechanical equipment associated with a proposed 67,000 square foot building with ground floor commercial space and 44 residential units above. Results were presented in the Expanded PNF.
- ◆ *Parcel 1 Project, Boston, MA.* Analyzed sound level impacts from the mechanical equipment associated with the proposed residential/commercial development located in Boston's historic Bulfinch Triangle. Modeling was performed using Cadna/A with the results presented in the Expanded PNF.
- ◆ *Big Y Supermarket, Northampton, MA.* Measured sound levels during normal operations at the supermarket and gathered background sound levels without the supermarket operating.
- ◆ *Crosby's Market, Hamilton, MA.* Measured sound levels around the existing market at the nearest residences in response to concerns by neighbors over the renovation and expansion of the market.
- ◆ *Condominiums, Marblehead, MA.* Measured sound levels during the operation of condenser units located at a condominium. Prepared a letter report comparing the results to the town noise ordinance.

- ◆ *Banquet Hall, Whately, MA.* Conducted a sound level analysis for a proposed seasonal banquet hall. The noise source of concern was music being played during functions at the hall. Prepared a letter report comparing the modeling results to the MassDEP Noise Policy.

Noise Impact Assessment – Additional Projects

- ◆ *Chestnut Ridge Rod and Gun Club, Dover, NY.* Project Manager for a sound level impact analysis at an existing rod and gun club. Devised and executed a sound level measurement program. Developed mitigation strategies and calculated potential future noise impacts. Summarized all findings in a comprehensive letter report.
- ◆ *Storrow Drive Tunnel Reconstruction Project, Boston, MA.* Collected sound level data at various points along Storrow Drive. Presented the noise impact analysis during an Advisory Committee Meeting.
- ◆ *TMR Preserve, Dover, NY.* Conducted two sound level programs at a proposed sporting club. Took ambient measurements to document existing conditions in the area. Future conditions were simulated as individuals discharged several types of firearms at various shooting locations in the preserve. Compared measurements taken during these conditions to the existing conditions along with state and local noise regulations.

Shadow Flicker

- ◆ *Iberdrola Renewables – Desert Wind, Perquimans and Pasquotank Counties, NC.* Managed a shadow flicker impact assessment for a proposed wind power generation facility to be located in North Carolina. Shadow flicker from the 150 Gamesa G97 2.0 MW wind turbines was calculated. Separate reports were prepared for each county. Gave sworn testimony to the Board of Commissioners in each county.
- ◆ *NextEra Energy Resources – Tuscola Bay Wind Energy Center, Tuscola, Bay, & Saginaw Counties, MI.* Project Manager for a shadow flicker analysis for a proposed 120 MW wind power generation facility composed of 75 wind turbines. The expected duration of shadow flicker was calculated at sensitive receptors in the vicinity of the project. Responded to questions and comments at multiple public hearings.
- ◆ *Confidential Project, MA.* Calculated the duration of shadow flicker from a proposed wind turbine to be located in Massachusetts using the WindPRO shadow module.
- ◆ *State of Connecticut Siting Council, CT.* Contributor to the Epsilon project team providing professional consulting services for renewable energy projects to the Siting Council in CT. Examined analyses conducted, including shadow flicker, for a proposed wind energy project in CT. Reviewed submittals provided by the council and submitted comments.
- ◆ *State of New Hampshire, Concord, NH.* Conducted an independent review of the shadow flicker analysis for the proposed 24 MW Lempster Mountain Wind Power Project in Lempster, NH. Calculated the duration of shadow flicker using WindPRO software and compared the results to the developer's analysis.

- ◆ *Pioneer Green Energy – Great Bay Wind I, Somerset County, MD.* Calculated the expected annual duration of shadow flicker from a 25-wind turbine project. Multiple layouts and wind turbine types were evaluated for the project. Reductions in shadow flicker due to vegetation were calculated for individual residences. A scaling factor due to curtailments was incorporated into the analysis. The results were presented in a stand-alone report.
- ◆ *NextEra Energy Resources – Golden West Wind Energy Center, El Paso County, CO.* Project Manager for a shadow flicker modeling analysis of an operating 249.4 MW wind power generation facility composed of 145 GE wind turbines. Presented the findings of the study to the Board of County Commissioners.
- ◆ *NextEra Energy Resources – Lake Benton II Wind Project, Pipestone County, MN.* Project Manager for a shadow flicker modeling analysis for a repower project in Minnesota. Shadow flicker modeling was conducted for 44 proposed wind turbines and four alternates.
- ◆ *NextEra Energy Resources – Eight Point Wind Energy Center, Steuben County, NY.* Conducted the shadow flicker analysis for the proposed wind energy project required as part of the NY State Article 10 process. The shadow flicker analysis was performed to determine the location and duration of shadow flicker resulting from the proposed 31 GE wind turbines.
- ◆ *NextEra Energy Resources – Pegasus Wind Energy Center, Tuscola County, MI.* Project Manager for a pre-construction shadow flicker modeling study for a 62 wind turbine project. Provided recommendations for layout adjustments to reduce shadow flicker. Presented analysis findings and responded to questions and comments during multiple public hearings.
- ◆ *Eolian Renewable Energy – Antrim Wind, Antrim, NH.* Conducted a shadow flicker analysis for a proposed 28.8 MW wind power generation facility to be composed of nine (9) Siemens SWT-3.2-113 3.2 MW wind turbines. There were no federal, state, or local regulations limiting the amount of shadow flicker resulting from the operation of the proposed wind turbines for this Project. However, the predicted shadow flicker at occupied buildings in the vicinity of the project were put into context by comparing the annual duration of shadow flicker to a value of 30 hours per year.
- ◆ *Heritage Sustainable Energy – Big Turtle Wind Farm Phase 2, Huron County, MI.* Project Manager for a shadow flicker analysis for a proposed wind energy facility. Shadow flicker resulting from the operation of 15 Gamesa wind turbines was calculated at discrete modeling points and isolines were generated from a grid encompassing the area surrounding the wind turbines.
- ◆ *NextEra Energy Resources – Tuscola Wind II, Tuscola County, MI.* Project Manager for a shadow flicker analysis for a proposed 100 MW wind power generation facility composed of 59 wind turbines. Results were presented in reports for each of the four townships which would have a wind turbine. Responded to questions and comments at multiple public hearings.
- ◆ *Iberdrola Renewables – Blue Creek Wind Farm, Van Wert and Paulding Counties, OH.* Project Manager for a shadow flicker analysis for a proposed wind farm in Ohio consisting of Gamesa

G90 2.0 MW wind turbines. Results were presented in a comprehensive report which was submitted to the Ohio Power Siting Board.

- ◆ *First Wind - Weaver Wind, Hancock County, ME.* Sub-consultant to Normandeau Associates for a wind energy project consisting of approximately 15 wind turbines. Shadow flicker modeling was conducted for two options with the results compared to local regulations. The results of the analyses were presented at an Open House for the project.
- ◆ *NextEra Energy Resources – Montezuma Wind Farm, Solano County, CA.* Performed an analysis to estimate the hours per year of shadow flicker in the area surrounding the proposed wind farm. Impacts were presented visually as isolines overlaid onto an aerial image which was included in a concise letter report summarizing the results.
- ◆ *FPL – St. Lucie Wind Turbine Generation Project, St. Lucie County, FL.* Evaluated the potential for shadow flicker impacts at the nearest residences resulting from the operation of six wind turbines proposed as part of this project. Presented the results in a clear and concise report.
- ◆ *NextEra Energy Resources – Osborn Wind Energy Center, MO.* Provided expert opinions regarding proposed amendments to the Clinton County Zoning Ordinance with respect to shadow flicker from a Wind Energy Conversion System. Provided sworn testimony under direct and cross examination at a Clinton County Planning & Zoning Commission hearing.

Air Quality Modeling

- ◆ *Besicorp Empire Development Company, Rensselaer, NY.* Worked on modeling predicting PM_{2.5} concentrations from truck and rail traffic associated with a newsprint facility and a cogeneration facility using CAL3QHCR. Produced graphics showing the estimated concentrations in the nearby area.
- ◆ *Alcoa Eastalco Works, Frederick, MD.* Assisted in the modeling of an existing aluminum facility. Worked closely with project managers in developing strategies to accurately address the numerous sources throughout the facility. Assisted in the running of CALMET, CALPUFF, and CALPOST. Developed various graphics to illustrate to the client the results of the modeling.
- ◆ *Storrow Drive Tunnel Reconstruction Project, Boston, MA.* Assisted in a microscale analysis using EPA MOBILE6 and CAL3QHC. Analyzed various reconfiguration scenarios. Presented the mesoscale and microscale analyses during an Advisory Committee Meeting.
- ◆ *Bangor-Hydro Electric Company, Bangor, ME.* Assisted in the renewal process for existing air permits for the Medway, Eastport, and Bar Harbor facilities of the Bangor-Hydro Electric Company. Utilized Satellite i-Steps for generating annual air emission statements.
- ◆ *JAMALCO, Jamaica.* Assisted with the modeling analysis for the Clarendon Alumina Works in Jamaica. ISCST3 was used to model various operating scenarios. Prepared graphics illustrating pollutant concentrations around the facility.

- ◆ *FPL Energy*. Assisted in AERMOD, CALMET, and CALPUFF modeling for a project in Virginia. Gathered and processed data for the project. Helped to create many of the model runs used in the analysis. Created several figures used in the report.
- ◆ *Columbus Center, Boston, MA*. Assisted in the microscale analysis of seven intersections around a proposed development over the Massachusetts Turnpike. Used ISC-Prime to estimate impacts from point sources and volume sources from proposed buildings and tunnels. Used CAL3QHCR to estimate impacts from mobile sources. These models were used to evaluate each of the four building alternatives. Provided graphics for the project.

Air Quality Monitoring

- ◆ *Massachusetts Broken Stone Company, Berlin, MA*. Participated in an air quality monitoring program for an existing asphalt plant. Assisted in the installation of a meteorological tower. Made routine trips to the facility to maintain and download data from the H₂S monitor.
- ◆ *Former Coal Tar Processing Facility, Island End River, Everett, MA*. Participated in an air quality monitoring program for a former industrial facility. Gathered data before and after a pilot study to document existing conditions. Used various types of sampling equipment including SUMMA Canisters and PUF samplers to collect samples during the pilot study.

Meteorological Monitoring

- ◆ *Wheelabrator Millbury Municipal Waste Combustor Facility, Millbury, MA*. Routinely collected data from a meteorological tower at a municipal waste facility. Assisted in the maintenance and calibration of the equipment. Provided quarterly reports.

PUBLICATIONS

- ◆ "Low frequency sound and infrasound from wind turbines." Noise Control Engineering Journal, Institute of Noise Control Engineering, Volume 59, Number 2, March-April 2011. O'Neal, R.D., Hellweg, Jr., R.D. and R. M. Lampeter.
- ◆ "Sound Defense for a Wind Turbine Farm." North American Windpower, Zackin Publications, Volume 4, Number 4, May 2007. O'Neal, R.D., and R.M. Lampeter.

CONFERENCE PAPERS

- ◆ "Evaluating and controlling noise from a metal shredder system." INTER-NOISE 2012, New York City, NY, August 19-22, 2012. O'Neal, R.D., Lampeter, R.M., Emil, C.B. and B.A. Gallant.
- ◆ "Low frequency sound and infrasound from wind turbines – a status update." NOISE-CON 2010, Baltimore, MD, April 19-21, 2010. O'Neal, R.D., Hellweg, Jr., R.D. and R. M. Lampeter.
- ◆ "Nuisance noise and the defense of a wind farm." INTER-NOISE 2009, Ottawa, Canada, August 23-26, 2009. O'Neal, R.D., and R.M. Lampeter.

PRESENTATIONS

- ◆ “Sound Levels and the Evolving Regulatory Landscape.” AWEA WINDPOWER 2016 Poster Presentation, May 23-26, 2016.
- ◆ “How to Address Post-Construction Sound Level Measurement Requirements.” AWEA WINDPOWER 2015 Poster Presentation, May 18-21, 2015.
- ◆ “Evaluating Shadow Flicker in the Current Regulatory Environment.” Massachusetts Wind Working Group, October 30, 2013.
- ◆ “Shadow Flicker Regulations and Guidance: New England and Beyond.” New England Wind Energy Education Project Webinar, February 10, 2011
- ◆ “Low Frequency Sound and Infrasound from Wind Turbines.” CanWEA 2010, Montreal, Canada, November 1-3, 2010. O’Neal, R.D., Hellweg, Jr., R.D. and R. M. Lampeter.

PROFESSIONAL ORGANIZATIONS

Institute of Noise Control Engineering (INCE)

PREVIOUS EMPLOYERS

NYC Department of Environmental Protection, June - August 2000.

Meyer Strong and Jones Engineers, P.C., May – August 1999.

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

Application of High Bridge Wind, LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction
of the High Bridge Wind Project Located in the Town
of Guilford, Chenango County.

Case No. 18-F-0262

PRE-FILED TESTIMONY OF

GREGORY S. LIBERMAN

SENIOR ENVIRONMENTAL PROJECT MANAGER

ENVIRONMENTAL DESIGN & RESEARCH

LANDSCAPE ARCHITECTURE, ENGINEERING & ENVIRONMENTAL SERVICES, D.P.C.

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

2 A: Gregory S. Liberman, Environmental Design & Research, Landscape Architecture, Engineering &
3 Environmental Services, D.P.C. (EDR), 41 State Street, Suite 401, Albany, New York 12207.

4 **Q: What is your position at EDR?**

5 A: Senior Environmental Project Manager.

6 **Q: How long have you been employed with EDR?**

7 A: I have been employed at EDR since 2014.

8 **Q: Please describe your educational background and professional experience.**

9 A: I have a Bachelor of Science degree in Landscape Architecture from the University of Massachusetts
10 at Amherst. I have more than 16 years of professional experience in environmental impact
11 assessment, permitting and resource area restoration. I have served as a project manager and/or
12 lead investigator for several energy infrastructure and renewable energy projects, as well as other
13 development projects. I have particular education and expertise in natural resources management,
14 stream and riverbank restoration, and Geographic Information Systems mapping and analysis. A
15 copy of my resume is submitted as Exhibit ____ (GSL-PF1): Resume of Gregory S. Liberman.

16 **Q: Please describe your current responsibilities with EDR.**

17 A: In addition to my project manager responsibilities at EDR, I am responsible for ensuring project
18 compliance with permitting regulations and requirements, including the National Environmental
19 Policy Act, the State Environmental Quality Review Act, Articles 10 and VII of the New York Public
20 Service Law, and state and federal wetland requirements.

21 **Q: Have you previously testified before the New York State Public Service Commission or Siting
22 Board on Electric Generation?**

23 A: Yes. I testified regarding public outreach and other issues in support of the Bluestone Wind Project
24 (Case No. 15-F-0559). In addition, I submitted pre-filed testimony in support of the following projects:
25 Galloo Island Wind Energy Project–Article 10 (Case No. 15-F-0327) and Galloo Island Transmission
26 Facility–Article VII (Case No.18-T-0015).

27 **Q: Have you previously served as an expert witness before any other court, agency, or other**
28 **body on the subject you plan to offer testimony on today?**

29 A: I have provided expert witness testimony before several municipal Zoning Boards of Appeal in New
30 York State regarding electric transmission projects, with a focus on environmental impact
31 assessment, impact avoidance and impacts to community character.

32 **Q: What is the purpose and scope of your testimony in this proceeding?**

33 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

34 **Q: What portion(s) of the Application is your testimony sponsoring?**

35 A: Exhibit 2, Overview and Public Involvement; Exhibit 3, Location of Facilities; Exhibit 4, Land Use;
36 Exhibit 9, Alternatives; Exhibit 11, Preliminary Design Drawings; Exhibit 15, Public Health and Safety
37 (excluding shadow flicker); Exhibit 17, Air Emissions; Exhibit 22, Terrestrial Ecology and Wetlands
38 (wetlands only); Exhibit 23, Water Resources and Aquatic Ecology; Exhibit 28, Environmental
39 Justice; Exhibit 31, Local Laws and Ordinances; Exhibit 32, State Laws and Regulations; Exhibit 33,
40 Other Applications and Filings; Exhibit 38, Water Interconnection; and Exhibit 39, Wastewater
41 Interconnection.

42 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction**
43 **and supervision.**

44 A: Yes.

45 **Q:** In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or
46 documents produced by persons other than yourself/your company? If so, please cite these
47 sources. [These are independent studies, etc.]

48 A: See Exhibits listed above for any references.

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

50 A: Yes.



Gregory S. Liberman

Senior Project Manager



Greg is a Senior Environmental Project Manager at EDR with more than 16 years of professional experience in environmental impact assessment and permitting. He serves as the EDR Office Manager for the Albany office. In addition to his role as Office Manager, he actively manages and/or has served as a Project Manager for several large- and small-scale infrastructure, renewable energy, land development, institutional development projects.

Gregory's responsibilities also include conducting environmental review, impact analysis, and permitting. He possesses a thorough understanding of multiple permitting regulations and requirements, such as the National Environmental Policy Act, the New York State Environmental Quality Review Act, Article VII and Article 10 of the New York Public Service Law, and state and federal wetland regulations. Through a combination of project experience, education and specialized training, he has experience with natural resources management, stream and riverbank restoration, Geographic Information Systems mapping and analysis. He recently served as the Chair of the New York Water Environment Association Stormwater Task Force and the Vice-Chair of the Town of DeWitt Planning Board.

education

Bachelor of Science, University of Massachusetts, 2000.

professional affiliations

Chair, New York Water Environment Association (NYWEA) Stormwater Task Force (past)

Vice-Chairperson, Town of DeWitt Planning Board (past)

employment history

Senior Environmental Project Manager, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C., Syracuse, NY, 2014-present.

Project Manager, GHD, Cazenovia, NY, 2012-2014.

Project Scientist, GHD (formerly Stearns & Wheeler), Cazenovia, NY, 2006-2012.

Research Assistant, Center for Brownfield Studies, State University of New York College of Environmental Science and Forestry, Syracuse, NY, 2004-2006.

Designer, New England Environmental Inc., Amherst, MA, 2000-2004.

presentations

Presenter, "Managing Permitting Commitments with the Realities of Construction," at ROW 12 Annual Meeting, Denver CO, 2018.

Presenter, "Stormwater and Green Infrastructure Planning," at New York Water Environment Association Annual Meeting, New York, NY, 2012.

Presenter, "Regional Planning of Green Infrastructure Retrofits," at Growing Green Infrastructure Conference. Syracuse, NY, 2010.

Presenter, "Practical Stormwater Management Options for Challenging Sites," Society of Wetland Scientists Annual Conference. Washington, DC, 2008.

Presenter, "Incorporating Visual Quality & Aesthetics into Environmental Design," the New York State Wetlands Forum Annual Conference. Lake Placid, New York, 2007.

Presenter, "Successful Wetland Mitigation: Incorporating Flexibility into Design," at American Society of Landscape Architects Annual Meeting. Salt Lake City, Utah. 2005.

Presenter, "Techniques for Watershed Assessment: From Site Erosion to Landscape Level Understanding," at Association of State Wetland Managers National Symposium, Nashua, New Hampshire, 2003.

project experience

Bluestone Wind Project – Managing EDR's responsibilities associated with this 124 MW wind project located in the Towns of Sanford and Windsor, Broome County, New York. The Article 10 Application was submitted in September of 2018 and deemed compliant in December 2018. EDR also prepared the Public Involvement Program Plan and the Preliminary Scoping Statement, along with a range of support studies including wetland delineations, vernal pool evaluations, cultural resources evaluations, and Visual Impact Assessment (VIA).



Heritage Wind Project – Managing EDR’s responsibilities associated with this 200 MW project located in the Town of Barre, Orleans County, New York. EDR has prepared the Preliminary Scoping Statement, various support studies, and is currently preparing an Article 10 Application to be filed in 2019.

High Bridge Wind Project – Managing EDR’s responsibilities associated with this 100 MW project located in the Town of Guilford, Chenango County, New York. EDR has prepared the Public Involvement Program (PIP) Plan, Preliminary Scoping Statement, various support studies including wetland delineations, cultural resources evaluations and VIA, and is currently preparing an Article 10 Application to be filed in 2019.

Knapps Corners Replacement Substation, Central Hudson Gas & Electric, Town of Poughkeepsie, Dutchess County, NY- Managing the local Planning Board applications for a replacement and modernization of the Knapps Corners Substation in the Town of Poughkeepsie, New York. Project included environmental impact assessment, civil engineering and landscape architect, visual impact assessment, preparation of a stormwater pollution prevention plan (SWPPP), and State Environmental Quality Review Act (SEQRA) compliance.

TV 69 kV Transmission Lines, Central Hudson Gas & Electric, Towns of Wappinger and Poughkeepsie, Dutchess County, NY- Managing the local Planning Board applications and permitting for the replacement of over 6 miles of 69 kV transmission lines in Dutchess County, NY. Project included wetland delineations, cultural resources evaluations, visual impact assessment environmental impact assessment, preparation of a stormwater pollution prevention plan (SWPPP), and State Environmental Quality Review Act (SEQRA) compliance.

Albany Hudson Electric Trail, Rensselaer and Columbia Counties, Dutchess County, NY- As a subconsultant, managed EDR efforts associated with the 35-mile proposed mixed used trail in Rensselaer and Columbia Counties, NY. The proposed trail is to be co-located on an existing electric transmission corridor. Project included wetland delineations, ecological assessment, and wetland permitting support.

Albany Skyway Project, Albany County - As a subconsultant, managed EDR efforts associated with the proposed Skyway project which would re-purpose an underutilized highway off-ramp for a pedestrian corridor and linear park network. EDR efforts in ecological evaluations, cultural resources assessment and SHPO consultation, preparation of SEQR/NEPA documents, and NYSDOT environmental reporting.

WH-1/2 69 kV Transmission Line Rebuild, Central Hudson Gas & Electric, Warwarsing, Ulster County, NY- Managed the preparation of a Part 102 Report to be submitted to the New York State Public Services Commission for a Central Hudson Gas & Electric Corp owned 11-mile electrical line rebuild in the town of Warwarsing, Ulster County, New York. EDR’s responsibilities included attending various work sessions with agencies, conducting require environmental and ecological field studies, and coordination of the State Environmental Quality Review (SEQR) project with the local municipality.

G Line North 69 kV Transmission Line Rebuild, Central Hudson Gas & Electric, Dutchess County, NY- Managed the preparation of a Part 102 Report for submittal to the NYS Public Service Commission for an 8.5-mile electrical transmission line rebuild project located across multiple municipalities in Dutchess County, New York. Also managed the SEQRA and municipal review process, which resulted in planning board and zoning board of appeals approval from multiple municipal boards. EDR was responsible for delineating wetlands and conducted require field studies in support of the Part 102 report as well as their SEQRA, which required project coordination with multiple municipalities. Oversaw the preparation of support studies (i.e. wetlands, visual, cultural, and SWPPP along with Plan and Profile drawings, which served as the basis for the PSC and local municipal approvals.

A&C 115kV Transmission Line Upgrades, Central Hudson Gas & Electric, Dutchess County, NY- Coordinated preparation of the Environmental Management & Construction Plan (EM&CP) for upgrades to an existing 115 kV line in support of an Article VII filing to the Public Service Commission. Also coordinated with EDR compliance monitoring staff regarding erosion and sediment control, agricultural protections and Blanding’s turtle habitat impact avoidance.

Edic Substation Expansion, National Grid, Town of Marcy, Oneida County, NY- Managed the local Planning Board and Zoning Board of Appeals applications for an expansion and new control house at the Edic Substation in the Town of Marcy, Oneida County, New York. Project included delineation of state and federal wetlands, preparation of an alternatives analysis, a stormwater pollution prevention plan (SWPPP), and State Environmental Quality Review Act (SEQRA) compliance.

Rising Warrior Stream Mitigation Bank, From Drum, Jefferson County, NY- As a subconsultant, managed the Rising Stream Mitigation Bank project for Fort Drum Natural Resources Division. The project included the development of a Stream Mitigation Bank Prospectus reports along with a supporting Stream Mitigation Banking Instrument. The project also included the development of a 1,400 linear feet natural channel design for the Rising Warrior branch of Pleasant Creek. Services include geomorphological assessments, Rosgen-type surveys as well as 30% Conceptual Restoration Design and Report.

UV Facility Permitting, City of Rome, City of Rome, Oneida County, NY- Directed/managed environmental permitting and SEQRA compliance for the City of Rome’s proposed UV Treatment Facility. Project included preparation of Joint Application for Permit and report in support of a NYSDEC Article 15 permit, preparation of an alternatives analysis, a SWPPP, and civil design for the on-site facilities, roads, and stream crossings.

Galloo Island Wind, Jefferson County, NY- Managed the regulatory compliance services associated with a 40 turbine, 125 MW project and associated transmission line. Managed the preparation of an Article 10 and VII Applications filed and deemed compliant by the New York State Siting Board. EDR has prepared the Preliminary Scoping Statement, and also completed of the following support studies: wetland delineation report, socio-economic report, visual impact assessment, and invasive species control plan.



Dick's Sporting Goods Distribution Center, Broome County Industrial Development Corporation, Town of Conklin, NY- Directed/managed the SEQRA and wetland permitting efforts for a new 900,000 square foot distribution facility. Project included state and federal wetland delineation and permitting, wetland mitigation design, endangered species investigation, a SWPPP, and local Town Board and Planning Board approval.

Porter Substation Expansion, National Grid, Town of Marcy, Oneida County, NY- Managed the local Planning Board and Zoning Board of Appeals applications for an expansion and site improvements at the Porter Substation. Project included delineation of state and federal wetlands, preparation of an alternatives analysis, a SWPPP, and SEQRA compliance.

Binghamton-Johnson City Joint Sewage Treatment Plant Improvements- Managed the environmental permitting and State Environmental Quality Review (SEQR) for the rehabilitation and upgrades of the Binghamton-Johnson City Joint Sewage Treatment Plant. Project included preparation of Joint Application for Permit and report to be submitted to the NYSDEC and U.S. Army Corps in support of an Article 15 permit and Nationwide Permit No. 12 respectively. Project also include the preparation of a stormwater pollution prevention plan (SWPPP) and landscape design

Milton Substation Expansion, National Grid, Town of Camillus, Onondaga County, NY- Managed the local Planning Board and Zoning Board of Appeals applications for an expansion and site improvements at the Milton Substation. Project included delineation of state and federal wetlands, preparation of an alternatives analysis, a SWPPP, and SEQRA compliance. Also managed the preparation of noise impact assessment in support of local permitting review.

Van Dyke Road Electrical Sub-Station, National Grid, Town of Bethlehem, Albany County, NY- Managed the local Planning Board and Zoning Board of Appeals applications for a new National Grid electrical substation in the Town of Bethlehem, Albany County, New York. Project included preparation of an alternatives analysis, state and federal wetland delineation and permitting and endangered species investigation, a Visual Impact Assessment, a stormwater pollution prevention plan (SWPPP), and State Environmental Quality Review Act (SEQRA) compliance.

Westchester County Department of Public Works (DPW) Various Dams, Westchester County, NY- Managed wetland delineations, functions, and values assessment around the dam in support of decommissioning, proposed removal, and flood mitigation efforts for Gedney Pond Dam, Pelham Lake Dam, Wampus Lake Reservoir Dam, and Maiden Lane Dam.

University Place Promenade, Syracuse University, Syracuse, NY- Managed the development of the infrastructure design and local permitting for the University Place Promenade (UPP) at Syracuse University. The UPP is a pedestrian-friendly promenade which extends from the Newhouse School complex to the Schine Student Center and Bird Library and includes ADA complaint access, plazas and landscaped areas. Managed the approval process under the stringent City of Syracuse Stormwater Ordinance, local MS4 review and SPDES GP-0-15-002.

Wolf Road- Menands 115 kV Transmission Line Re-Conditioning, National Grid, Towns of Menands and Colonie, Albany County, NY- Directed the preparation of a Part 102 Report for submittal to the New York State Public Services Commission for a National Grid owned 4-mile electrical transmission line reconditioning project. Responsibilities included attending various work sessions, overseeing required environmental and ecological field studies, and coordination of the SWPPP permitting process.

Peach Lake Environmental Center- Prior to EDR, Prepared Environmental Assessment Report in support of the new wastewater treatment facility location on Peach Lake, Westchester County. The project was located within the sensitive New York City Drinking Watershed so additional permitting and coordination was required with New York City Department of Environmental Protection. Worked directly with involved agencies to expedite the permitting review in order to secure American Recovery and Reinvestment Act funding.

Clinton CSO Storage Facility- Prior to EDR, Prepared a Pre-Construction Notification (PCN) Report and Stormwater Pollution Prevention Plan (SWPPP) for Onondaga County's 6 million-gallon CSO Storage Facility in downtown Syracuse, New York. The CSO storage facility consists of three subsurface tunnels located with an urban parking lot. As part of the surface restoration and parking lot enhancement, permits were required to comply with Section 404 Nationwide Permit No. 12 as well as the NYSDEC General Permit for Stormwater Discharges from Construction Activities. Reports and required field services were provided to obtain coverage under these permits including the design of two bioretention basins, dry vegetated swale, 10 percent decrease in impervious surface and a stormwater reuse for CSO flushing.

Carmelo K. Anthony Basketball Practice Facility, Syracuse University, Syracuse, NY- Prior to EDR, Provided stormwater permitting for a new 40,000 square foot basketball training and educational center which includes: A two-court gymnasium, athlete and staff locker facilities and a fitness center as well as site amenities including a new fire access lane and parking modifications. The stormwater drainage design proved challenging due to various physical and programmatic limitations. Therefore, an underground water quality unit was proposed to treat stormwater runoff prior to its discharge into a local creek. The project was subject to New York State SPDES and County standards as well as local city stormwater ordinances. One comprehensive Stormwater Pollution Prevention Plan (SWPPP) was prepared which illustrated the erosion and sediment control plan and post-development stormwater controls. The SWPPP was approved without revision by all three governing agencies.

Foundry Brook Stream Restoration- Prior to EDR, Provided stream restoration design services at a section of Foundry Brook breached during Hurricane Irene. Work involved a restoration design and site grading at degraded stream bank within the future West Point Foundry Park (owned by Scenic Hudson) preserve along Foundry Marsh in Putnam County, New York. High intensity rainfall scoured and eroded over 150 feet of stream bank and split Foundry Brook into separate channels. The project included an assessment of the overall watershed to identify anticipated flood elevations of the 1, 10 and 100 years storms. This was used as the basis for a green gabion restoration design which was constructed in March 2012.



West Brook Conservation Initiative- *Prior to EDR*, Provided technical oversight for a proposed ±1.5-acre stormwater wetland to be constructed adjacent to Lake George. Based on the client's need for improved water quality, the constructed wetland was designed to renovate untreated road runoff prior to its discharge into the Lake by reducing nitrogen and phosphorous loading. In addition, the constructed wetland provides the local community with an opportunity for environmental education.

Mohawk Valley Water Authority Water Storage Tank- *Prior to EDR*, Prepared SWPPP and obtained NYSDEC Article 24 Permit for a new 1-million-gallon storage tank with driveway and site improvements to serve the Mohawk Valley (strategically located between the City of Albany and Syracuse, NY, and spans six counties: Oneida, Herkimer, Otsego, Fulton, Montgomery, and Schoharie).

WPCP Flood Mitigation Project, Village of Deposit, NY- *Prior to EDR*, Provided wetland and stormwater permitting as part of a comprehensive flood mitigation upgrade. Obtained New York State Department of Environmental Conservation (NYSDEC) and U.S. Army Corps of Engineers (USACOE) permit for a major stream bank stabilization effort on the West Branch of the Delaware River. A stormwater management plan that met New York State standards was included as part of the capital improvements project. The stormwater management plan was approved by several stakeholders including the Village, NYSDEC, USACOE, and the Delaware River Basin Commission.

Hunting Creek Restoration, Town of Thurmont, MD- *Prior to EDR*, Managed the design and permitting for a 1,200-linear foot restoration of Hunting Creek. Project included coordination with state agencies, permitting with state agencies and U.S. Army Corps of Engineers (USACOE), restoration and

Five Mile Creek Bioengineering, Broome County, NY- *Prior to EDR*, Provided bioengineering design at a severely eroded section of Five Mile Creek behind a private residential property. Erosion due to a storm washed away over 10 feet of land and threatened existing landscape features. Design was developed to accommodate construction with light equipment to comply with local environmental regulations. The plan consisted of vegetated geolifts planted with native Willow and Dogwood cuttings. The project was built in 2007, and has held up to several recent major storm events.

Brixius Creek Restoration, Broome County, NY- *Prior to EDR*, Provided planning, design and permitting for the reconstruction of 600 linear feet section of Brixius Creek. Work included regrading entire reach, installing a series of stone cross vanes to re-establish a flat stream profile and restoring both banks with stone and vegetation to prevent long-term scour and erosion.

Bowline Point Park Restoration, Town of Haverstraw, Rockland County, NY- *Prior to EDR*, Managed the design and permitting of the Bowline Point Park shoreline restoration to 700 feet of park located directly on the Hudson River, as a result of Superstorm Sandy. Project included Federal Emergency Management Agency (FEMA) coordination, restoration design permitting and construction observation.

Foundry Brook Stream Restoration, Putnam County, NY- *Prior to EDR*, Provided stream restoration design services at a section of Foundry Brook breached during Hurricane Irene. Work involved a restoration design and site grading at degraded stream bank within the future West Point Foundry Park (owned by Scenic Hudson) preserve along Foundry Marsh. High intensity rainfall scoured and eroded over 150 feet of stream bank and split Foundry Brook into separate channels. The project included an assessment of the overall watershed to identify anticipated flood elevations of the 1, 10 and 100 years' storms. This was used as the basis for a green gabion restoration design which was constructed in March 2012.

West Campus Stormwater Master Plan, Syracuse University, Syracuse, NY- *Prior to EDR*, Managed the development of a stormwater and infrastructure master plan for 16-acres area known as West Campus at Syracuse University. Developed runoff and drainage calculations and assessment for entire area, consisting of eight separate lots and 10 City-owned roads. Project goal was to assess potential development impacts to infrastructure and CSOs. Plan also include feasibility design for water quality, runoff reduction and rate control BMPs including several green infrastructure measures.

Haverstraw Multiple Separate Storm Sewer Systems, MS4 Compliance, Town of Haverstraw, Rockland County, NY- *Prior to EDR*, Managed the compliance and reporting activities for the Town's MS4 program for a four-year period. The project included services across six minimum control measures including the development of an overall stormwater management plan, Illicit Discharge Detection & Elimination (IDDE) reports and Geographic Information System (GIS) mapping/analysis of the Town storm-sewer sheds. Assisted in multiple audits with the NYSDEC resulting in Town successfully meeting MS4 expectations and avoiding penalties or fines.

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

Application of High Bridge Wind, LLC for a
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of Guilford, Chenango County

Case No. 18-F-0262

PRE-FILED TESTIMONY OF
BARBARA HUETTENHAIN MCBRIDE
ENVIRONMENTAL, HEALTH AND SAFETY DIRECTOR,
WESTERN REGION, CALPINE CORPORATION

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

2 A: Barbara Huettenhain McBride, Calpine Corporation (Calpine), 4160 Dublin Blvd, Dublin, CA 94568.

3 **Q: What is your position at Calpine?**

4 A: I am a Strategic Origination Director for Calpine's Western Region.

5 **Q: How long have you been employed with Calpine?**

6 A: I have been employed by Calpine since 2001.

7 **Q: Please describe your educational background and professional experience.**

8 A: I received a Bachelor of Science Degree in Agricultural Engineering from the University of California
9 at Davis. In my approximately 30 years as an environmental professional, I have been involved in all
10 aspects of environmental permitting and compliance, including: preparing Title V air permits,
11 hazardous waste permits and other environmental permits and approvals; designing, overseeing and
12 implementing air monitoring, source testing and other similar programs; ensuring day-to-day
13 compliance with federal, state and local environmental regulations and permits; developing and
14 implementing environmental plans and standard operating procedures; conducting audits; and
15 preparing compliance reports. Over the years, my responsibilities also have included overseeing
16 environmental compliance for several power generation facility startups as well as facility
17 expansions. A copy of my resume is submitted as Exhibit ____ (BHM-PF1): Resume of Barbara
18 Huettenhain McBride.

19 **Q: Please describe your current responsibilities with Calpine.**

20 A: As Calpine's Strategic Origination Director, I am responsible for overseeing the permitting and
21 development of specific natural gas fired and renewable energy facilities for Calpine. I also provide
22 support for business development including acquisition due diligence and site selection and project
23 permitting from site selection through construction and commercial operation. I also monitor existing

24 federal, state and local legislation, regulations and policy that may affect company operations,
25 working closely with Calpine's government affairs department and various industry groups to
26 understand and address important environmental legal developments.

27 **Q: Have you previously testified before the New York State Public Service Commission or Siting
28 Board on Electric Generation?**

29 A: No. However, I have submitted pre-filed testimony to the Siting Board in conjunction with the
30 Bluestone Wind Energy Facility (Case No. 16-F-0559).

31 **Q: Have you previously served as an expert witness before any other court, agency, or other
32 body on the subject you plan to offer testimony on today?**

33 A: No.

34 **Q: What is the purpose and scope of your testimony in this proceeding?**

35 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

36 **Q: What portion(s) of the Application is your testimony sponsoring?**

37 A: Exhibit 18, Safety and Security, and Exhibit 22, Terrestrial Ecology and Wetlands (terrestrial ecology
38 only).

39 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction
40 and supervision.**

41 A: Yes.

42 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or
43 documents produced by persons other than yourself/your company? If so, please cite these
44 sources. [These are independent studies, etc.]**

45 A: See Exhibits 18 and 22 for references.

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

47 A: Yes.

BARBARA HUETTENHAIN MCBRIDE

EDUCATION: B.S. Agricultural Engineering
University of California, Davis, 1987

REGISTRATION: Engineer-in-training, California, 1993
Qualified Environmental Professional, 1996

QUALIFICATIONS: 30 years of Safety, Health and Environmental Experience

EXPERIENCE:

Calpine Corporation 2001-Present

Ms. McBride is a Strategic Origination Director for Calpine. She is responsible for managing specific new projects and asset management of existing projects. Specifically, she is responsible for following and advocating for state and federal environmental policies and procedures to provide a competitive advantage for Calpine. In addition, she is responsible for developing new projects and programs in support of Calpine's overall strategic plan.

Ms. McBride worked as the Safety, Health and Environmental Director for the Western Region for Calpine Corporation. In this role, she was responsible for compliance for 23 operating natural gas plants and 14 geothermal power plants in the power region. She was also responsible for Safety, Health and Environmental support for business development, including acquisition due diligence and site selection and proposal efforts, and support for project development activities in the areas of project permitting from initial involvement through construction and commercial operation. Ms. McBride worked closely with all permitting agencies including the California Energy Commission, EPA and other federal, state and local agencies. In addition, Ms. McBride was responsible for identifying, developing or modifying existing legislation, regulations and policy that impact the company. She worked closely with the government affairs department and various industry groups on federal and State legislation and regulations.

Equilon Enterprises, LLC 1998 – 2001

Ms. McBride was the Contra Costa County permitting engineer and Title V permitting engineer at the Martinez Refining Company. Her responsibilities included writing and negotiating County Land Use Permits, BAAQMD Air Permits, and the Facility Title V Permit.

Ms. McBride was responsible for Toxic Release Inventory Reporting, Maximum Achievable Control Technology implementation, Proposition 65 implementation, and SARA/CERCLA reporting at the refinery. She was also responsible for ensuring that continuous emissions monitoring systems were in compliance with federal and State regulations.

Bechtel Environmental, Inc. 1989 - 1998

Ms. McBride provided oversight for the environmental compliance for three power generating facility start ups. She was responsible for preparing source test plans, continuous emissions

ET: 5/06

BARBARA MCBRIDE

EXPERIENCE (Continued):

monitoring systems certification, agency negotiations, and on-site subcontractor management. Ms. McBride was also responsible for trouble-shooting problems with NOx and CO pollution control devices and continuous emissions monitoring systems.

Ms. McBride was the Environmental Permitting Engineer for a Catalyst Plant Expansion Project and the Base Oil 2000 Project for two major oil refineries. This included writing and negotiating the Air Permit Application, developing environmental design criteria and ensuring compliance with federal, state and local regulations.

Ms. McBride assisted the Shell Martinez Catalyst plant in ensuring their compliance with hazardous waste, air and other local regulations. This included conducting audits, negotiating with agency personnel, preparing and submitting periodic reports, and developing standard operating procedures.

Ms. McBride coordinated the source testing effort for the Shell Martinez Refining Company Clean Fuels Project. This entailed writing the source test plans, managing the subcontractor, and ensuring timely submittal of source testing reports.

Ms. McBride was the Project Environmental Coordinator for the Tosco Refining Company Reformulated Gasoline Project. This entailed writing and implementing the Construction Environmental Control Plan, the Erosion and Sedimentation Control Plan, and the Waste Minimization Plan. Ms. McBride was also responsible for ensuring project compliance with Land Use and Air Permits.

Ms. McBride prepared the RCRA Part B permit application and Interim Status Document for the FMC Pocatello Phosphorus Chemicals Plant in Pocatello, Idaho. This included identifying the affected units at the facility, identifying the applicable regulations and standards, and developing and recommending compliance options to the client. Ms. McBride was also responsible for writing and implementing the Sampling and Analysis Plan to characterize the waste streams at the Plant.

Ms. McBride completed a two year assignment as an environmental engineer for design engineering and permitting of a large hazardous waste thermal treatment facility built by Bechtel for a non-ferrous metals manufacturing company. She was involved in preparing the required state permit applications, including the RCRA Part B, Air Permit, and Class III Landfill Permit. She also prepared the RCRA/BIF trial burn plan and the Air Permit source test plan. Ms. McBride also participated in selection of the trial burn subcontractor.

Ms. McBride assisted in the management of a program to test NOx emissions and organics emissions from a low NOx burner to provide emissions rates for AB 2588 and risk assessment for a major oil refinery. She wrote the testing protocol and directed the testing contractor on-site at the burner test facility.

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PRE-FILED TESTIMONY OF

ANNESSA O. MCKENZIE

CHIEF SECURITY OFFICER AND VICE PRESIDENT OF INFORMATION

TECHNOLOGY, CALPINE CORPORATION

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

2 A: Annessa O. McKenzie, Calpine Corporation (Calpine), 717 Texas Street, Houston TX 77002.

3 **Q: What is your position at Calpine?**

4 A: I am Chief Security Officer and Vice President of Information Technology.

5 **Q: How long have you been employed with Calpine?**

6 A: I have been employed by Calpine since July 2015.

7 **Q: Please describe your educational background and professional experience.**

8 A: I have a Bachelor of Science degree in Education and a Master of Business Administration degree
9 from Louisiana State University. I am a Certified Information Security Systems Professional (ISC² –
10 CISSP), Certified in Risk and Information Systems Controls (ISACA – CRISC), and Certified
11 Information Systems Auditor (ISACA – CISA). I have been an information security professional for
12 more than 10 years. Before joining Calpine in 2015, I worked as an information security professional
13 at Baker Hughes, a GE company, where I rose to the rank of Chief Information Security Officer. While
14 at Baker Hughes, I created and improved the company's first Chief Information Security Office;
15 managed global IT compliance; oversaw a \$15 million annual security budget; led a \$30 million IT
16 security transformation program; engaged in an aggressive review of global contracts, service level
17 agreements, maintenance and statements of work for security products and services; and led global
18 cyber defense/security incident response teams. A copy of my resume is submitted as Exhibit ____
19 (AOM-PF1): Resume of Annessa O. McKenzie.

20 **Q: Please describe your current responsibilities with Calpine.**

21 A: As Chief Security Officer and Vice President of Information Technology for Calpine, I am responsible
22 for overseeing the information technology infrastructure, physical and cyber security requirements of
23 Calpine, including ensuring compliance with all applicable codes, laws and regulations. Since arriving

24 at Calpine in 2015, I have: created and improved Calpine's first Chief Security Office, including
25 managing a \$25 million annual budget; led a \$5 million operational technology security segmentation
26 and transformation program across Calpine's fleet of power plants; managed an enterprise-wide IT
27 compliance program; successfully completed several retail acquisitions, plant divestitures and plant
28 acquisitions; engaged in a thorough review of security contracts, service level agreements,
29 maintenance and statements of work for security products; architected and implemented a cloud
30 security model for Calpine; and designed and implemented an SD-WAN network security model
31 across a fleet of 80+ generation plants.

32 **Q: Have you previously testified before the New York State Public Service Commission or Siting**
33 **Board on Electric Generation?**

34 A: No. However, I have submitted pre-filed testimony to the Siting Board in conjunction with the
35 Bluestone Wind Energy Facility (Case No. 16-F-0559).

36 **Q: Have you previously served as an expert witness before any other court, agency, or other**
37 **body on the subject you plan to offer testimony on today?**

38 A: No.

39 **Q: What is the purpose and scope of your testimony in this proceeding?**

40 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

41 **Q: What portion(s) of the Application is your testimony sponsoring?**

42 A: Exhibit 40, Telecommunications Interconnections.

43 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction**
44 **and supervision.**

45 A: Yes.

46 **Q:** In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or
47 documents produced by persons other than yourself/your company? If so, please cite these
48 sources. [These are independent studies, etc.]

49 A: References, if any, are provided in Exhibit 40.

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

51 A: Yes.

Annessa O. McKenzie

12922 Picket Hills Lane • Humble, TX 77346 • M: 713.408.9169 • annessa.mckenzie@gmail.com

EDUCATION

Louisiana State University

- Masters Business Administration, May 2004
- Bachelor of Science, Education, May 2002

Certifications

- Certified Information Security Systems Professional (ISC² - CISSP)
- Certified in Risk and Information Systems Controls (ISACA - CRISC)
- Certified Information Systems Auditor (ISACA - CISA)

EXPERIENCE

Calpine

July 2015 – Present

- Chief Security Officer & VP of IT (March 2018 – present)
- Director, Infrastructure, Security & Compliance (CISO) (January 2017 – March 2018)
- Director, Security & Compliance (July 2015 – January 2017)
- Created and improved Calpine's first Chief Security Office from 2015 to present
 - Developed, socialized, and implemented a multi-dimensional, risk-based information security strategy with an emphasis on power and utilities critical infrastructure, commercial trade floor and retail credit card protection (based on NIST800-53&82 standards)
 - Created IT Cyber Security steering committee and working groups made up of all functions within the business to deliver 250 roadmap items across a 3-year roadmap. Reported to Board of Directors semi-annually on progress.
 - Coordinated independent cyber compromise and maturity assessments inclusive of Merger & Acquisitions prior to close and remediation plans post close
 - Defined framework of IT security policies, standards and awareness for the enterprise (2500+ employees)
 - Actively managed a \$25M+ annual budget with ~ 55 cross-functional team members and ~ 300 service provider personnel. Responsible for capital investment portfolio planning and strategic investment relationships to meet Calpine business risks
- Led \$5M OT Security segmentation and transformation program across fleet of power plants
 - Delivered projects including: Network Segmentation, Security Operation Monitoring, Whitelisting, Virtualization of Hardware, DCS Backups, Table Top exercises, USB Control and Privileged Access Control and Password Reset
- Managed Enterprise wide IT Compliance program including: SOX, PII, NERC-CIPv5/6 and PCI:DSS
 - Deployed Archer GRC for NERC CIP and SOX compliance representing over 200+ controls. Deployed processes to automate evidence submission and reporting reducing staff work hours by 35%.
 - Deployed NERC CIP v5/6 across 1-High, 1-Medium, 82-Low CIP rated assets
 - Deployed PCI: DSS compliance for retail company processing 500,000 consumer credit cards.
- Successful completion of 3 Retail Acquisitions, 4 Plant Divestitures and 2 Plant Acquisitions.
 - 1 Retail acquisition involved parent company whereby the we purchased a business unit which was carved out in a standalone capacity in a new datacenter with security controls deployed (e.g. web/email filtering, security monitoring, advanced malware protection, next gen firewalls) in less than 90 days.
- Engaged in aggressive review of security contracts, service level agreements, maintenance and statements of work for security products and services saving over \$1M on one contract alone in 2016
- Migrated 900+ servers from Dallas Data center to Irving Data center and refreshed all network and server equipment
- Led Hurricane Harvey efforts across the infrastructure ensuring business continuity capabilities remained in Houston and Austin which resulted in ZERO downtime for Calpine's business and 24x7 plant operations
- Architected and implemented cloud security model for the enterprise. Successfully migrated >500 servers from on premise to cloud
- Design and implementation of SD-WAN network technology implemented across fleet of 80+ generation plants reducing costs by >\$500K

Chief Information Security Officer (August 2013 – July 2015)

- Director, Global Information Security & Compliance (2011 – 2013)
- Senior Manager, Global Information Security & Compliance (2009 – 2011)
- Manager, Enterprise Application Security (2007 – 2009)
- SAP Security Administrator (June 2006 – 2007)
- Created and improved Baker Hughes' first Chief Information Security Office from 2010 to 2015
 - Developed, socialized, and implemented a multi-dimensional, risk-based information security strategy with an emphasis on customer data and intellectual property protection (based on ISO 27001 standards)
 - Coordinated semi-annual independent assessments to demonstrate security posture to CIO, CEO and Board of Directors
 - Defined framework of IT security policies and standards for the enterprise (60,000+ employees and 10,000+ non-employees)
 - Coordinated IT Information Security with Enterprise Physical Security teams for a holistic security threat analytics program – including involvement in oil and gas forums (API) and US government forums (FBI Infragard)
 - Delivered an all-inclusive global data protection program including: Data Privacy, Records Retention and Data Classification
- Managed Global IT Compliance program including: SOX, PII, HIPAA, US DHS CFATS, US NRC
 - Developed Control Self-Assessment program for applicable compliance regulations and reduced SOX findings in 1 year by over 60%
 - Presented compliance concerns and risks quarterly to internal controls and compliance committee and corporate controller
- Actively managed a \$15M+ annual security budget with cross-functional team coordination /and implementation
 - Responsible for investment portfolio planning and strategic investment relationships to meet Baker Hughes' business risks
 - Delivered global security awareness program improving global awareness by over 50% measured by awareness surveys, tabletop exercises and phishing exercises
- Led \$30M IT Security transformation program through a cross functional team of 50+ IT personnel over 5 months while delivering over \$17M in hard business benefits in first year.
 - Delivered 25+ projects including: 2-Factor Authentication at VPN, Network Segmentation, Security Operation Center, XP to WIN7 migration, and Internal Public Key Infrastructure
 - Provided security controls and business benefits on both 30-day and 100-day cadences – consisting of: illustrative progress updates, timely resource/budget consumption, issue identification and action plans to correct deficiencies to CIO
- Led a \$6M cross-functional business focused team of 45+ global oilfield operations personnel and IT personnel to implement, while delivering \$5M in hard business benefit in less than 6 months
 - Delivered ISO 27002 framework of controls to protect our customer's data and secure the digital oilfield (e.g., geological formations, well location, well analysis and reserves)
 - Coordinated with independent assessors to apply for ISO certification in Brazil
 - Co-developed an industry 1st strategic solution – Data Loss Prevention (DLP) for the oilfield – to protect customer well data files
- Led a security driven business effort to reduced field cabin turnaround processes in Gulf of Mexico. Improved the processes from a security perspective and reduced cabin turnaround from 7 days to 1 day resulting in over \$600K savings per cabin.
- Engaged in aggressive review of global contracts, service level agreements, maintenance and statements of work for security products and services saving over \$10M. Obtained over \$1M in business benefit in a single security contract in 2014
- Led global cyber defense/security incident response teams through multiple cyber security incidents

- Absorbed security related IT operational teams' and completed an RFP to increase security personnel from 7 – to over 75 with 24x7 Security Operations coverage in less than 12 months creating a global information security team with global responsibility
- Developed proactive threat 'hunting' program with law enforcement, industry and non-industry colleagues and strategic/highly valued suppliers
- Developed cyber defense escalation program which integrated with our ITIL Major Incident response and Enterprise Crisis Management processes to provide a streamlined coordination of resources to defend the organization during a cyber-related attack
- Provided risk analysis and consultation on all BHI Executive sponsored programs throughout the Systems Development Lifecycle (SDLC) on over 500 programs delivered in the past 4 years.
 - Programs included diverse architectures (Corporate Systems: ERPs SAP and Hyperion; Web Applications, Client/Server; Field/Business Systems: SCADA, PLC, etc.) across multiple business units
- Developed enterprise secure coding strategy (based on OWASP, Microsoft and HP practices)
 - Negotiated 3-year contract and implemented global program of cloud based technology, development teams, e-commerce teams and IT application development teams
 - Developed M&A strategy for secure coding prior to integration reducing risks of integration efforts
- Proven leader of Baker Hughes' Diversity & Inclusion efforts
 - Created first Women's Resource Group in Broussard, LA in a grassroots effort - promoting opportunities for global diversity in the oilfield by delivering career workshops, diversity presentations and offering mentoring opportunities with a focus on increasing awareness and improving the maturity of the Baker Hughes' diverse culture. In less than 2 years, program includes more than 100 active members and has expanded to Houma, LA.

PricewaterhouseCoopers - Advisory

July 2004 – June 2006

LSU, Union Program Council

August 2003 – May 2004

US Drug Enforcement Administration – HIDTA Task Force

May 1998 – May 2003

Leadership/Public Speaking/Awards

- 2016 - 2018 – Infragard – Power & Utilities Sector Chief
- 2016 – Presenter – [Association of Records Managers \(ARMA\) Houston](#)
- 2016 - Speaker - [KPMG Institute Global Energy Conference](#)
- 2016 – Presenter – [University of Texas @ Austin 3rd Annual Government Enforcement Institute](#)
- 2016 – Presenter – [University of Texas @ Austin Gas & Power Institute](#)
- 2014 – September – FireEye User Group Presentation (presenter)
- 2014 – September - Diversity/Careers Magazine Article
 - <http://bt.e-ditionsbyfry.com/article/PROJECT+MANAGEMENT/1788735/0/article.html>
- 2014 – EVANTA Leadership
 - August CISO Institute – Chicago Booth School of Business (presenter)
 - <http://www.evanta.com/ciso/institutes/university-of-chicago/instructors#>
 - May CIO Summit – Houston (presenter)
 - <http://www.evanta.com/cio/summits/houston/speakers#>
 - October CIO Institute – McCombs School of Business - University of Texas – Austin (presenter)
 - <http://www.evanta.com/cio/institutes/the-university-of-texas-at-austin/>
- 2014 – June – Houston FBI Infragard (presenter)
- 2014 – T.E.N. ISE Central Project Nominee - http://www.ten-inc.com/ise/central/project_nominees.asp
- 2012 - ISC² Sr. Security Professional of the Year Finalist <https://www.isc2.org/PressReleaseDetails.aspx?id=9145>

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PRE-FILED TESTIMONY OF

ROBERT D. O'NEAL

MANAGING PRINCIPAL, EPSILON ASSOCIATES, INC.

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

2 A: Robert D. O'Neal, Epsilon Associates, Inc. (Epsilon), 3 Mill & Main Place, Suite 250, Maynard, MA
3 01754.

4 **Q: What is your position at Epsilon?**

5 A: I am a Managing Principal at Epsilon.

6 **Q: How long have you been employed with Epsilon?**

7 A: I have been employed with Epsilon for 19 years.

8 **Q: Please describe your educational background and professional experience.**

9 A: I have a Bachelor of Arts in Engineering Science from Dartmouth College and a Master of Science
10 in Atmospheric Science from Colorado State University. I am a Certified Consulting Meteorologist
11 (CCM) through the American Meteorological Society, and am Board Certified through the Institute of
12 Noise Control Engineering (INCE) and served on INCE's Board of Directors from 2014–2016. I am
13 also a member of the Acoustical Society of America. I have over 30 years of experience in the areas
14 of community noise impact assessments, meteorological data and analyses, and air quality
15 modeling. My noise impact evaluation experience includes design and implementation of sound level
16 measurement programs, modeling of future impacts, conceptual mitigation analyses and compliance
17 testing. I have been involved in assessing noise from wind projects since 2004 and have authored
18 several articles on wind turbine noise and given numerous conference presentations on the subject.
19 A copy of my resume is submitted as Exhibit ____ (RDO-PF1): Resume of Robert D. O'Neal.

20 **Q: Please describe your current responsibilities with Epsilon Associates, Inc.**

21 A: As one of the Managing Principals of Epsilon Associates, I share in responsibility for overall direction
22 and operation of the company. Prior to this position, I was a Principal and the leader of the Acoustics
23 Group, where I managed staff and assigned resources on our noise-related projects. In addition, I

24 perform technical studies on wind energy projects ranging from sound level measurements, sound
25 modeling, noise control design, and expert testimony. I also oversee the preparation of studies
26 relating to shadow flicker.

27 **Q: Have you previously testified before the New York State Public Service Commission or Siting
28 Board on Electric Generation?**

29 A: Yes. I testified in 2003 on behalf of the Besicorp-Empire Development Company, LLC's 505 MW
30 combined cycle cogeneration plant, Rensselaer, NY (Case No. 00-F-2057). In addition, I have
31 submitted written testimony in conjunction with the Bluestone Wind Energy Facility (Case No. 16-F-
32 0559) and Eight Point Wind Energy Center (Case No. 16-F-0062) and provided oral testimony on
33 the Bluestone Project. I also submitted pre-filed testimony in conjunction with the Deer River Wind
34 Farm (Case No. 16-F-0267) and the Galloo Island Wind Energy Facility (Case No. 15-F-0327).

35 **Q: Have you previously served as an expert witness before any other court, agency, or other
36 body on the subject you plan to offer testimony on today?**

37 A: Yes. I have testified on noise issues before numerous agencies, including the Maine Board of
38 Environmental Protection, the Massachusetts Energy Facilities Siting Board, the Environmental
39 Review Tribunal, Ontario, Canada, the Vermont Superior Court, and the New Hampshire Site
40 Evaluation Committee, and in many other judicial and quasi-judicial settings.

41 **Q: What is the purpose and scope of your testimony in this proceeding?**

42 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

43 **Q: What portion(s) of the Application is your testimony sponsoring?**

44 A: Exhibit 15: Public Health and Safety, and Exhibit 24, Visual Impacts (relating to shadow flicker only);
45 Exhibit 19: Noise and Vibration.

46 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction
47 and supervision.**

48 A: Yes.

49 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or**
50 **documents produced by persons other than yourself/your company? If so, please cite these**
51 **sources. [These are independent studies, etc.]**

52 A: References are provided in Exhibits 15, 19 and 24.

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

54 A: Yes.



Robert D. O'Neal, CCM, INCE Board Certified

Managing Principal

EDUCATION

M.S., Atmospheric Science, Colorado State University

B.A., Engineering Science, Dartmouth College

PROFESSIONAL REGISTRATION

Certified Consulting Meteorologist, #578

Institute of Noise Control Engineering, Board Certified

PROFESSIONAL MEMBERSHIPS

American Meteorological Society

Institute of Noise Control Engineers (INCE), Board Certified Member, Board of Directors (2014-2016)

Acoustical Society of America

Mr. O'Neal is a Certified Consulting Meteorologist and is INCE Board Certified. He has more than 30 years of experience in the areas of community noise impact assessments, meteorological data collection and analyses, and air quality modeling. Mr. O'Neal's noise impact evaluation experience includes design and implementation of sound level measurement programs nationwide, modeling of future impacts, conceptual mitigation analyses, compliance testing, and expert witness testimony. He has also directed and reviewed shadow flicker studies for wind energy projects.

His expert witness testimony experience includes state and local boards, courts of law, and adjudicatory hearings. Specifically, Rob has testified before the MA Energy Facilities Siting Board, Maine Board of Environmental Protection, Vermont Superior Court, NH Site Evaluation Committee, NY DEC Administrative Law Judge, SD Public Utilities Commission, 42nd District Court of Texas, MA Land Court, Environmental Review Tribunals (Ontario, Canada), and Boards of County Commissioners.

Rob is a nationally recognized acoustics expert in the wind energy field having performed noise impact assessments in over 25 states across the U.S. and Canada.

Mr. O'Neal is active on siting and environmental committees associated with the wind and materials handling industries. He has presented the results of wind turbine low frequency noise and infrasound research at major conferences and peer-reviewed scientific journals. He was invited by the Commissioner of the Massachusetts Department of Environmental Protection to serve as a technical expert on the Wind Noise Technical Advisory Group (WNTAG). In addition, Rob has been an invited speaker at conferences on a variety of noise and meteorological topics.

RELEVANT PROFESSIONAL EXPERIENCE

- ◆ *Apex Clean Energy – Galloo Island Wind, Jefferson County, NY.* Mr. O'Neal developed an extensive sound level measurement and modeling program for a proposed 110-megawatt (MW) wind farm on an island in Lake Ontario. In addition to the technical noise studies, Epsilon provided input and response to comments for the Preliminary Scoping Statement and Stipulations as part of the Article 10 permitting process. The results will be presented as expert witness testimony during the NYS Public Service Board public hearings.
- ◆ *Apex Clean Energy – Lighthouse Wind, Orleans & Niagara Counties, NY.* Mr. O'Neal developed an extensive sound level measurement and modeling program for a proposed 200-megawatt (MW) wind farm in western NY. In addition to the technical noise studies, Epsilon provided input and response to comments for the Preliminary Scoping Statement and Stipulations as part of the Article 10 permitting process. The results will be presented as expert witness testimony during the NYS Public Service Board public hearings.
- ◆ *Avangrid Renewables– Deer River Wind, Lewis & Jefferson County, NY.* Mr. O'Neal developed an extensive sound level measurement and modeling program for a proposed 100-megawatt (MW) wind farm in the Tug Hill Plateau region of NY. In addition to the noise studies, Epsilon provided technical support as part of the Article 10 permitting process.
- ◆ *Avangrid Renewables– Mad River Wind, Oswego & Jefferson County, NY.* Mr. O'Neal developed an extensive sound level measurement and modeling program for a proposed 350-megawatt (MW) wind farm in the Tug Hill Plateau region of NY. In addition to the noise studies, Epsilon provided technical support as part of the Article 10 permitting process.
- ◆ *Avangrid Renewables– North Ridge Wind, St. Lawrence County, NY.* Mr. O'Neal developed an extensive sound level measurement and modeling program for a proposed 100-megawatt (MW) wind farm in northern NY. In addition to the noise studies, Epsilon provided technical support as part of the Article 10 permitting process.
- ◆ *Iberdrola Renewables – Groton Wind, Groton, NH.* Developed an extensive sound level measurement and modeling program for a proposed 48 MW wind farm near Plymouth, NH. Concurrent sound level data and meteorological data were collected and analyzed. The results were presented as expert witness testimony at community open houses and during the Site Evaluation Committee public hearings. Post-construction sound monitoring was conducted to confirm compliance with the permit conditions.
- ◆ *NextEra Energy Resources – Eight Point Wind, Steuben County, NY.* Mr. O'Neal developed an extensive sound level measurement and modeling program for a proposed 102-megawatt (MW) wind farm in the southern tier of NY. In addition to the noise studies, Epsilon provided technical support as part of the Article 10 permitting process.
- ◆ *Massachusetts Clean Energy Center – Research Study on Wind Turbine Acoustics.* The study includes measuring sound emissions from a variety of operating wind turbines in the Commonwealth of Massachusetts. Fieldwork includes measuring both the level and quality of sound emissions from

operating wind turbines under various wind regimes and topography. To better understand how wind speed and wind direction vary over the turbine height, meteorological data are collected using on-site meteorological towers and LiDAR systems. Acoustical data are measured at various distances from the wind turbines and include broadband, one-third octave band, low frequency and infrasound, and interior/exterior sound levels.

◆ *Confidential Client – Wind Energy Project, VT.* Reviewed materials prepared by an opposing expert in anticipation of litigation due to noise from a wind energy project. Provided expert noise testimony before the Vermont Public Service Board on behalf of wind energy's legal counsel as part of a Technical Hearing.

◆ *Juwi Wind – Peru Wind Energy, Peru, MA.* Mr. O'Neal developed an extensive sound level measurement and modeling program for a proposed wind farm in western MA. In addition to the noise studies, Mr. O'Neal provided expert witness testimony as part of the local permitting process.

◆ *Eolian Renewable Energy -- Antrim Wind, Antrim, NH.* Developed an extensive sound level measurement and modeling program for a proposed 30 MW wind farm in Antrim, NH. Concurrent sound level data and meteorological data were collected and analyzed. The results were presented as expert witness testimony at community open houses and during the NH Site Evaluation Committee public hearings.

◆ *NextEra Energy Resources – Lee-DeKalb Wind Farm, Lee & DeKalb County, IL.* Developed and executed a sound level compliance measurement program for a 218 MW wind farm in Illinois. Concurrent sound level data and meteorological data were collected and analyzed.

◆ *FPL Energy – Horse Hollow Wind Energy Center, Taylor County, TX.* Developed and executed an extensive sound level measurement program for a 735 MW wind farm in Taylor County, TX. Concurrent sound level data, meteorological data, and wind turbine power output data were collected and analyzed. The results were used in legal proceedings as part of expert witness testimony in the case.

◆ *FPL Energy – Wolf Ridge Wind Farm, Cooke County, TX.* Developed and executed an extensive sound level measurement and modeling program for a proposed wind farm in Cooke County, TX. Concurrent sound level data and meteorological data were collected and analyzed. The results were used in legal proceedings as part of expert witness testimony in the case.

◆ *John Deere Renewables –Michigan Thumb I Wind Farm, Huron County, MI.* Developed and executed a long-term sound level measurement program for an existing 69 MW wind farm in Michigan to determine compliance with the local noise ordinance. Concurrent sound level data and meteorological data were collected and analyzed.

◆ *NextEra Energy Resources (formerly FPL Energy) – Low Frequency & Infrasound Study, TX.* Developed and executed a sound level measurement program as part of a scientific study to determine low frequency and infrasound levels from two types of wind turbines. Both interior and exterior data were compared to independent impact criteria for audibility, vibration, rattle, and annoyance. The study results were published in the peer-reviewed Noise Control Engineering Journal.

- ◆ *NextEra Energy Resources (formerly FPL Energy) – Ashtabula Wind Farm, Barnes County, ND.* Developed and executed a sound level measurement program for an existing wind farm in North Dakota in response to noise complaints. Concurrent sound level data and meteorological data were collected and analyzed.
- ◆ *Gamesa Energy – Barton Chapel Wind Farm, Jack County, TX.* Developed an extensive sound level measurement and modeling program for a proposed 120 MW wind farm in Jack County, TX. Concurrent sound level data and meteorological data were collected and analyzed. The results were used in legal proceedings as part of expert witness testimony in the case.
- ◆ *Con Edison Development – Campbell County Wind, Campbell County, SD.* Mr. O'Neal conducted post-construction sound level measurements for a 93-megawatt (MW) wind farm in SD.
- ◆ *Babcock & Brown – Allegheny Ridge Wind Farm, Portage, PA.* Developed and executed a sound level measurement program for an 80 MW wind farm in Cambria and Blair Counties, PA. Concurrent sound level data, meteorological data, and wind turbine power output data were collected and analyzed. The results were used to demonstrate compliance with the noise standard of the Development Agreement with the local Township.
- ◆ *State of New Hampshire, Office of the Attorney General -- Lempster Mountain Wind Power Project, Lempster, NH.* Performed an independent review of a proposed 24 MW wind turbine farm. The applicant's noise impact analysis was evaluated and comments provided to the State of NH.

EXPERT TESTIMONY EXPERIENCE

Expert witness before the South Dakota Public Utilities Commission, on noise and shadow flicker for Dakota Range I and Dakota Range II Energy Facility Permit, Pierre, SD (2018). Case #EL18-003.

Expert witness before the North Dakota Senate Subcommittee of Energy and Natural Resources, Draft law on Sound Levels from Wind Energy Facilities, Bismarck, ND, NextEra Energy Resources, LLC (2017).

Expert witness before the Maine Board of Environmental Protection, on noise issues for the Juniper Ridge Landfill expansion, Old Town, ME (2016). Case #S-020700-WD-BI-N and #L-19015-TG-D-N.

Expert witness before the Board of Commissioners, Chowan and Perquimans Counties, NC, on blade and ice drop for Timbermill Wind Conditional Use Permit (2016).

Expert witness before the Environmental Review Tribunal (via skype), Ontario, Canada on noise issues for wpd White Pines Wind, Prince Edward County, Ontario [Case ERT 15-071, Alliance to Protect Prince Edward Co. v. Director, Ministry of the Environment] (2015).

Expert witness before the Jackson Township Board of Supervisors, Cambria County, PA on noise issues for a 980 MW natural gas-fired combined-cycle power generation plant (2015).

- Expert witness before the Environmental Review Tribunal, Ontario, Canada on noise issues for Grey Highlands Clean Energy GP Corp., Grey Highlands, Ontario [Case ERT 15-026, Fohr v. Director, Ministry of the Environment] (2015).
- Expert witness in Vermont Superior Court, Environmental Division, Docket No. 179-10-10; on noise issues for an aggregate extraction and crushing operation, McCullough Crushing, Calais, VT (2015).
- Expert witness before the Environmental Review Tribunal, Ontario, Canada on noise issues for Grey Highlands Zero Emission People Wind Farm, Grey Highlands, Ontario [Case ERT 15-011, Dingeldein v. Director, Ministry of the Environment] (2015).
- Prepared witness statement for the Environmental Review Tribunal, Ontario, Canada on noise issues for Niagara Region Wind Corporation, Haldimand County, Ontario [Case ERT 14-096, Mothers Against Wind Turbines, Inc. v. Director, Ministry of the Environment] (2015).
- Expert witness before the Environmental Review Tribunal, Ontario, Canada on noise issues for SP Armow Wind Ontario GP Inc., Kincardine, Ontario [Case ERT 13-124 to 13-125, Kroeplin v. Director, Ministry of the Environment] (2014).
- Expert witness before the Environmental Review Tribunal, Ontario, Canada on noise issues for K2 Wind Ontario, Inc., Ashfield-Colbourne-Wawanosh, Ontario [Case ERT 13-097 to 13-098, Drennan v. Director, Ministry of the Environment] (2013).
- Expert witness before the Environmental Review Tribunal, Ontario, Canada on noise issues for Dufferin Wind Power, Melancthon, Ontario [Case ERT 13-070 to 13-075, Bovaird v. Director, Ministry of the Environment] (2013).
- Expert witness before the NH Site Evaluation Committee on noise and shadow flicker issues for the 30 MW Antrim Wind Project (2012; 2016) Docket No. 2015-02 and Docket No. 2012-01; 48 MW Groton Wind project (2010) Docket No. 2010-01.
- Expert witness before the MA Energy Facilities Siting Board on noise issues for: 18-mile underground electric transmission line and substation project in the Boston Metropolitan area (2004-2005); Billerica Energy Center power plant (2007); Brockton Clean Energy (2008-2009), West Medway II power plant (2015), Woburn-Wakefield electric transmission line (2016), National Grid gas pipeline—Lowell/Tewksbury (2018), Vineyard Wind (2018).
- Expert witness in Vermont Act 250 Land Use proceedings on noise issues for a proposed sand and gravel excavation site at Okemo Mountain (2007). Permit No. 2S1122.
- Expert witness in the 42nd District Court of Texas on noise issues for a 735 MW wind turbine farm (2006).
- Expert witness before NY DEC Administrative Law Judge on noise issues for a hard rock quarry facility (1997), two sand and gravel excavation sites (2001; 2003), and a cogeneration power plant (2003).
- Expert witness for site assignment hearings on noise issues from solid waste transfer stations in Lowell, MA (1998); Marshfield, MA (1999); Holliston, MA (2004); Oxford, MA (2006).

Expert witness in Massachusetts Land Court on noise issues for a proposed sand and gravel pit (1991), a proposed cross-dock distribution center (2002), and an existing concrete batch plant (2005).

Expert witness in Vermont Act 250 Land Use process for air quality impacts at ski areas (1991; 1992; 1997).

Expert witness before MA DEP Administrative Law Judge for an asphalt plant in Boston (1996).

Expert witness before municipal boards on issues of air pollution and noise impacts from local industries (many years).

Invited specialty speaker on noise impact assessments for Boston University's Masters of Urban Planning degree program (1994; 1996).

PUBLICATIONS

O'Neal, R.D., Hellweg, Jr., R.D. and R. M. Lampeter, 2011. Low frequency sound and infrasound from wind turbines. *Noise Control Engineering Journal*, 59 (2), 135-157.

O'Neal, R.D., and R.M. Lampeter, 2007: Sound Defense for a Wind Turbine Farm. *North American Windpower*, Zackin Publications, Volume 4, Number 4, May 2007.

O'Neal, R.D., 1991: Predicting potential sound levels: A case study in an urban area. *Journal of the Air & Waste Management Association*, 41, 1355-1359.

McKee, T.B. and R.D. O'Neal, 1989: The role of valley geometry and energy budget in the formation of nocturnal valley winds. *Journal of Applied Meteorology*, 28, 445-456.

CONFERENCE PRESENTATIONS

O'Neal, R.D., 2019. Environmental Aspects of Renewables Workshop. Electric Power Research Institute, Chicago, IL.

Kaliski, K., Bastasch, M., O'Neal R.D., 2018. Regulating and predicting wind turbine sound in the U.S. Presented at INTER-NOISE 2018, Chicago, IL

O'Neal, R.D., 2017. Sound level impact studies for wind energy in NY State. Acoustical Society of America Fall Meeting, New Orleans, LA.

Kaliski, K., O'Neal, R.D., et al 2016. Massachusetts Research Study on Wind Turbine Acoustics: Overview and Conclusions. NOISE-CON 2016, Providence, RI.

O'Neal, R.D., 2014. Wind Energy Sound Monitoring Under High Wind Shear Conditions. NOISE-CON 2014, Fort Lauderdale, FL.

O'Neal, R.D. Lampeter, R.M., Emil, C.B. and B.A. Gallant, 2012. Evaluating and controlling noise from a metal shredder system. Presented at INTER-NOISE 2012, NY, NY.

O'Neal, R.D., 2011. Wind Turbine sound Levels: The Michigan I, Huron County, MI Study. Presented at Great Lakes Wind Collaborative 4th Annual Meeting, Ypsilanti, MI.

O'Neal, R.D., Hellweg, Jr., R.D. and R. M. Lampeter, 2011. Low frequency sound and infrasound from wind turbines. Presented at WINDPOWER 2011, Anaheim, CA.

O'Neal, R.D., Hellweg, Jr., R.D. and R. M. Lampeter, 2010. Low frequency sound and infrasound from wind turbines – a status update. NOISE-CON 2010, Baltimore, MD.

O'Neal, R.D., 2010. Noise control evaluation for a concrete batch plant. NOISE-CON 2010, Baltimore, MD.

O'Neal, R.D., and R.M. Lampeter, 2009: Nuisance noise and the defense of a wind farm. INTER-NOISE 2009, Ottawa, Canada, August 23-26, 2009.

O'Neal, R.D., and R.M. Lampeter, 2009: Sound from Wind Turbines: A Key Factor in Siting a Wind Farm. 12th Annual Energy & Environment Conference – EUEC 2009, Phoenix, AZ, February 2, 2009.

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

Application of High Bridge Wind, LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction
of the High Bridge Wind Project Located in the Town
of Guilford, Chenango County

Case No. 18-F-0262

PRE-FILED TESTIMONY OF

GORDON W. PERKINS

SENIOR PROJECT MANAGER

ENVIRONMENTAL DESIGN & RESEARCH
LANDSCAPE ARCHITECTURE, ENGINEERING &
ENVIRONMENTAL SERVICES, D.P.C.

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

2 A: Gordon Perkins, GISP, Environmental Design & Research, Landscape Architecture, Engineering &
3 Environmental Services, D.P.C. (EDR), 217 Montgomery Street, Suite 1000, Syracuse, New York
4 13202.

5 **Q: What is your position at EDR?**

6 A: Senior Project Manager.

7 **Q: How long have you been employed with EDR?**

8 A: I have been employed at EDR since July 2016. I previously worked for EDR from 2001 through 2008.

9 **Q: Please describe your educational background and professional experience.**

10 A: I have a Bachelor of Landscape Architecture from the State University of New York College of
11 Environmental Science and Forestry, and am a Certified Geographic Information Systems
12 Professional (GISP). I have more than 18 years of professional experience focusing primarily on
13 visualization and visual impact assessment, with extensive expertise in 2-D and 3-D visualization
14 tools used in visual impact assessment. A copy of my resume is submitted as Exhibit ____ (GWP-
15 PF1): Resume of Gordon W. Perkins.

16 **Q: Please describe your current responsibilities with EDR.**

17 A: As a Senior Project Manager, I am responsible for conducting and/or overseeing visual impact
18 assessments as well as for the ongoing advancement of EDR's technical methodologies used in
19 such assessments, including new techniques in data collection, processing and analysis, and 3-D
20 modeling. I am also responsible for assigning, scheduling and coordinating staff, overseeing project
21 teams, and providing quality assurance.

22 **Q: Have you previously testified before the New York State Public Service Commission or Siting
23 Board on Electric Generation?**

24 A: Yes. I have provided testimony on the following cases: 13-T-0292 - West Point Power Partners and
25 06-T-0650 - New York Regional Interconnection. In addition, I have submitted pre-filed testimony in
26 conjunction with the Bluestone Wind Energy Facility (Case No. 16-F-0559) and the Galloo Island
27 Wind Energy Facility (Case No. 15-F-0327).

28 **Q: Have you previously served as an expert witness before any other court, agency, or other**
29 **body on the subject you plan to offer testimony on today?**

30 A: I have provided expert witness testimony before the Rhode Island Energy Facilities Siting Board and
31 the Connecticut Siting Council.

32 **Q: What is the purpose and scope of your testimony in this proceeding?**

33 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

34 **Q: What portion(s) of the Application is your testimony sponsoring?**

35 A: Exhibit 24, Visual Impacts.

36 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction**
37 **and supervision.**

38 A: Yes.

39 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or**
40 **documents produced by persons other than yourself/your company? If so, please cite these**
41 **sources. [These are independent studies, etc.]**

42 A: See Exhibit 24 for references.

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

44 A: Yes.



Gordon is a Senior Project Manager with more than 18 years of professional experience. Gordon is one of the leading expert consultants in Visualization and Visual Impact Assessment in the Northeast and is well known to many of our clients and colleagues in the renewable energy industry. Gordon has extensive expertise in digital graphics and uses 2-D and 3-D software applications to create visual simulations and effectively communicate design concepts. Gordon has also conducted research and fieldwork involving riparian restoration design and implementation.

As a Senior Project Manager with EDR, Gordon's responsibilities include the ongoing evaluation and improvement of our technical methodologies used in visual impact assessment, including new techniques in data collection, processing and analysis, and 3-D modeling. Gordon is also responsible for assigning, scheduling and coordinating assistance from the in-house multi-disciplined team of professionals. He remains hands-on throughout the project, overseeing and advising the EDR Team as needed, as well as providing quality assurance.

education

Bachelor of Landscape Architecture, Ecology Emphasis, State University of New York College of Environmental Science and Forestry, 2001.

Associate of Arts, Keystone College, La Plume, PA, 1998.

registration / certifications

Certified Geographic Information Systems Professional (GISP)

Federal Aviation Association, Unmanned Aerial Vehicle (UAV) Pilot Certification for Commercial Flights

professional affiliations

Member, Alliance for Clean Energy New York

Member, American Wind Energy Association

project experience

Revolution Wind Farm, Visual Impact Assessment, Offshore MA/RI- This project includes the on-going preparation of a visual impact assessment associated with an offshore wind farm located off the coasts of Massachusetts and Rhode Island. Senior project manager responsible for technical oversight of all visual impact studies including field photography and survey, visual simulation, and preparation of the visual assessment report.

South Fork Wind Farm, Visual Impact Assessment, Offshore MA/RI- This project involved a visual impact assessment associated with an offshore wind farm located approximately 19 miles off the coast of Block Island Rhode Island. Served as senior project manager and provided technical oversight for field photography and survey, curvature of the earth calculations, viewshed methodology, simulations, and report production. Also provided graphic support for public outreach and education efforts.

Skipjack Wind Farm, Visual Impact Assessment, Offshore DE- This project includes a full visual impact assessment associated with an offshore wind farm located off the coast of Delaware and Maryland. Provided project management and technical oversight for field photography and survey, curvature of the earth calculations, viewshed methodology, simulations, and report production. Also provided graphic support for public outreach and education efforts.

Icebreaker Wind Project, Erie County, Cleveland, OH- This project included Visual Impact Assessment for a proposed 20 megawatt (MW) offshore wind project in Lake Erie. Obtained photographs, assisted with preparation of visual simulations, and oversaw production of Visual Impact Assessment Report.

Environmental Design & Research, Landscape Architecture, Engineering, & Environmental Services, D.P.C.
www.edrdpc.com



NYSDERDA Offshore Wind Master Plan – Completed a Visibility Threshold Study for the New York State Offshore Wind Masterplan to determine the potential visual impact threshold for the placement of offshore wind energy area nominations. The study included an analysis of past weather data to predict prevailing conditions and visibility, visual simulations, and a compendium report.

Galloo Island Wind Project, Jefferson County, NY- Prepared Visual Impact Assessment and technique support for proposed 30-turbine wind energy facility located on an island in Lake Ontario.

Block Island Wind Farm, Block Island, RI- This project involved a proposed 30 MW wind farm facility located in the Atlantic Ocean, 3 miles off the coast of Block Island. Provided preliminary visual simulations and involved in on-going research associated with daytime and nighttime visibility thresholds of offshore turbines. Also involved in studies associated with the public acceptance of offshore wind farms.

Long Island Offshore Wind Park (LLOWP), Long Island, NY- Prepared visual simulations of the Long Island Offshore Wind Park (LLOWP) Project, a proposed 140-megawatt offshore wind power project. Provided daytime simulations of the project from multiple locations on the southern Long Island shoreline. As a sub consultant to ENSR, EDR performed photographic and survey fieldwork and detailed computer modeling to develop realistic simulations of the proposed wind farm. EDR also participated in public outreach meetings and workshops concerning the project.

Cape Wind Offshore Wind Farm, Nantucket Sound, MA- Created survey accurate visual simulations for America's first offshore wind proposal. Completed daytime and, first in the industry nighttime visual simulations, depicting a 420-megawatt wind farm. Provided fieldwork oversight and photography from critical points throughout Cape Cod and the Islands.

BOEM Offshore Visualizations for the MA/RI WEA- *Prior to EDR*, Created over 400 surveys accurate visual simulations depicting the BOEM wind energy areas in Massachusetts and Rhode Island. Used digital imaging techniques to depict four seasons and four times of day from each viewpoint. Contracted survey and meteorological experts to produce accurate visibility models.

Tobacco Valley Solar Farm , Simsbury, CT- Completed an abbreviated visual assessment for a 26 megawatt solar facility and created a mitigation plan which included vegetative screening, project setbacks from residential properties, and alternative fencing materials. Also testified before the Connecticut Siting Council and participated in settlement negotiations with the Town of Simsbury.

Canisteo Wind Farm , Steuben County, NY- Developed a Visual Impact Assessment (VIA) under Article 10 Regulations, for a 122-turbine project. The Visual Impact Assessment Report evaluated potential project visibility within the study area, identified key views, and assessed visual impacts associated with the proposed wind power project. Also completed a Visual Impact Assessment for the associated transmission line under Article VII regulations.

Alle-Catt Wind Farm , Allegany, Cattaraugus, and Wyoming Counties, NY- Developed a Visual Impact Assessment (VIA) under Article 10 Regulations for a 117-turbine project. The Visual Impact Assessment Report evaluated potential project visibility within the study area, identified key views, and assessed visual impacts associated with the proposed wind power project.

Hardscrabble Wind Power Project, Towns of Fairfield, Norway, & Little Falls in Herkimer County, NY- Developed viewshed maps and created visual simulations for the Visual Impact Assessment (VIA) for a 61-turbine project. Assisted with preparation of the Visual Impact Assessment Report which evaluated potential project visibility within the study area, identified key views, and assessed visual impacts associated with the proposed wind power project.

Maple Ridge Wind Farm, Lewis County, NY- Assisted in the completion of a visual analysis for a 320-megawatt wind farm in upstate New York. Completed field verification (balloon study), visual simulations, viewshed analysis, and nighttime impact assessment.

Jordanville Wind Power Project, Towns of Stark & Warren in Herkimer County, NY- Developed viewshed maps and created visual simulations for the Visual Impact Assessment (VIA) for a proposed 150 MW, 75-turbine project. The VIA report described visible components of the proposed project, defined the visual character of the study area, and inventoried and evaluated visual resources and viewer groups. The study also evaluated potential project visibility within the study area, identified key views, and assessed visual impacts associated with the proposed wind power project.

Cohocton Wind Power Project, Town of Cohocton in Steuben County, NY- Prepared visual simulations for the Visual Impact Assessment (VIA) for an 82 MW, 41-turbine project. Assisted with preparation of the Visual Impact Assessment Report which evaluated potential project visibility within the study area, identified key views, and assessed visual impacts associated with the proposed wind power project.

Marble River Wind Farm, Towns of Clinton & Ellenburg in Clinton County, NY- Created visual simulations for the Visual Impact Assessment (VIA) for a 200 MW, 109-turbine project. Assisted with preparation of the Visual Impact Assessment Report which evaluated potential project visibility within the study area, identified key views, and assessed visual impacts associated with the proposed wind power project.

NEW YORK STATE BOARD ON ELECTRIC
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Case No. 18-F-0262

PRE-FILED TESTIMONY OF

JANE E. RICE

DIRECTOR OF PLANNING

ENVIRONMENTAL DESIGN & RESEARCH

LANDSCAPE ARCHITECTURE, ENGINEERING &

ENVIRONMENTAL SERVICES, D.P.C.

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

2 A: Jane E. Rice, Environmental Design & Research, Landscape Architecture, Engineering &
3 Environmental Services, D.P.C. (EDR), 217 Montgomery Street, Suite 1000, Syracuse, New York
4 13202.

5 **Q: What is your position at EDR?**

6 A: I am a Principal at EDR and Director of Planning.

7 **Q: How long have you been employed with EDR?**

8 A: I have been employed at EDR since August 2005.

9 **Q: Please describe your educational background and professional experience.**

10 A: I received a Bachelor of Arts Degree from Creighton University in Omaha, Nebraska, in 1981 and a
11 Juris Doctor from Creighton Law School in 1986. I practiced law with several private law firms until
12 1991 when I joined the master program at State University of New York College of Environmental
13 Science and Forestry. I obtained a Masters in Landscape Architecture in 1995. I was employed by
14 Clough Harbor and Associates until 2005 when I joined EDR. Since 1995, I have worked in the
15 capacity as Planner, Project Manager, Senior Project Manager, and Director of the Planning practice.
16 I have over 20 years of experience in community and land use planning, with 10 years of experience
17 preparing and/or supervising projects involving socioeconomic reports for wind energy projects. A
18 copy of my resume is submitted as Exhibit ____ (JER-PF1): Resume of Jane E. Rice.

19 **Q: Please describe your current responsibilities with EDR.**

20 A: As Principal and Director of Planning, I oversee EDR's planning practice, which consists of various
21 community-centered planning initiatives that include comprehensive plans, waterfront revitalization
22 planning and design, brownfield redevelopment planning, developing downtown and neighborhood
23 revitalization strategies, zoning and land use regulations, and agriculture and farmland protection
24 plans. A portion of our planning work includes coordinating or conducting socioeconomic analyses.

25 Q: **Have you previously testified before the New York State Public Service Commission or Siting**
26 **Board on Electric Generation?**

27 A: Yes. I served as an expert witness before the New York Board on Electric Generation Siting in the
28 proceedings related to the Cassadaga Wind Project (Case No. 14-F-0490) and Baron Wind Project
29 (Case No. 15-F-0122). In addition, I have submitted pre-filed testimony in the proceedings related to
30 the Galloo Island Wind Energy Facility (Case No. 15-F-0327) and Bluestone Wind Energy Facility
31 (Case No. 16-F-0559).

32 Q: **Have you previously served as an expert witness before any other court, agency, or other**
33 **body on the subject you plan to offer testimony on today?**

34 A: No.

35 Q: **What is the purpose and scope of your testimony in this proceeding?**

36 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

37 Q: **What portion(s) of the Application is your testimony sponsoring?**

38 A: Exhibit 27, Socioeconomic Effects.

39 Q: **Were these Exhibits, Application sections, or studies prepared by you or under your direction**
40 **and supervision.**

41 A: Yes.

42 Q: **In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or**
43 **documents produced by persons other than yourself/your company? If so, please cite these**
44 **sources. [These are independent studies, etc.]**

45 A: See Exhibit 27 for references.

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

47 A: Yes.



Jane E. Rice, JD, AICP, Principal Director of Planning



Jane is the Director of Planning at EDR. She is a certified planner and a licensed attorney with more than 25 years of professional experience. Jane's expertise includes project management, community and land use planning, economic development, waterfront revitalization planning, smart growth management and analysis, zoning, stakeholder involvement and engagement. She is currently a member of the American Institute of Certified Planners, American Planning Association, New York State Bar Association, New York State Planning Federation Board of Directors, and Vice President of the Onondaga County Planning Federation Board of Directors. She has also served as Chairperson of the Village of Fayetteville Planning Board for more than 15 years. Jane is a sought-after lecturer in topics related to Environmental Integrity, Sustainable Land Use Planning & Design, Resource Conservation Strategies, Form Based Zoning, Community Character, and Community Engagement.

As the Director of Planning at EDR, Jane is responsible for assigning, scheduling and coordinating assistance from the in-house multi-disciplined team of professionals. She remains hands-on throughout the project, overseeing and advising the EDR Team as needed, as well as providing quality assurance. In all cases she vets her projects through a sustainability analysis to ensure solutions are economically, environmentally, and socially sustainable over time.

education

Master of Landscape Architecture: State University of New York College of Environmental Sciences and Forestry, Syracuse, NY, May 1996.

Juris Doctor: Creighton University School of Law, Omaha, Nebraska (Aug 1982 – Dec 1983), Albany Law School, Albany, NY (Jan 1984 – May 1985).

Bachelor of Arts in Political Science, Creighton University, Omaha, NE, May 1981.

professional affiliations

Vice President, Onondaga County Planning Federation Board

Chairperson, Fayetteville Planning Board

Member, New York State Bar Association

Member, Board of Directors, New York State Planning Federation

Member, American Planning Association

registration / certifications

American Institute of Certified Planners (AICP)

Juris Doctor

employment history

Principal, Director of Planning, Senior Planner, Environmental Design & Research, Landscape Architecture and Engineering and Environmental Resources, D.P.C, August 2005 – present.

Community Planner, Independent Consultant, 2004 – 2005.

Community Planner, Clough Harbour & Associates LLP, Syracuse, NY, 1997 – 2004.

Attorney at Law, Independent Consultant, 1991 – 1994.

Attorney at Law, Scolaro Law Firm, 1987 – 1991.

wind project experience

Copenhagen Wind Farm – Lewis County, NY – Oversaw the preparation of Socioeconomic section in the Environmental Impact Statement (EIS). Project is currently under construction, and was reviewed and approved through preparation of EISs in accordance with the State Environmental Quality Review Act (SEQRA), while also receiving approval from the New York State Department of Environmental Conservation (NYSDEC) under Article 15 and 24 of the Environmental Conservation Law (ECL);



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Director of Planning

Allegheny Wind Power Project – Cattaraugus County, NY – Oversaw the preparation of a standalone Socioeconomic Report as an appendix to the EIS. Project was reviewed and approved in accordance with the State Environmental Quality Review Act (SEQRA), and fully aligned with all necessary permits.

Icebreaker Offshore Wind Farm – Cuyahoga County, OH – Oversaw the preparation of full standalone Socioeconomic Report as a component of the Application for Certificates of Environmental Compatibility and Public Need (Certificate Application). Project is currently in the process of review from the Ohio Public Service Board.

Scioto Ridge Wind Farm – Hardin and Logan Counties, OH – Oversaw the preparation of full standalone Socioeconomic Report as a component of the Application for Certificates of Environmental Compatibility and Public Need (Certificate Application).

Crown City Wind Energy Project – Cortland County, NY – Oversaw the preparation of a standalone Socioeconomic Report as an appendix to the EIS. Project was reviewed in accordance with the State Environmental Quality Review Act (SEQRA).

other project experience

Onondaga Lake – Town of Geddes Lakeshore Enhancement Project, Onondaga County, NY – Directed team that created site plans and designs, and conducted extensive community outreach and engagement activities, for adaptive reuse and ecological restoration of the 4,000 acres of the former Allied Corporation property (now owned by Honeywell Corporation). The purpose of this project is to remediate and reuse the Super Fund site in a more environmentally sensitive manner.

Syracuse Metropolitan Transportation Authority, Transit Study Phase 1 (SMART 1) on behalf of the CNY Regional Transportation Authority, Syracuse, NY – Directed team providing community planning services, that include outreach and engagement activities to a team of national consultant to advance recommendations identified in the Syracuse Transit Analysis to pursue a higher-intensity transit services along the Destiny/Regional Transportation Center to Syracuse University and James Street/South Avenue corridors.

NYSDOS / Town & Village of Clayton - Local Waterfront Revitalization Program (LWRP), Jefferson County, NY – Directed team that developed the LWRP, conducted extensive community outreach and engagement activities, evaluated site and designed segments of the new RiverWalk waterfront connection and access to the St. Lawrence River.

NYSDOT / The Riverwalk, Village of Clayton, (Phase 2 – NYSDOS / Phase 3 – NYSDOT / LAFA Region 3) Jefferson County, NY – Directed site planning and design services, that include community outreach and engagement activities in support of Phase 2 of the Riverwalk Project. Currently responsible for coordinating design of best options to support Phase 3 implementation.

NYSDOS / City of Syracuse - Hiawatha Boulevard-Lodi Street Brownfield Opportunity Area Program (BOA), Syracuse, NY – Directed team (with Sasaki Associates) that developed a Nomination Study that incorporates a 136-acre area with 11 potential brownfield properties. This is a main artery to a vital, heavily traveled section of Syracuse. It is also an area that is suffering from depressed commercial properties and deteriorating housing stock, both of which are intermixed with active businesses. Managed team that developed the BOA, conducted extensive community outreach and engagement activities, evaluated site and designed visionary outcomes for this a low income neighborhood.

NYSDOS / City of Ogdensburg - Local Waterfront Revitalization Program (LWRP), St. Lawrence County, NY – Directed team that developed an amendment to the LWRP, conducted extensive community outreach and engagement activities, designed conceptual land use patterns, and assisted the City in identifying policies and procedures that will implement the LWRP through a series of priority projects for the purpose of improving waterfront connections and economic development opportunities.

NYSDOS / Town of Alexandra & Village of Alexandria Bay - Local Waterfront Revitalization Program (LWRP), Jefferson County, NY – Directed team that identified and designed visionary outcomes for revitalization of the St. Lawrence River waterfront. Assisted in identifying opportunities for waterfront use and development, and to adopt appropriate policies and implementation strategies. Ongoing development projects include improvement to the existing Scenic View Park and creation of a new river walk along the River. Conducted extensive community outreach and engagement activities.

NYSDOT / Syracuse I-81 Viaduct – Step 2 Scoping & Preliminary Design Project, Syracuse, NY – Currently responsible for coordinating extensive community outreach and engagement activities as a member of the Parsons Team to determine design of best options for redevelopment of this major transportation hub project located close to Downtown and University Hill area.



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Director of Planning

NYSDOS / Village of Sackets Harbor - Local Waterfront Revitalization Program (LWRP), Jefferson County, NY – Directed team that developed the LWRP, conducted extensive community outreach and engagement activities, evaluated site and designed visionary outcomes. This effort included analyzing opportunities and constraints in the Village, establishing a framework of policies to protect and enhance the resources of the Village and connections to the St. Lawrence River, and by developing proposals to capitalize on the opportunities of the waterfront within the context of established policies.

NYSDOT / NYSOPRHP - Niagara Falls Robert Moses Parkway Removal – Step 2 Scoping & Preliminary Design Project, Niagara Falls, NY - Directed extensive community outreach and engagement activities, and landscape design to determine and depict best options, for redevelopment of the northern section of this major transportation corridor project.

NYSDOT / City of Rochester, East Main Street Marketing District Plan, Rochester, NY (LFA Region 4) – Directed site planning services, that include community outreach and engagement services, to a team of national and local consultants to identify multi-modal circulation, access and parking improvements along with recommendations for land use development, streetscape enhancements, and community branding, as well as strategies to promote housing opportunities in the area.

Niagara Gorge RIM Ecological Restoration Plan (Robert Moses Parkway Removal Study), City of Niagara Falls, NY – Directed team that quantified economic, environmental, and social costs and benefits of roadway removal and natural resource restoration proposal, and that analyzed various potential impacts including traffic distribution, active transportation, buffering, naturalization, environmental quality, and local economic development opportunities. *American Society of Landscape Architects Merit Award for Planning*

Agricultural Enhancement Plans, Tioga, Broome and Ontario County, NY – Directed public participation and outreach activities, researching countywide agricultural land uses, and agricultural economic concerns, advising county on analysis of priority lands to be protected, and drafting recommendations to drive sustainable growth consistent with industry and environmental best practices, and NYSDAM guidelines.

New York Rising Community Reconstruction Plan, Herkimer, Madison, & Oneida County, NY – Directed the New York Rising Community Reconstruction Program that was established by the New York State Department of State in the wake of several severe weather events including Hurricanes Sandy and Irene, Tropical Storm Lee, and the devastating floods of 2013. The program leverages state investments to assist with reconstruction projects directed toward damaged infrastructure, as well as other projects that are intended to mitigate against future risks and increase their resiliency in the face of future storm events. As a member of the consulting team EDR assisted with community outreach throughout Madison, Oneida, and Herkimer Counties, where back-to-back storms flooded entire communities twice within three days – washing out roads, bridges, utilities, and other infrastructure. The New York Rising Countywide Resiliency Plan (for each county) represents the first steps that the county and state will take toward implementing priority projects, and ultimately creating a more resilient Madison, Oneida, and Herkimer County.

Robert Moses Parkway North Segment Step 2 Scoping & Preliminary Design Project, Niagara Falls, NY – Directed the restoration of the Niagara Gorge Rim along the upper Niagara River will be transformative for the City of Niagara Falls. A one-mile stretch of the 50-year old, four-lane Robert Moses Parkway from Main Street in the City of Niagara Falls to its intersection with Findlay Drive will be removed to allow for a re-greening of the park with multi-use trails, improved scenic overlooks, and other park amenities. Whirlpool Street will be improved as a complete street reconnecting the neighborhoods to the park. As one of the subconsultants on the consulting team EDR worked on developing three alternative concepts from which the preferred concept was selected, as well as simulations to illustrate the proposed gateways, streetscape improvements, and other scenic overlooks. We participated in community outreach, engaging the community throughout the process, and provided an assessment of potential impacts on ecological resources, including threatened and endangered species.

Hiawatha Boulevard-Lodi Street Brownfield Opportunity Area Program, City of Syracuse, NY – Directed the team that served as the Lead Consultant in association with Sasaki Associates to create a Nomination Study for the Hiawatha Boulevard/Lodi Street Brownfield Opportunity Area within the City of Syracuse. This BOA incorporates a 136-acre area with approximately 11 potential brownfield properties. The area is a main artery to a vital, heavily traveled section of Syracuse. It is also an area that is suffering from depressed commercial properties and deteriorating housing stock, both of which are intermixed with active businesses. This BOA presents strategic opportunities to stimulate economic development and community revitalization. It is in close proximity to the Carousel Center, a regional retail mall which has recently expanded, and that attracts millions of visitors each year, providing a critical mass of people and vehicles passing through the Hiawatha Boulevard corridor. The project area also serves as a major transportation route to access the Alliance Bank Stadium, the home field of the Chiefs, which averages half a million ticket sales per year. It is also situated adjacent to the Central New York Regional Market, which houses hundreds of stands and attracts more than a million visitors annually, as well as the Regional Transportation Center. As a result, this BOA provides a significant opportunity for the successful redevelopment of vacant, underutilized and blighted properties located in an area with very high visibility. (2011-2013)



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Director of Planning

Girl Scouts Feasibility Study and Master Plan, Tomkins County, Ithaca, NY – Directed a campus and facilities master plan as developed for all 65 acres of Camp Comstock. This master planning process included, site visits, stakeholder meetings, research on local development regulations, and historic and cultural resources relevant to the camp. The effort included improvements to existing facilities as well as new facilities and uses intended to generate new and sustainable revenues for the Girl Scouts. While developing the master plan we continuously discussed operational and programming issues / needs / preferences so that all aspects are aligned with the recommendations for future improvements and new development. The final Master Plan Report includes the initial feasibility study for all four Girl Scout Camps, the recommendation to initially invest in Camp Comstock for facility improvements as well program development, and the Master Plan with planning and design details on connectivity throughout the main camp, facility improvements, new development and minor but critically important amenities.

Plan for Reconnecting the Erie Canal Gateway, Town of DeWitt, Onondaga County, NY - Directed the EDR team that was collaborating with the town of DeWitt to prepare a plan for the revitalization of the waterfront along the NYS Canal System. The plan is proposed to include: visioning for the historic canal corridor, assessment of development patterns, identification of land and water use controls, and development of revitalization policies and implementation strategies. Work will include planning for a segment of the canal way trail that would close the gap between the Town of Dewitt and the Town of Camillus.

Agricultural and Farmland Protection Plan, Ontario County, NY – Directed the EDR team that was collaborating with Ontario County in the development of their Enhancement Plan. EDR is designing and facilitating a community outreach plan with the goal of engaging local farmers, agricultural producers, and stakeholders in the local agricultural business, and facilitated several focus group meetings. With the community's direct input, and through targeted analysis, we will make recommendations that touch upon local land use regulations, regional policies in support of agricultural producers and businesses, marketing, economic development, and implementation procedures for the Agricultural Enhancement Plan.

Skunk City Neighborhood Master Plan, Syracuse, NY – Directed the EDR team that worked in collaboration with staff from the Department of Neighborhood and Business Development and neighborhood advocates, which drafted the Skunk City Neighborhood Master Plan for the City of Syracuse in 2012. Located on the city's west side, between Strathmore, Tipp Hill, and the Near Westside, Skunk City is a neighborhood where relatively modest public investments could have an outsized impact on residents' quality of life. Our work within the neighborhood sought to increase neighborhood safety, stabilize property values, encourage new investment, reutilize abandoned properties, and improve pedestrian connectivity within and around the neighborhood. The principal intent of the Skunk City Neighborhood Master Plan is to make strategic and incremental improvements where such actions could have a positive influence on the environmental, economic, and social fabric of the community.

Sackets Harbor Zoning, Sackets Harbor, Jefferson County, NY – Directed the EDR team that was retained along with Joel Russell, Esq. to assist the Village of Sackets Harbor in rewriting their zoning regulations to foster the village's growth with a sensitivity towards its cultural resources and its traditional village core and rural edge. EDR completed a community buildout visualization to assist villagers envision its future growth under the then-existing zoning regulations. The potential loss of natural and cultural resources prompted the village to undertake the development of a new hybrid zoning code that applies a form-based structure. The new zoning law provides development regulations that address site layout, architectural treatments, and landscape standards that preserve the natural resources within the community. The new zoning law utilizes graphics and tables to provide clarity and improve readability.

Carrier Dome Rainwater Harvesting, Syracuse, NY – Directed the EDR team that designed and developed interpretive materials. In the spirit of the Onondaga County Save the Rain program and with the goal of increasing its sustainable practices, Syracuse University embraced the concept of capturing and using the rainwater that falls on the roof of the Carrier Dome. With the Rainwater Harvesting System enough water is captured to flush half the Dome's toilets and urinals during major Dome events. The Rain Water Harvesting System consists of two exterior 25,000-gallon storage tanks, and two interior 4,500 gallon tanks that will hold rainwater captured from approximately one third of the Carrier Dome's roof. Teamed with a local engineering firm, and two Syracuse University graphic design students, EDR facilitated several design workshops with students and faculty to design, select, and develop a logo for the Carrier Dome Rain Harvesting System as well as wall murals and a 3D model/video. EDR facilitated the design of interior interpretive wall murals, exterior signage, and an interpretive video about the rainwater harvesting process as well benefits derived from using such a system.

Oswego Brownfield Opportunity Area Program, Oswego County, NY – Directed the team that provided planning and design services to identify what is needed to achieve a coherent and integrated urban development program that preserves and protects the best of what exists, and incorporates new development in a compatible manner. The design will build on existing infrastructure, incorporate existing historic fabric where appropriate, and identify appropriate patterns and forms for new development. EDR has also been charged with identifying what is necessary to create a memorable place through development of an urban design concept that incorporates a clear organization of sites, streets and open space. (2010-2012)



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Director of Planning

Finger Lakes Sustainability Plan – Directed the team charged with development of indicators of sustainability in the agricultural and forestry sectors of a 9-county region in Western New York. Facilitated outreach initiatives and analyzed strategies and targets for sustainable development.

Comprehensive Plan Update, Town of Canandaigua, NY – Directed the team that researched existing conditions, and analyzed economic and demographic changes over time. Worked with local advisory committee to craft goals and recommended actions for plan implementation. Managed team that development of Natural Resources Inventory for examination of development proposals by local Environmental Conservation Board.

Zoning Amendments – Directed the team that researched local land use patterns and development trends, and identification of options for land protection and development strategies. Worked with Town staff and board members to shape improve existing conservation subdivision ordinance

Niagara Falls Underground Railroad Heritage Area Management Plan (HAMP), City of Niagara Falls, NY – Directed the team that researched existing economic and demographic conditions within Niagara County. Managed team that researched history of Underground Railroad that helped shape management strategies. The HAMP was authorized under Section 35.05 of the New York State Parks, Recreation, and Historic Preservation Law to identify and encourage heritage tourism opportunities related to Underground Railroad in the vicinity of Niagara Falls District.

Syracuse Metropolitan Transportation Council & Town of Clay, NY – Three Rivers Point Waterfront Access Study – Directed the team that provided planning and design services to determine best use for 75 acres of prime waterfront land located at the intersection of the Oswego, Seneca and Oneida Rivers. The property is an abandoned oil transfer station. In Phase 1, a conceptual master plan was developed to depict a mixed-use development. The plan also recommended public space and access to the water, along with a sensitive approach to the historic and cultural values of the Town and the site. As a result, the Town received funding to mitigate the Brownfield and demolish deteriorated buildings to make the site more attractive to investment.

Agricultural and Farmland Protection Plan, Tioga County, NY – Directed the EDR team that collaborated with Tioga County in the development of their Agriculture and Farmland Protection Plan. We designed and facilitated a community outreach plan with the goal of engaging local farmers, agricultural producers, and stakeholders in the local agricultural business. EDR developed, facilitated, and analyzed a SWOT (Strengths, Weaknesses, Opportunities, and Threats) exercise with farmers throughout the county, focusing on alternative energy opportunities, commerce and marketing, and public policy. With the community's direct input, and through targeted analysis, our findings and recommendations touched upon local land use regulations, regional policies in support of agricultural producers and businesses, marketing, economic development, and implementation procedures for the Agricultural and Farmland Protection Plan.

publications / presentations

Presenter, Onondaga County Planning Federation, McIntyre Commons: A Case Study in Brownfield Redevelopment, Community Character, and Environmental Integrity, March 5, 2015

Presenter, Onondaga County Planning Federation, Form-Based Zoning: A Creative Approach, March 13, 2014

Presenter, Onondaga County Planning Federation, Sustainable Land Use Planning & Resource Conservation Strategies, March 14, 2013

Panelist, GreeningUSA Green Bag Lunch Series, Sustainable Land Use Planning & Resource Conservation Strategies, 2013.

Presenter, Sustainable Community Planning, APA/ASLA Upstate NY Chapters Joint-Conference, Utica NY, September 2011.

Presenter, Land Use Planning Workshop, The Benefits of Sustainable Community Planning & Design, Jefferson Community College Center for Community Studies, 2011.

Land Use Training Workshop for Herkimer-Oneida Counties, Herkimer-Oneida Counties Comprehensive Planning Program, 2010.

Land Use Planning Workshop for Jefferson County, 2009.

Annual Planning Symposium for the Onondaga County Planning Federation, Syracuse, NY, 2008 and 2009.

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

Application of High Bridge Wind, LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction
of the High Bridge Wind Project Located in the Town
of Guilford, Chenango County.

Case No. 18-F-0262

PRE-FILED TESTIMONY OF
JASON P. RITZERT
RESEARCH BIOLOGIST/PROJECT MANAGER
WESTERN ECOSYSTEMS TECHNOLOGY, INC.

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

2 A: Jason P. Ritzert, Western Ecosystems Technology, Inc. (WEST), 1017 Mumma Road, Suite 103,
3 Lemoyne, Pennsylvania 17043.

4 **Q: What is your position at WEST?**

5 A: I am a Research Biologist/Project Manager.

6 **Q: How long have you been employed with WEST?**

7 A: I have been employed with WEST since 2008.

8 **Q: Please describe your educational background and professional experience.**

9 A: I have a Bachelor of Science in Environmental Sciences from Ferrum College, Ferrum, VA, and a
10 Master of Science in Biology from Eastern Kentucky University in Richmond, KY. I have 20 years of
11 experience as a wildlife biologist with specialties in avian and bat studies and wind energy. Over the
12 years, my responsibilities have included designing work plans and implementing avian studies,
13 including preconstruction surveys targeted at eagles, federal or state-listed species, breeding birds,
14 wintering grassland raptors, spring and fall raptor migration, and waterbirds/waterfowl, as well as
15 post-construction surveys. With respect to bats, I am a U.S. Fish and Wildlife Service (USFWS)
16 permitted bat biologist and Pennsylvania Qualified Indiana Bat Surveyor with extensive experience
17 working with bat species in the eastern U.S. Over the course of my career, this experience has
18 included habitat assessments, mist netting, harp trapping, acoustic bat studies, roost telemetry,
19 foraging telemetry, and post-construction monitoring. I have extensive experience with assessing the
20 impact of wind energy projects on avian and bat species, having completed or managed pre and/or
21 post-construction surveys at over 100 proposed or built wind energy projects across 16 states. I am
22 a member of various professional organizations, including the Ecological Society of America, Bat
23 Conservation International, the National Wind Coordinating Collaborative, and the American Wind

24 Energy Association. A copy of my resume is submitted as Exhibit ____ (JPR-PF1): Resume of Jason
25 P. Ritzert.

26 **Q: Please describe your current responsibilities with WEST.**

27 A: As a Research Biologist/Project Manager at WEST, I am responsible for conducting and overseeing
28 a wide range of wildlife studies, with a focus on assessing the impacts of wind energy facilities on
29 bird and bat species and habitat. In that capacity, I am responsible for developing study plans in
30 concert with various state agencies and USFWS regional/field offices, participating in and overseeing
31 study implementation, and drafting the final reports. I am also responsible for developing key
32 documents relating to wind projects, including Bird and Bat Conservation Strategies, Eagle
33 Conservation Plans, Eagle Management Plans, and Habitat Conservation Plans.

34 **Q: Have you previously testified before the New York State Public Service Commission or Siting
35 Board on Electric Generation?**

36 A: Yes. I testified before the Siting Board in conjunction with the Bluestone Wind Energy Facility
37 Application (Case No. 16-F-0559).

38 **Q: Have you previously served as an expert witness before any other court, agency, or other
39 body on the subject you plan to offer testimony on today?**

40 A: No.

41 **Q: What is the purpose and scope of your testimony in this proceeding?**

42 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

43 **Q: What portion(s) of the Application is your testimony sponsoring?**

44 A: Exhibit 22, Terrestrial Ecology and Wetlands (excluding wetlands). In support of the development of
45 Exhibit 22 (excluding wetlands), my testimony is sponsoring the following documents prepared by
46 WEST: Eagle Use Survey Report, Raptor Migration Survey Report, Breeding Bird Survey Report,

47 Raptor Nest Aerial Survey Memorandum, Avian Risk Assessment, Cumulative Impact Assessment,
48 Habitat Fragmentation Report, and the Net Conservation Benefit Plan.

49 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction**
50 **and supervision.**

51 A: Yes.

52 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or**
53 **documents produced by persons other than yourself/your company? If so, please cite these**
54 **sources. [These are independent studies, etc.]**

55 A: References are provided in the Exhibit and certain reports.

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

57 A: Yes.



Jason P. Ritzert, *Research Biologist/Project Manager*

PROFESSIONAL EXPERIENCE

2015-Present *Team Lead/Research Biologist*, Western EcoSystems Technology, Inc., Lemoyne, Pennsylvania
2008-2015 *Research Biologist/Project Manager*, Western EcoSystems Technology, Inc., Bloomington, Indiana
2008 *Field Technician*, Western EcoSystems Technology, Inc., Cheyenne, Wyoming
2007 *Biological Technician*, East Kentucky Power Cooperative, Winchester, Kentucky
2006 *Research Assistant*, Eastern Kentucky University, Richmond, Kentucky
2002-2005 *North Pacific Ground Fish Observer*, Saltwater Inc., Anchorage, Alaska
2001 *Biological Technician*, United States Forest Service, Hot Springs, Virginia
2000 *Research Assistant*, Ferrum College, Ferrum, Virginia
1999-2000 *Biological Technician*, General Scientific Corporation, California, Maryland

EDUCATION

M.S.
Eastern Kentucky University
Richmond, Kentucky
2010
Biology

B.S.
Ferrum College
Ferrum, Virginia
2002
Environmental Sciences

SCIENTIFIC ORGANIZATION MEMBERSHIPS

The Ecological Society of America
Bat Conservation International
The Society for the Study of Amphibians and Reptiles
National Wind Coordinating Collaborative
American Wind Energy Association

ADDITIONAL TRAINING AND WORKSHOPS

Airport Wildlife Hazard Management Training
Indiana DOT: CE and NEPA Training
Bat Study Techniques Workshop: special focus on the endangered Indiana bat

SPECIALTY AREAS

Wind Energy: Mr. Ritzert has a diverse biological background with extensive experience with wind energy development impacts to birds and bats in the Northeast, Mid-Atlantic, and Midwestern US. He has prepared agency reviewed/approved work plans to conduct pre- and post-construction wildlife surveys per the USFWS Wind-Energy Guidelines, USFWS Eagle Conservation Plan Guidance (ECPG), USFWS Indiana Bat/Northern Long-eared Bat Guidance, and NYSDEC wind-wildlife guidelines as well as follow-up reporting to meet survey objectives. These surveys include eagle use surveys, aerial and ground-based eagle/raptor nest surveys, breeding bird surveys, raptor migration surveys, waterfowl surveys, nocturnal radar surveys, general avian use surveys, winter grassland raptor surveys, mist-net surveys, bat acoustic surveys, habitat assessments (field and desktop for federally and state-listed species), and post-construction monitoring. Mr. Ritzert has completed or managed pre and/or post-construction surveys at over 50 proposed or built wind projects across 16 states.

Avian Studies: Mr. Ritzert has experience working with bald and golden eagles following the USFWS ECPG and designing various work plans to meet USFWS objectives as well as designing/implementing various avian work plans to survey for federally and state-listed avian species (northern harrier, upland sandpiper, Henslow's sparrow, and red-cockaded woodpecker) breeding bird surveys, wintering grassland raptor surveys, spring and fall raptor migration surveys following Hawk Migration Association of North America protocols, waterbird/waterfowl surveys, nocturnal playback surveys for owls, and post-construction surveys. In addition, Jason has developed the following documents for wind projects: Bird and Bat Conservation Strategies, Eagle Conservation Plans, and Eagle Management Plans.

Bat Studies: Mr. Ritzert is a USFWS permitted bat biologist as well as a Pennsylvania Qualified Bat Surveyor with extensive experience working with bat species in the eastern US. This includes habitat assessments for Indiana bat, northern long-eared bat, and eastern small-footed bat, mist-netting for bats, harp-trapping for bats, conducting acoustic bat studies (presence/absence surveys as well as passive bat acoustic monitoring), completing roost telemetry, completing foraging telemetry, emergence counts, and post-construction monitoring at proposed or constructed wind energy facilities.

Other Wildlife Species: Mr. Ritzert is an experienced project manager and biologist of other wildlife species that may be impacted by wind projects. These include Franklin's ground squirrel, ornate box turtle, green salamanders, Allegheny woodrat, slippershell mussel, and mudpuppy. He has completed habitat assessment and surveys to determine if these species will be directly or indirectly impacted by proposed wind projects.

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Case No. 18-F-0262

PRE-FILED TESTIMONY OF

KERI A. SCHWAGER

PROJECT ENGINEERING MANAGER III AND COMPLIANCE MANAGER,

CALPINE CORPORATION

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

2 A: Keri A. Schwager, Calpine Corporation (Calpine), 9311 Bay Area Boulevard, Pasadena, Texas
3 77507.

4 **Q: What is your position at Calpine?**

5 A: I am a Project Engineering Manager III and Compliance Manager for Calpine.

6 **Q: How long have you been employed with Calpine?**

7 A: I have been employed by Calpine since 2011.

8 **Q: Please describe your educational background and professional experience.**

9 A: I have a Bachelor of Science degree in Civil Engineering from the University of Illinois at
10 Champaign/Urbana. Since receiving my degree, I have overseen a wide variety of construction
11 projects for various entities, including Calpine. Over the years my responsibilities have included
12 preparing work packages, bid contracts, material requisitions and other similar documents; reviewing
13 design drawings and specifications to ensure they meet project requirements; preparing permit
14 applications and overseeing compliance with permit requirements; inspecting construction work for
15 compliance with drawings, specifications and codes; coordinating work among contractors,
16 subcontractors, vendors, consultants and clients; managing job sites to ensure safe work conditions;
17 and overseeing compliance with applicable codes, laws and regulations. A copy of my resume is
18 submitted as Exhibit ____ (KAS-PF1): Resume of Keri A. Schwager.

19 **Q: Please describe your current responsibilities with Calpine.**

20 A: As a Project Engineering Manager III and Compliance Manager for Calpine, I have overseen several
21 major construction projects for the company, including the recent demolition and repair of an 857
22 MW natural gas-fired three-on-one combined cycle power plant and its conversion to simple cycle
23 during the turbine repair. In that capacity, I managed contractors, purchase orders, scheduling and

24 insurance claim documentation. With respect to wind energy, I worked as a Project Engineering
25 Manager on Calpine's White Rock Wind Project, where I oversaw the installation of 23 turbine
26 foundation excavations and access roads. In addition to the responsibilities outlined in response to
27 the previous question, I have worked with Calpine insurance and risk consultants to ensure projects
28 are designed and constructed per company standards and applicable codes; coordinated and
29 managed owner supplied equipment contracts; and represented the site team in engineering-related
30 negotiations with clients, partners, suppliers, vendors, consultants and contractors, as necessary.

31 **Q: Have you previously testified before the New York State Public Service Commission or Siting**
32 **Board on Electric Generation?**

33 A: No. However, I submitted pre-filed testimony in conjunction with the Bluestone Wind Energy Facility
34 (Case No. 16-F-0559).

35 **Q: Have you previously served as an expert witness before any other court, agency, or other**
36 **body on the subject you plan to offer testimony on today?**

37 A: No.

38 **Q: What is the purpose and scope of your testimony in this proceeding?**

39 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

40 **Q: What portion(s) of the Application is your testimony sponsoring?**

41 A: Exhibit 12, Construction; Exhibit 18, Safety and Security.

42 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction**
43 **and supervision.**

44 A: Yes.

45 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or**
46 **documents produced by persons other than yourself/your company? If so, please cite these**
47 **sources. [These are independent studies, etc.]**

48 A: References are provided in Exhibits 12 and 18.

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

50 A: Yes.

Keri A. Schwager

Engineering Project & Construction Manager

AREAS OF EXPERTISE

Project Management

Construction Management

Power Generation

Safety / OSHA

Site Inspections

*Federal/State/Local
Permitting*

*Environmental Code
Compliance & Permits*

*International & Local
Building Codes*

NFPA

AISC/ASME/ASTM/API

CFR

*Storm Water Pollution
Prevention*

TECHNICAL SKILLS

Microsoft Office

AutoCAD

SmartPlant

SharePoint

Project Solve

Adobe Professional

PERSONAL SUMMARY

An enthusiastic, highly motivated, and competent individual who has a clear understanding of the role and responsibilities associated with engineering, construction, and project management. Having the ability to provide support for multiple concurrent priorities, Keri is able to establish, maintain and develop effective working relationships with construction management, design engineers, regulatory authorities, and craft personnel. She possesses a broad range of technical, personal effectiveness and leadership skills and uses rigorous logic and methods to come up with effective solutions to difficult problems. As someone who is comfortable with and able to effectively cope with change, she has a long track record of making the best use of any available resources and techniques.

CAREER HISTORY

Calpine Corporation 02/2011-Present
PROJECT ENGINEERING MANAGER III & COMPLIANCE MANAGER

Responsible for ensuring the design, construction, and installation of facilities to meet contract requirements, specifications, and applicable codes, laws and regulations while maintaining a safe work environment and staying within budget.

General Duties:

- Managed various multi-million dollar energy-related demolition/construction projects, including overseeing contractors, purchase orders, forecasts, scheduling and/or environmental and safety compliance.
- Assist in writing technical and commercial aspects of purchase agreements and EPC contracts.
- Revised the Calpine technical specifications for future projects to incorporate changes that resulted in change orders and additional costs in previous projects.
- Work directly with Calpine's insurance and risk consultants to ensure projects are designed and constructed per company standards and regulatory codes.
- Manage the review of EPC contractor deliverables.
- Coordinate submittals and RFIs with company engineering staff.
- Assist company engineering staff with reviews of EPC contractor design drawings, design standards and equipment specifications for constructability and value engineering.
- Work closely with construction team to ensure it has the latest drawings and specifications and provide expeditious responses to technical questions raised during construction.
- Coordinate and manage owner supplied equipment contracts.
- Respond to technical questions from regulatory agencies and resolve any interface problems relating to document reviews and site inspections.
- Support the development and updating of project schedules between contractors and company's own scheduler.
- Manage the job site to ensure safe work conditions and immediately correct any safety concerns identified.
- Provide technical review and offer commercial opinions to project manager on EPC contractor change orders requests.
- Represent the site team in engineering-related negotiations with clients, partners, suppliers, vendors, consultants and contractors as necessary.

PERSONAL DETAILS

Keri A Schwager
1200 Silo Bend Dr
Wentzville, MO 63385
M: 314-496-7290
E: kschwage@yahoo.com

REFERENCES – Available on request.

- Ensure projects are being engineered in compliance with the project design criteria (scope book), design standards and applicable codes and quality standards established for the project.
- Review and approve invoices prior to final approval by the Project Manager.
- Work with federal/state/local regulatory agencies on project required permits; file permit applications, attend meetings, and resolve technical issues.
- Ensure commissioning and turnover of systems and equipment meets contract and regulatory requirements.

Projects with Calpine Corporation:

Project Manager 2/2017 – 1/2018
Delta Energy Center, Dover, DE, Claim Value \$51 Million
Managed contractors, purchase orders, claim value, schedule and insurance claim documentation for project involving demolition and repair of an 857 MW (natural gas) fired three-on-one combined cycle power plant and conversion of plant to simple cycle during turbine repair.

Project Engineering Manager III 10/2016 – 1/2017
White Rock Wind, Anadarko, OK, Project Value \$1.1 Million
Managed project involving installation of a 23 turbine foundation excavations and access roads for production tax credit and future development.

Lead Project Engineering Manager III 09/2013 – 9/2016
Garrison Energy Center, Dover, DE, Project Value \$315 Million
Managed project involving installation of a 309 MW dual fuel (natural gas and ULSD) fired one-on-one combined cycle power plant.

Project Engineering Manager II & Compliance Manager 02/2011 – 09/2013
Los Esteros Critical Energy Facility, San Jose, CA, Project Value \$315 Million
Managed project involving conversion of an existing 188 MW natural gas-fired simple cycle to a 323 MW natural gas-fired four-on-one combined cycle electric generation facility.

The Shaw Group 04/2002-10/2002, 10/2003-05/2005, 11/2006-07/2010 **CONSTRUCTION ENGINEER III & PERMIT COORDINATOR**

Responsible for ensuring that the design, construction, and installation of projects met contract requirements, specifications, and applicable codes, laws and regulations.

Duties:

- Prepared work packages for field use, interpreted design-engineering drawings and prepared construction-working drawings for project superintendents and quality control.
- Inspected construction work for compliance with drawings, specifications, and codes.
- Prepared change control documents directed to the design engineers to address technical changes to the design.
- Prepared and filed permit applications, scheduled inspections, and ensured construction was performed in accordance with applicable codes, laws and regulations.
- Maintained revised, updated, and as-built drawings.
- Worked as the discipline coordinator for various subcontractors; assisted with technical issues/resolutions, reviewed drawings, approved invoices.
- Assisted project superintendents in planning construction methods, procedures, changes, and problem resolutions with assigned subcontractors.
- Prepared material requisitions for multiple disciplines to ensure all materials met site specifications.

Projects with The Shaw Group:

Construction Engineer III & Permit Coordinator 10/2008 – 07/2010
Harry Allen Combined Cycle, Las Vegas, NV, Contract Value \$400 Million
Assumed responsibilities of Lead Construction Engineer and Permitting Coordinator in conjunction with installation of a 500MW natural gas-fired two-on-one combined cycle electric generation facility.

Construction Engineer III 11/2006 - 10/2008
Allen Steam Station FGD Project, Belmont, NC, Contract Value: \$425 Million
Installation of a Flue Gas Desulphurization (FGD) system on five power-generating units.

Construction Engineer II 02/2004 - 05/2005
Marshall Steam Station FGD Project, Terrell, NC, Contract Value: \$425 Million
Installation of a FGD system on four power-generating units.

Construction Engineer I 10/2003 - 02/2004
Dresden Plant, Dresden, OH, Contract Value \$200 Million
Installation of a 580 MW natural gas-fired two-on-one combined cycle power plant.

Construction Engineer I 04/2002 - 10/2002
Mint Farm Generation Project, Longview, WA, Contract Value: \$200 Million
Installation of a 270 MW natural gas-fired one-on-one combined cycle power plant.

City of St. Louis – Airport Authority 05/2005-11/2006
PROJECT ENGINEER

Duties:

- Managed construction projects on the runways, taxiways, and ramp at Lambert St. Louis International Airport.
- Maintained communication between operations, the tower, construction firms, and design firms on work performed on and off the airfield.
- Worked with engineering firms on the design of construction projects.
- Reviewed design drawings and specifications to ensure all required criteria were incorporated.
- Prepared contracts for bid to construction firms.

InSite Construction Services 06/2003-10/2003
CONSTRUCTION INSPECTOR

Sprint 09/2000-04/2002
IMPLEMENTATION ENGINEER & PROPERTY SPECIALIST

ACADEMIC QUALIFICATIONS

University of Illinois- Champaign/Urbana, IL 1997 - 2000
BS Civil Engineering
Major – Environmental Engineering
Secondary – Hydrosystems Engineering

Engineer in Training – North Carolina 2008
A-24029

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

Application of High Bridge Wind, LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction
of the High Bridge Wind Project Located in the Town
of Guilford, Chenango County.

Case No. 18-F-0262

PRE-FILED TESTIMONY OF
KRYSTIAN SOKOLOWSKI, PE
SENIOR TRANSMISSION LINE ENGINEER,
MOTT MACDONALD GROUP

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

2 A: Krystian Sokolowski, Mott MacDonald Group (Mott MacDonald), 101 Station Drive, Suite 130,
3 Westwood, MA 02090.

4 **Q: What is your position at Mott MacDonald?**

5 A: I am a Senior Electrical Engineer.

6 **Q: How long have you been employed with Mott MacDonald?**

7 A: I have been employed by Mott MacDonald for a total of 8 years.

8 **Q: Please describe your educational background and professional experience.**

9 A: I have a Bachelor of Science in Computer Engineering from the Wentworth Institute of Technology
10 and a Master of Science in Electrical Engineering from Worcester Polytechnic Institute. I also
11 received a certificate in power systems management from Worcester Polytechnic Institute. I have 14
12 years of experience in engineering and design relating to power delivery, including the design of
13 overhead and underground transmission and collection lines and interconnections for conventional
14 and wind energy projects. My responsibilities included conducting preliminary and detailed
15 engineering and design for transmission lines, interconnections and tap structures, conducting
16 structure analysis per NESC requirements and preparing grounding and construction drawings and
17 scope documents for cost and estimation purposes. I am registered as a professional engineer in six
18 states, including New York. A copy of my resume is submitted as Exhibit ____ (KS-PF1): Resume
19 of Krystian Sokolowski.

20 **Q: Please describe your current responsibilities with Mott MacDonald.**

21 A: As a Senior Electrical Engineer, my responsibilities include participating in the selection and
22 evaluation of structures, preparing scoping documents, EMF calculations, drawings and associated

23 bills of materials, and conducting field inspections. Additionally, I am responsible for the design and
24 engineering of collector and point of interconnection substations.

25 **Q: Have you previously testified before the New York State Public Service Commission or Siting**
26 **Board on Electric Generation?**

27 A: No. However, I have submitted pre-filed testimony in conjunction with the Bluestone Wind Energy
28 Facility (Case No. 16-F-0559) and Deer River Wind Farm (Case No. 16-F-0267).

29 **Q: Have you previously served as an expert witness before any other court, agency, or other**
30 **body on the subject you plan to offer testimony on today?**

31 A: No.

32 **Q: What is the purpose and scope of your testimony in this proceeding?**

33 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

34 **Q: What portion(s) of the Application is your testimony sponsoring?**

35 A: Exhibit 34, Electrical Interconnection and Exhibit 35, Electric and Magnetic Fields.

36 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction**
37 **and supervision.**

38 A: Yes.

39 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or**
40 **documents produced by persons other than yourself/your company? If so, please cite these**
41 **sources. [These are independent studies, etc.]**

42 A: References, if any, are provided in Exhibits 34 and 35.

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

44 A: Yes.

Summary Resume



Krystian Sokolowski, PE
Senior Transmission Line
Engineer

Personal summary

Education:

BS in Computer Engineering,
Wentworth Institute of Tech
Power Systems Management,
Worcester Polytechnic
Institute

M.S. Electrical Engineering,
Worcester Polytechnic
Institute

Registrations:

Professional Engineer
MA #49226, 2011
NH #13893, 2012
NY #93589, 2014
RI #PE0011049, 2013
ME #PE 15265, 2017
VT #PE 018.0134182, 2018

Languages:

Polish
English

Years in practice:

14

Mr. Sokolowski is a Senior Transmission Line Engineer whose primary area of expertise is in engineering and design associated with the field of Power Delivery. Proficient with the design of overhead power lines from 13.2kV through 500kV in the U.S. and Europe, he has conducted field inspections, participated in the selection and evaluation of structures and structure spotting, prepared scope documents, drawings and associated bills of materials. He prepares drawings and documents for new construction, refurbishment of existing assets, and reconducting of power lines. Involved with the development of structure standards using 3-D technology, and the development of new software ideas to interactively generate detailed drawings and associated bills of material, complete with a fit check of parts and clearance to neighboring parts, and to improve to the quality and clarity of the drawings.

Mr. Sokolowski is experienced with the engineering and design of wind energy projects, especially in the design of the transmission interconnection and collector system (overhead and underground). He has managed and executed multiple transmission lines for National Grid in Massachusetts, Rhode Island, and New York.

Selected projects

Mount Signal 3 Solar, CA - Mortenson: Detailed design of 230/34.5KV collector substation, provided construction support, evaluated bid documents. Prepared the physical design of the electrical equipment. Performed ground grid, bus calculation, lightning, and lighting studies and prepared reports.

Stillwater 2, CA - Mortenson: Detailed design of 63/34.5KV collector substation, 63kV metering station, provided construction support, evaluated bid documents. Prepared the physical design of the electrical equipment. Performed ground grid, bus calculation, lightning, and lighting studies and prepared reports.

Kibby Wind Park, ME - TransCanada: Detailed design of 35KV collector system, provided construction support, evaluated bid documents. Collector pole structure analysis per NESC, Sag-Tension design and overhead cables as required, collector grounding, collector pole spotting, collector design and construction drawings.

Longview 500kV Transmission/Substation Design, WV - GenPower: Owners Engineer work for 500kV design. Responsible for checking all transmission associated design and drawings for the EPC contractor.

Bliss Wind Park, NY - Noble Environmental Power: Detailed design of 35KV collector system, provided construction support, evaluated bid documents. Collector pole structure analysis per NESC, Sag-Tension design and chart development for spacer cable, Cable de-rating for underground and overhead cables as required, collector grounding, collector pole spotting, collector design and construction drawings.

Clinton Wind Park, NY - Noble Environmental Power: Detailed design of 35KV collector system, provided construction support, evaluated bid documents. Collector pole structure analysis per NESC, Sag-Tension design and chart development for spacer cable, Cable de-rating for underground and overhead cables as required, collector grounding, collector pole spotting, collector design and construction drawings.

Altona Wind Park, NY- Noble Environmental Power: Detailed design of 35KV collector system, provided construction support, evaluated bid documents. Collector pole structure analysis per NESC, Sag-Tension design and chart development for spacer cable, Cable de-rating for underground and overhead cables as required, collector grounding, collector pole spotting, collector design and construction drawings.

Allegany Transmission Line, NY- Noble Environmental Power: Provided engineering and support for licensing this new 5-mile 115kV transmission line. Engineered and designed a 115 kV transmission line using PLS-CADD.

MATEP, MA - Advanced Energy: Provided engineering in support of licensing. Preliminary engineering and design for the interconnections of a power plant output to multiple 115 kV and 345 kV transmission lines using 3-D graphical representation of the entire interconnection, substation and lines for presentation to regulating agencies.

Duley & Ryan Substations, NY - Noble Environmental Power: Designed 230kV interconnecting taps for both substations. Provided engineering support during construction. Assisted with engineering and design of the substation yard.

115kV and 230kV Transmission Lines, NY: Supported the preliminary review of reconductoring of 10 115kV lines, a total of approximately 130 circuit miles, evaluated each line using ACSS, ACCR, and ACCC conductors, and analyzed approximately 31 steel lattice tower types. Additional scope included installing a new 230kV transmission line approximately 32 circuit miles, and rebuilding three 115kV transmission lines approximately 27 circuit miles. All lines require an EMF study and detailed scope of work. Tasks include managing a team of 11 employees and the duration of the project was approximately 4 months of engineering.

WP1 230kV Transmission Tap, NY - NYPA: Preparation of construction documents. Responsible for engineering the complete layout and design of the looped tap into the Ryan Switchyard. Designed tap structures in accordance with client, regional, and NESC standards. Analysis of various aspects of the transmission line using PLS CADD.

WP2 230kV Transmission Tap, NY - NYPA: Preparation of Construction Documents. Responsible for engineering the complete layout and design of the looped tap into the Duley Switchyard. Designed tap structures in accordance with client, regional, and NESC standards. Analysis for various aspects of the transmission line using PLS CADD.

O15S 69kV Transmission Line, MA: Detailed design of a 69 kV transmission line, approximately 3.5 miles, using spacer cable construction supported on steel structures. Supported permitting, an environmental study, and alternative option studies. The design included non-standard structure design, steel pole specification, and foundation design.

Cabot Tap Separation 115 kV Transmission Line, MA: Provided preliminary and detailed engineering design services to separate existing double circuit 115 kV transmission lines sharing double-circuit lattice towers onto new independent single circuit steel structures. Supported permitting, an environmental study, and alternative option studies. The design included non-standard structure design, steel pole specification, and foundation design.

Transmission Line North America Electric Reliability Corporation (NERC) Compliance Project, MA: Prepared weekly update reports, managed project schedule and budget, completed assessment of existing PLS-CADD™ models, and prepared report including solutions to resolve clearance violations. Mr. Sokolowski performed field inspections of transmission lines to confirm all sub-standard spans pre determined in the early phases in PLS-CADD™ as well as line analysis to determine the maximum conductor temperature in which the conductor can run to eliminate sub-standard vertical clearances. He prepared and reviewed material and design packages for construction, provided construction support, and prepared as-built packages and project closeouts.

Y177 115 kV Refurbishment, MA: Provided preliminary engineering and detailed design for the refurbishment of 25.8 mile 115 kV transmission line. The design included structure outline drawings, hardware assembly drawings, bills of material, and steel pole specification based on client, regional, and NESC requirements.

Q143S and R144 115 kV Refurbishment, RI: Provided preliminary engineering and detailed design for the refurbishment of two 115 kV transmission lines, each 11.5 miles in length. The design included structure outline drawings, hardware assembly drawings, bills of material, and steel pole specification based on client and NESC requirements.

L164 Reconductoring Project, MA: Prepared construction documents associated with the reconductoring of a 3.5-mile transmission line. Engineered structure modifications and replacement structures in accordance with client, regional, and NESC standards using PLS-CADD™.

National Grid, Syracuse, NY: Reconductoring, relocating, and replacing existing 13.8 kV, 23kV, 34.5 kV, 69kV and 115kV lines and associated wood-pole and steel structures. Participated in the field inspection of the line, evaluated replacement structures, prepared scope document, and prepared document and drawings for construction issue. Prepared plan and profile drawings using PLS-CADD. Prepared STORMS Work Request.

National Grid, Westborough, MA: Reconductoring, relocating, and replacing existing 13.8 kV, 23kV, 34.5 kV, 69kV and 115kV lines and associated wood-pole structures. Participated in the field inspection of the line, evaluated replacement structures, prepared scope document, and prepared document and drawings for construction issue. Prepared plan and profile drawings using PLS-CADD. Prepared PeopleSOFT Work Request.

National Grid, Westborough, MA: Developed and supported interactive 3-D models and a relational database (transmission structures and parts). Transmission Structure Standards 69 through 345kV: Modelled and investigated legacy parts and new policy parts to be used in new engineering and construction standards. Participated in the development of new standard structures and concepts based on client, regional, and NESC standards. Assembled dimensioned structures, checked clearances, part compatibility, and fit. Generated bill of materials and dimensioned drawings ready for construction.

Relay Protection and Control - National Grid: Work involved 13.8kV through 230kV relay protection and control projects for substations and transmission lines. Provided preliminary engineering and prepared scope documents for cost and estimation purposes. Developed protection and control relay design brief documents along with protective relaying descriptions, relay input/output schedules, relay lists and protective one lines. Performed power system fault analyses using ASPEN one-line program and generated relay coordination curves.

Sentinel Power Plant Project, CA – Competitive Power Ventures: Detailed design of 800MW power plant. Work included specifying, reviewing and recommending electrical distribution equipment for purchase. Detail design of the ground grid. Analyzed cable de-rating and voltage drop for direct buried cable.

Fair Haven Power Plant, VT: Provided engineering in support of permitting. Preliminary engineering and design for the interconnections of a power plant output to 115 kV transmission lines. This design was presented to regulating agencies using 3-D graphical representation of the entire interconnection, substation and existing lines.

Ansonia Power Plant, CT: Provided Engineering in support of LGIA. Preliminary engineering and design for the interconnections of a power plant to the United Illuminating Company 115 kV Substation.

Ivanpah Solar Project, CA - Klondyke Construction: Detailed design of overhead and underground 33KV & 115KV transmission line. Transmission line structure analysis per NESC, Sag-Tension design, underground layout design, overhead layout design, structure grounding and construction drawings. Analyzed cable de-rating and voltage drop for direct buried cable.

NEW YORK STATE BOARD ON ELECTRIC
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Application of High Bridge Wind, LLC for a
Certificate of Environmental Compatibility and
Public Need Pursuant to Article 10 for Construction
of the High Bridge Wind Project Located in the Town
of Guilford, Chenango County

Case No. 18-F-0262

PRE-FILED TESTIMONY OF
WILLIAM WHITLOCK
VICE PRESIDENT DEVELOPMENT
CALPINE CORPORATION

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

2 A: William Whitlock, Calpine Corporation (Calpine), 717 Texas Street, Houston TX 77002.

3 **Q: What is your position at Calpine?**

4 A: I am a Vice President of Development at Calpine.

5 **Q: How long have you been employed by Calpine?**

6 A: I have been employed by Calpine since 2015.

7 **Q: Please describe your educational background and professional experience.**

8 A: I received a Bachelor of Arts degree in history and German from Tufts University in Medford,
9 Massachusetts, and was a graduate of the Advanced Management Program at the University of
10 Chicago Booth School of Business. I have more than 17 years of experience in the energy industry,
11 focused almost exclusively on wind energy development. Over my career, I have participated in or
12 overseen the development of several dozen wind energy projects generating or potentially
13 generating thousands of megawatts of wind energy in the eastern and central United States. Before
14 joining Calpine in 2015, I worked for several wind/renewable energy developers where I shepherded
15 projects through the various stages of development, including land acquisition, project development,
16 permitting, construction, interconnection, and operation. A copy of my resume is submitted as Exhibit
17 ____ (WW-PF1): Resume of William Whitlock.

18 **Q: Please describe your current responsibilities with Calpine.**

19 A: I am responsible for overseeing the company's business development, strategy and execution
20 relating to wind energy projects. I manage a 12-member cross-functional team responsible for
21 advancing 15 wind energy projects across the country to the construction-ready stage. I also
22 originated and managed the successful acquisition of more than 200 MW of wind energy projects.
23 As Vice President for Development, I report directly to the Executive Vice President of Commercial

24 Operations for Calpine, provide regular updates to senior Calpine management regarding portfolio
25 advancement and market trends, and collaborate with Government Regulatory Affairs on policy
26 initiatives, stakeholder outreach and market development activities.

27 **Q: Have you previously testified before the New York State Public Service Commission or Siting
28 Board on Electric Generation?**

29 A: I submitted written testimony in conjunction with the Bluestone Wind Energy Facility (Case No. 16-
30 F-0559).

31 **Q: Have you previously served as an expert witness before any other court, agency, or other
32 body on the subject you plan to offer testimony on today?**

33 A: No.

34 **Q: What is the purpose and scope of your testimony in this proceeding?**

35 A: To sponsor certain portions of the High Bridge Wind Energy Project Application or the Exhibits
36 thereto.

37 **Q: What portion(s) of the Application is your testimony sponsoring?**

38 A: Exhibit 14, Cost of Facilities, and Exhibit 27, Socioeconomic Effects (limited to project-related costs).

39 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction
40 and supervision.**

41 A: Yes.

42 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or
43 documents produced by persons other than yourself/your company? If so, please cite these
44 sources. [These are independent studies, etc.]**

45 A: See Exhibits 14 and 27 for any references.

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

47 A: Yes.

billwhitlock120@gmail.com

William Whitlock
(832) 707-1222

Houston, TX

SUMMARY

- Senior energy executive with extensive wind energy project development experience. Work background includes successful business growth through both greenfield development and M&A
- Substantial experience in managing multi-disciplinary teams, analyzing markets, devising platform strategies, acquiring governmental approvals, negotiating commercial agreements, managing due diligence activities, creating and managing project budgets & schedules and managing large cross functional teams.
- Exceptional problem-solver with keen ability to resolve complex issues by defining and executing a clear and effective strategy.

PROFESSIONAL EXPERIENCE

Calpine <i>Vice President Development</i>	2015-Present	Houston, TX
<ul style="list-style-type: none">• Responsible for overseeing the business development, strategy and execution nationally, including identifying new greenfield project opportunities, originating M&A opportunities that resulted in advancing 1,300 MWs to construction-ready status within 36 months• Managed 12 member cross functional team including engineering, estimating, construction, finance, legal, land and tax responsible for advancing 15 projects ERCOT, PJM, MISO, SPP, NYISO and NE into construction ready stage resulting in authorization to secure a significant quantity of PTC qualifying components• Sourced multiple wind opportunities and directed market penetration strategies while supervising staff in the identification, evaluation, acquisition, permitting and development of projects• Originated and managed M&A effort leading to successful acquisition totaling 200 MW of projects• Responsible for \$8 million annual development and G&A budget• Direct Report to EVP of Commercial Operations• Provided regular market updates to Senior Calpine Management regarding portfolio advancement and market trends• Collaborated with Governmental Regulatory Affairs on policy initiatives, stakeholder outreach and market development activities including direct lobbying efforts		
EDP Renewables <i>Executive Vice President for Eastern Region</i>	2007 - 2015	Houston, TX
<ul style="list-style-type: none">• Direct Report to CEO• P&L responsibility for 2.2 GW of operational projects as well as overall responsibility of 5 GW development pipeline in NY, NE, PJM and SERC• Significant operational experience with multiple OEM's including GE, Vestas, Nordex/Acciona and Siemens Gamesa• Responsible for devising and leading Eastern region platform strategy• Led the successful permitting effort for over 3 GW of wind across multiple jurisdictions including New York, Illinois, Indiana, Maine and Ohio• Managed the execution of over 3.5 GW of EPC contracts across multiple RTO's including PJM, NYISO, ISO-NE and MISO• Responsible for the execution of multiple Turbine Supply Agreements with Tier-I OEM's• Led a team of 20 developers (direct reports) and also managed multiple cross functional teams• Oversaw the Origination activities of the region and signed over 2 GW of long term PPA's with Utilities and various Fortune 100 Corporations		
Horizon Wind Energy <i>Director of Development</i>	2005-2007	Houston, TX
<ul style="list-style-type: none">• Strategy-managed Great Lakes Region (PJM and MISO)• Oversaw development of 2,000MW pipeline across Illinois, Ohio and Indiana• Achieved commercial operation of 500 MW of wind projects• Responsible for all development activities including permitting, interconnection and origination		

Zilkha Renewable Energy
Senior Project Manager

2001-2005

Houston, TX

- Oversaw the development of 800MW pipeline in PJM
- Land acquisition and permitting
- Interconnection
- Site identification
- Lead developer on Twin Groves I and II which was the recipient of the Illinois Chamber of Commerce's Project of the Year Award

EDUCATION

Tufts University Class of 1985 Medford, MA
BA – History and German

University of Chicago Booth School of Business Class of 2013 Chicago, IL
Advanced Management Program

REPRESENTATIVE TRANSACTIONS

<u>Project</u>	<u>Region</u>	<u>Close</u>	<u>Size</u>
• Twin Groves I (IL)	PJM	2007	198 MW
• Twin Groves II (IL)	PJM	2008	198 MW
• Top Crop I (IL)	PJM	2009	102 MW
• Top Crop II (IL)	PJM	2009	198 MW
• Meadow Lake I (IN)	PJM	2009	200 MW
• Meadow Lake II (IN)	PJM	2009	99 MW
• Rail Splitter (IL)	MISO	2009	100 MW
• Meadow Lake III (IN)	PJM	2010	104 MW
• Meadow Lake IV (IN)	PJM	2010	99 MW
• Timber Road II (OH)	PJM	2011	99 MW
• Marble River (NY)	NYISO	2013	215 MW
• Headwaters (IN)	PJM	2014	200 MW
• Jericho Rise (NY)	NYISO	2016	78 MW
• Arkwright (NY)	NYISO	2018	78 MW
• Kaiser Creek (TX)	ERCOT	2018	100 MW
• Horizon Hill (OK)	SPP	2019	200 MW
• White Rock West (OK)	SPP	2019	100 MW
• Kaiser Creek 2 (TX)	ERCOT	2019	200 MW
• White Rock East (OK)	SPP	2020	200 MW
• Bluestone	NYISO	2020	124 MW

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Case No. 18-F-0262

PRE-FILED TESTIMONY OF
STEVEN D. WILKINSON, P.E.
SENIOR PROJECT MANAGER
FISHER ASSOCIATES, P.E., L.S., L.A., D.P.C.

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

2 A: Steven D. Wilkinson, Fisher Associates, P.E., L.S., L.A., D.P.C. (Fisher), 180 Charlotte Street,
3 Rochester, New York 14607.

4 **Q: What is your position at Fisher?**

5 A: Senior Project Manager.

6 **Q: How long have you been employed with Fisher?**

7 A: I have been employed by Fisher since January of 2006.

8 **Q: Please describe your educational background and professional experience.**

9 A: I received a Bachelor of Science degree in Civil Engineering Technology from the Rochester Institute
10 of Technology and am a licensed professional engineer in New York. I have more than 20 years of
11 experience in civil/site design, stormwater analysis and permitting and transportation design. A copy
12 of my resume is submitted as Exhibit ____ (SDW-PF1): Resume of Steven D. Wilkinson.

13 **Q: Please describe your current responsibilities with Fisher.**

14 A: In my current capacity at Fisher, my practice is focused on the civil/site design issues relating to wind
15 energy development, including turbines, laydown yards and substations. I am also responsible for
16 roadway design along the access roads and public roads required to design and maintain wind
17 turbines and ancillary facilities and for the preparation of studies to assess the impact of construction
18 and operation of wind projects on roads and traffic.

19 **Q: Have you previously testified before the New York State Public Service Commission or Siting
20 Board on Electric Generation?**

21 A: No. However, I submitted pre-filed testimony in conjunction with the Article 10 Application for the
22 Bluestone Wind Energy Facility (Case No. 16-F-0559), Number 3 Wind Energy Facility (Case No.
23 16-F-0328), Baron Winds Facility (Case No. 15-F-0122), Deer River Wind Farm (Case No. 16-F-

24 0267), Eight Point Wind Energy Facility (Case No. 16-F-0062) and Galloo Island Wind Energy Facility
25 (Case No. 15-F-0327).

26 **Q: Have you previously served as an expert witness before any other court, agency, or other
27 body on the subject you plan to offer testimony on today?**

28 A: No.

29 **Q: What is the purpose and scope of your testimony in this proceeding?**

30 A: To sponsor certain portions of the High Bridge Wind Project Application or the Exhibits thereto.

31 **Q: What portion(s) of the Application is your testimony sponsoring?**

32 A: Exhibit 11, Preliminary Design Drawings; Exhibit 21, Geology, Seismology and Soils (construction-
33 related issues only); Exhibit 23, Water Resources and Aquatic Ecology (Stormwater Pollution
34 Prevention Plan and Spill Prevention, Control and Countermeasures Plan); and Exhibit 25: Effect on
35 Transportation (excluding aviation).

36 **Q: Were these Exhibits, Application sections, or studies prepared by you or under your direction
37 and supervision.**

38 A: Yes.

39 **Q: In your testimony, will you refer to, or otherwise rely upon, any studies, publications, data or
40 documents produced by persons other than yourself/your company? If so, please cite these
41 sources.**

42 A: References, if any, are provided in the corresponding Exhibits and Plans.

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

44 A: Yes.

Steven Wilkinson, P.E.

Senior Project Manager



P: (585) 334-1310 x282
E: swilkinson@fisherassoc.com

Education

B.S., Civil Engineering, 1998
Rochester Institute of Technology

Years of Experience

20

Registration

Professional Engineer:

- New York
- Colorado
- Indiana
- North Carolina
- North Dakota
- Oregon
- South Dakota
- Texas
- Washington

Affiliations

- AWEA

Areas of Specialization

- Hydrologic Studies
- Stormwater Quantity & Quality Control
- Erosion & Sediment Control
- Highway Crossing Permits
- Wetland Permits
- Utility Permits and Extensions
- U.S. Corps of Engineer Joint Permits
- Site Development

Steve Wilkinson, P.E. has a diverse background that includes civil/site design, storm water analysis & permitting, and transportation design. Wind Power projects are a unique combination of civil/site design around the turbines, laydown yards, and substation; storm water analysis & permitting for the entire project; and roadway design along the access roads and public roads. The following is a brief summary of select projects in New York. Additional New York projects, projects from other States, and references can be provided upon request.

Project Experience

Jericho Rise Wind Farm, New York: Mr. Wilkinson is the Project Manager for the Civil Engineering and Survey of this 80 MW project in northern New York. This project had a fast track schedule and Steve mobilized multiple teams to complete the design, storm water analysis, and NYS DOT permitting in a short time frame.

Arkwright Wind Farm, New York: Mr. Wilkinson is the Project Manager for the Civil Engineering of this 80 MW wind farm in the Town of Arkwright, New York. The project area has a significant number of wetlands and Steve provided optimized access road and collection layout options to minimize impacts, while also keeping constructability in mind. He also managed the Survey, Geotechnical, and Foundation design contracts for the project.

Ball Hill Wind Farm, New York: Mr. Wilkinson is the Project Manager for the Civil Engineering of this 120 MW wind farm in Chautauqua County, New York.

Number 3 Wind Farm, New York: Mr. Wilkinson is the Project Manager for the Civil Engineering of this 100 MW wind farm in Lewis County, New York. This project is in the preliminary stages preparing for an Article 10 submission.

Alabama Ledge Wind Farm, New York: Mr. Wilkinson has provided Civil Engineering services for this 80 MW wind farm in Genesee County, New York.

Horse Creek Wind Farm, New York: Mr. Wilkinson was the Project Engineer for the Preliminary Design of this 100 MW wind farm in the Town of Clayton, New York. He quickly mobilized a team for the horizontal and vertical alignments of 14 miles of access roads as well as the SWPPP to accompany the SDEIS. He balanced the cut/fill volumes for the project and minimized the wetland impacts. This was all completed in 2 short months through the end of the year holiday period. Of particular note was that the SWPPP for the project was required to follow the new NYSDEC regulations which were substantially more challenging than previous regulations and required the assessment of new "Green Practices" for approval.

Preliminary Engineering Term Agreement: Mr. Wilkinson led the engineering on several of the projects for this Preliminary Engineering Term Agreement. Fisher Associates was provided project layouts (10 projects to date) and was tasked with conducting constraint analyses, developing optimized access roads, collection corridor layout, drainage design, transportation plan, and preliminary engineering plans.

Attachment 2

HIGH BRIDGE WIND PROJECT – SERVICE LIST

Case No. 18-F-0262, Application of High Bridge Wind LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct an Approximately 100 MW Wind Powered Electric Generating Facility Located in the Town of Guilford, Chenango County, New York.

NAME & ADDRESS	NUMBER OF COPIES
<p>Hon. Kathleen H. Burgess Secretary to the Siting Board Empire State Plaza Agency Building 3 Albany, NY 12223-1350</p>	<p>10 paper copies</p>
<p>Basil Seggos, Commissioner ATTN: Michael Higgins, Division of Environmental Permits NYS Department of Environmental Conservation 625 Broadway Albany, NY 12233</p>	<p>1 paper copy 1 CD</p>
<p>Matt Marko, Regional Director NYSDEC Region 7 615 Erie Blvd. West Syracuse, NY 13204-2400</p>	<p>1 paper copy 1 CD</p>
<p>Thomas McGuire, Office of General Counsel NYS Department of Environmental Conservation 625 Broadway Albany, NY 12233</p>	<p>1 paper copy 1 CD</p>
<p>Brianna Denoncour, Bureau of Ecosystem Health NYS Department of Environmental Conservation 625 Broadway Albany, NY 12233</p>	<p>1 CD</p>
<p>Howard A. Zucker, Commissioner NYS Department of Health ATTN: Richard Thomas, Counsel’s Office Corning Tower, Empire State Plaza Albany, NY 12237</p>	<p>1 abridged paper copy 1 CD</p>
<p>Richard Kauffman, Chair NYSERDA ATTN: Peter Keane, Deputy General Counsel 17 Columbia Circle Albany, NY 12203</p>	<p>1 abridged paper copy 1 CD</p>

HIGH BRIDGE WIND PROJECT – SERVICE LIST

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<p>Kelly Tyler NYSERDA 17 Columbia Circle Albany, NY 12203</p>	<p>1 abridged paper copy 1 CD</p>
<p>Howard Zemsky, Commissioner NYS Department of Economic Development 625 Broadway Albany, NY 12245</p> <p>Howard Zemsky, Commissioner ATTN: Vincent Ravaschiere, Sr. Vice President, Energy and Incentives Empire State Development 633 Third Avenue, 36th Floor New York, NY 10017</p>	<p>1 abridged paper copy 1 CD</p> <p>1 abridged paper copy 1 CD</p>
<p>George Seneck, Supervisor Town of Guilford 223 Marble Road Guilford, NY 13780</p>	<p>1 paper copy</p>
<p>Chenango County Lawrence Wilcox, Chairman of the Board of Supervisors RC Woodford, Clerk of the Board 5 Court Street Norwich, NY 13815</p>	<p>1 CD</p>
<p>Richard Ball, Commissioner NYS Department of Agriculture and Markets ATTN: Tara Wells 10B Airline Drive Albany, NY 12235</p>	<p>1 CD</p>
<p>Rossana Rosado, Acting Secretary of State NYS Department of State ATTN: Erin Hogan Director, Utility Intervention Unit 99 Washington Avenue Suite 640 Albany, NY 12231</p>	<p>1 CD</p>

HIGH BRIDGE WIND PROJECT – SERVICE LIST

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<p>Letitia James Office of the Attorney General The Capitol Albany, NY 12224-0341</p>	<p>1 electronic copy¹</p>
<p>Matthew Driscoll, Commissioner NYS Department of Transportation ATTN: Scott Prividera 50 Wolf Road Albany, NY 12232</p>	<p>1 flash drive</p>
<p>Rose Harvey, Commissioner ATTN: Diana Carter NYS Office of Parks, Recreation, and Historic Preservation 625 Broadway Albany, NY 12207</p> <p>John Bonafide Director, Technical Preservation Services Bureau NYS Office of Parks, Recreation, and Historic Preservation Division for Historic Preservation Peebles Island State Park P.O. Box 189 Waterford, NY 12188-0189</p>	<p>1 CD</p> <p>1 CD</p>
<p>Guernsey Memorial Library 3 Court Street Norwich, NY 13865</p>	<p>1 paper copy</p>
<p>Oxford Memorial Library 8 Ford Hill Oxford, NY 13830</p>	<p>1 paper copy</p>
<p>Gilbertsville Free Library 17 Commercial Street Gilbertsville, New York 13776</p>	<p>1 paper copy</p>
<p>Guilford Town Hall [Repository Copy] 223 Marble Road Guilford, NY 13780</p>	<p>1 paper copy</p>

¹ Per direct agency instructions.

HIGH BRIDGE WIND PROJECT – SERVICE LIST

Case No. 18-F-0262, Application of High Bridge Wind LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct an Approximately 100 MW Wind Powered Electric Generating Facility Located in the Town of Guilford, Chenango County, New York.

Hon. Erika Bergen Hon. James Costello Administrative Law Judges Office of Hearings and Alternative Dispute Resolution NYS Department of Public Service 3 Empire State Plaza Albany, NY 12223	2 paper copies
Hon. Daniel O'Connell Administrative Law Judge Office of Hearings and Mediation Services NYS Department of Environmental Conservation 625 Broadway, First Floor Albany, NY 12233-1550	1 paper copy

Attachment 3

THE NORWICH PENNYSAVER

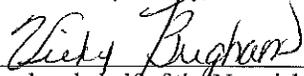
NORWICH, NY 13815

Gregory Liberman
41 State St., Suite 401
Albany, NY 12207

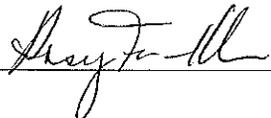
DATE: 07/16/19
ACCT: LIBGRE

DESCRIPTION	AMOUNT
96" ad High Bridge Wind Project	
DATES	
07/16/19	
TOTAL	<u>\$ 552.00</u>

The display ad copy of which this affidavit is annexed was published 1 day(s) successfully in The Pennysaver a advertising publication produced in Norwich, New York and the display ad was first so published on the 16th day of July, 2019 and was so last published on the day of 16th day of July, 2019.


Signed on behalf of the Norwich Pennysaver

Sworn to before me this 1st day of
August, 20 19


Notary Public.

AMY FRANKLIN
Notary Public - State of New York
No. 01FR6283716
Qualified in Chenango County
My Commission Expires June 3, 2021

High Bridge Wind Project Chenango County, New York

NOTICE OF SUBMISSION OF APPLICATION

High Bridge Wind, LLC ("High Bridge" or "Applicant") is proposing to construct a major wind electric generating facility up to 100.8 megawatts (MW) in size in the Town of Guilford, Chenango County, New York ("High Bridge Wind Project" or "Facility"). Under Article 10 of the Public Service Law, the Applicant must obtain a Certificate of Environmental Compatibility and Public Need from the New York State Board on Electric Generating Siting and the Environment ("Siting Board") pursuant to Article 10 of the Public Service Law and the Siting Board's rules (16 NYCRR Part 1000). This notice announces that on or about July 23, 2019, the Applicant will file an Application pursuant to 16 NYCRR 1000.6 seeking a Certificate from the Siting Board authorizing the construction and operation of the Facility under Article 10.

The Facility is a proposed wind-powered electric generation project consisting of up to 25 wind turbines generating up to 100.8 megawatts (MW) of electricity to be located in the Town of Guilford, Chenango County. The Facility will include wind turbines, access roads, electrical collection lines, a collection substation (which includes battery storage), a point of interconnection (POI) substation, a short overhead transmission line, permanent meteorological towers, an operation and maintenance (O&M) facility, a concrete batch plant and laydown area(s). Ownership of the POI substation will be transferred to New York State Electric and Gas (NYSEG) upon completion.

The Facility is a zero-emission wind energy facility that will assist the State in meeting the goals of the State Energy Plan, which include obtaining 50% of energy generation from renewable sources by 2030 and significantly reducing greenhouse gas emissions. Other positive impacts of the Facility include diversification of energy supplies, introduction of an innovative battery storage component, new employment opportunities (both temporary construction employment and full-time jobs), and increased revenues to County and local tax bases, payments to the local hospitality industry, and purchase of local supplies and goods. In addition, the Applicant has attempted to minimize impacts to land associated with the Facility by limiting the disturbance to forested lands and wetlands to the maximum extent practicable. However, the construction and operation of the Facility may result in minor environmental impacts as more fully described in the Application, including, but not limited to: impacts on terrestrial ecology, including avian and bat species; minor impacts to forested land, wetlands and agricultural lands; and impacts to people, including noise, traffic and visual impacts.

Pursuant to the Article 10 process, the Applicant filed a Preliminary Scoping Statement (PSS) on January 24, 2019 with the Siting Board. After the public comment period on the PSS concluded, the Applicant prepared a reply to material comments that was submitted on March 21, 2019. On March 20, 2019, a pre-application conference to consider intervenor funding requests was held and the scoping stipulation process was ordered to commence. The Applicant is now ready to file an Application. The Applicant also intends to submit a request for a Water Quality Certification (WQC) under Section 401 of the Federal Clean Water Act. The WQC is necessary to obtain a permit from the U.S. Army Corps of Engineers for the minor disturbance to federally regulated wetlands required to construct the Facility.

The Article 10 regulations outlining the required contents of the Application can be found at 16 NYCRR 1001.1 et seq. The Application includes, among other things: an analysis of the environmental setting of the Facility, a description of the Facility, including preliminary design drawings and related information; copies of reports, studies and plans submitted in support of the Application; and an assessment of impacts of construction and/or operation of the Facility relating to land use; consistency with State energy planning objectives, including climate change and renewable energy goals; public health and safety; terrestrial ecology, water resources and aquatic ecology, including avian and bat species and wetlands; communications, transportation and utilities; cultural, historical and recreational resources; visual, including shadow flicker; noise; electric magnetic fields; and impacts on the state-wide electrical system.

This notice is being provided in accordance with 16 NYCRR 1000.7 as part of the Article 10 process and will be published at least three days prior to the filing of the Application. In addition, a copy of the Application will be served on the Chief Executive Officer of each municipality in which any portion of the Facility is located, as well as those persons and agencies enumerated in 16 NYCRR 1000.6. Once an Application is filed and determined by the Siting Board to be complete, the Siting Board will schedule a public hearing on the Application. The Siting Board will also issue a notice of availability of application intervenor funds that are available to be used by parties to participate in formal review of the Application. A pre-hearing conference will be scheduled by the Hearing Examiner to identify intervenors, award intervenor funds, identify issues for the hearing, and establish a case schedule. Additional hearings regarding the application and project impact assessments will be scheduled by the Hearing Examiner as needed. After hearings, the stakeholders may brief their positions and the Hearing Examiner will issue a recommended decision upon which the Siting Board will base its decision. Article 10 requires that all proceedings on the Application, including a final decision by the Siting Board, must be completed within 12 months of when the Application is determined to be complete.

Upon filing the Application, the Applicant will provide funding in the amount of \$100,800 to be disbursed by the Siting Board to municipalities and other local parties to help pay expenses, including attorneys and consultants, associated with participating in the Article 10 process during the application review phase. By law, fifty percent (50%) of these intervenor funds are reserved for municipalities. Following the filing of an Application, the Hearing Examiner or the Secretary will issue a notice of availability of application intervenor funds that provides a schedule and related information describing how interested members of the public may apply for application funds. Requests for application funds must be submitted to the Hearing Examiner within thirty (30) days after the issuance of the notice of the availability of application intervenor funds. Following the submittal of any intervenor funding requests, the Hearing Examiner may schedule a pre-hearing conference to consider fund requests.

The record of this proceeding, including the Application, may be examined during normal business hours at the Offices of the New York State Department of Public Service (DPS) at 3 Empire State Plaza, Albany, NY 12223, and may also be viewed at the following public repositories: Guilford Town Hall, 223 Marble Rd., Guilford, NY 13780; Guernsey Memorial Library, 3 Court Street, Norwich, NY 13865; Oxford Memorial Library, 8 Ford Hill, Oxford, NY 13830; and Gilbertsville Free Library, 17 Commercial Street, Gilbertsville, NY 13776. Libraries often have free internet access.

Contact Information

High Bridge Wind, LLC
Alec Jarvis, Director of Development
Calpine Corporation
717 Texas Avenue, Suite 1000
Houston, TX 77002
Toll Free Number: 1-866-681-3312
Alec.Jarvis@calpine.com

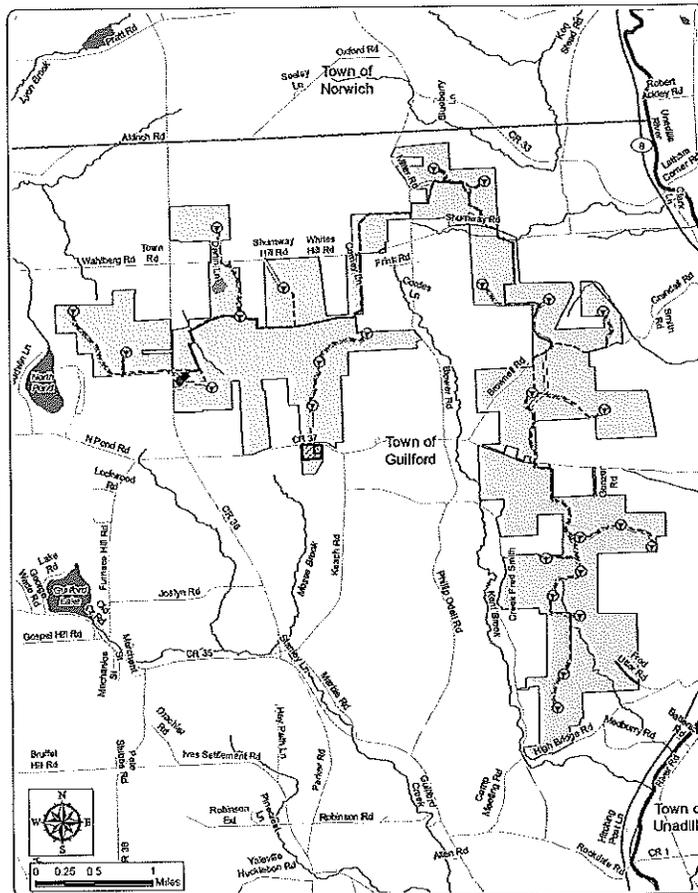
DPS Article 10 Coordinator
James Denn
NYS Department of Public
3 Empire State Plaza
Albany, NY 12223
Tel. No. (518) 474-7080
james.denn@dps.ny.gov

The Application will also be available at the Siting Board's website at (<http://www.dps.ny.gov>). To access documents, go to "Search" on the top of the webpage and search using the Case Number 18-P-0262, or visit the Project-specific website maintained by the Applicant: <http://www.calpine.com/highbridgewind>.

File a Request for Notices

Any interested member of the public may file a request with the DPS Secretary to receive copies of all notices concerning the Project. Written requests should be sent to the DPS Secretary at secretary@dps.ny.gov or sent by mail to the following address:

Honorable Kathleen H. Burgess
Secretary to the Commission
NYS Public Service Commission
Empire State Plaza Agency Building 3
Albany, New York 12223-1350



High Bridge Wind
Town of Guilford, Chenango County, New York

Proposed Facility

Notes & Sources: ESRI StreetMap North America, 2018. The map was generated in July 2019 at 10:12 AM.

- ⊙ Wind Turbine
- ▨ O&M Facility
- Collection Line
- ▨ Laydown Area
- Access Road
- Collection Substation
- Facility Site
- POI Substation



THE EVENING SUN

NORWICH, NY 13815

Gregory Liberman
41 State St., Suite 401
Albany, NY 12207

DATE: 7/17/2019
ACCT: LIBGRE

DESCRIPTION	AMOUNT
147" ad High Bridge Wind Project	
DATES	
07/17/19	TOTAL <u>\$ 1178.00</u>

The display ad copy of which this affidavit is annexed was published 1 day(s) successfully in The Evening Sun, a Newspaper published daily in Norwich, New York and the display ad was first so published on the 17th day of July, 2019 and was so last published on the day of 17th day of July, 2019.

Wicky Brigham
Signed on behalf of the Evening Sun Newspaper

Sworn to before me this 1st day of August, 2019
Amy Franklin, Notary Public.

AMY FRANKLIN
Notary Public - State of New York
No. 01FR6283716
Qualified in Chenango County
My Commission Expires June 3, 2021

Classifieds

THE OTESAGA HOTEL HELP WANTED

WE ARE HIRING Servers, table bussers, line cooks, stewards/dishwashers, event set up crew, certified bartenders, housekeeping, bell staff, valet. Apply on line: www.otesaga.com or call 607-544-2507.

UNADILLA VALLEY CENTRAL SCHOOL OPPORTUNITIES

SPECIAL EDUCATION

Teacher, effective Sept. 1, 2019. Qualifications include NY State certification in Special Education (PK-12) certification, preferred. Salary is commensurate with experience and benefits are per the UNFA contract. Please apply via the link on the school website at www.unadillanysd.org under "employment opportunities". Please contact Valerie Dicker in the district office with questions regarding the position at 607-847-7500, ext. 1131. Teacher Aides, effective Sept. 1, 2019. Qualifications include graduation from high school or possession of high school equivalency diploma, experience working with special needs students preferred. Salary and benefits are per the DSEA contract. Civil service applications are available online under "employment opportunities" at www.unadillanysd.org and are also available at the district office. Please contact Sharon White in the district office with questions at 607-847-7500, ext. 1134. Substitute needed for 2019-2020 school year. Teacher, teacher's aide, bus driver, bus attendant, custodial worker, food service helper PT, Full and LPH. Questions? Please contact Sharon White at 607-847-7500 ext. 1134 or stop by the district office to pick up an application.

DESIGNER DREAM CABIN ON 10+ WOODED ACRES

THIS BEAUTIFULLY designed cabin with 1st floor and 1st bedrooms, sleeps 6. Programs

FOR SALE BY owner, Norwich

four bedroom 1 1/2 bath with chestnut woodwork throughout home on 1.3 acres. Convenient to everything including bus stop. 3 bedroom mobile on property (possible rental income) \$159,600. Call between 9pm-5pm 607-334-4820

APARTMENTS FOR RENT EARLVILLE

JUST SEE Very large one bedroom upstairs with balcony \$600/month plus utilities. Security and references a must. Smoke free, no pets. Email: Earlville@yad.com or 718-288-0818.

FOR RENT COZY, country cottage, Available August 15.

Perfect for single or couple. Great room opens to a large covered porch with stone and refrigerator. One bedroom with office area. Laundry hook up. Fresh carpet and paint. Gas heat. \$775+ security - utilities. No

NORWICH COURT APPTS and townhomes.

Spacious studio, 1, 2 and 3 bedroom units. Call for availability. 607-334-0611.

NORWICH: Nice 1 bedroom second floor downtown apartment.

Kitchen and bath have been recently renovated. Large bedroom with walk in closet. This could be the place for you! Rent is \$725/month and includes building heat and trash removal. Open house Sat 7/20-27, call Ed: 209-578-5101 to set appointment.

NORWICH: Very nice, updated 2 bedroom apartment with washer and dryer.

\$725/month plus utilities. 607-315-1483.

OXFORD: IN THE Village 4 bedrooms, 1.5 bathroom house for rent for \$1000 a month plus utilities.

Smoke free, no pets.

COMMERCIAL PROPERTY DOWNTOWN NORWICH

OFFICE for rent, 2 first floor modern offices for rent, private entrances, heat and air conditioning, private bathroom, parking available, one 700+ sq ft

TOWN OF LEBANON: Large 3 bedroom apartment, washer/dryer hookup, no pets, smoke free.

\$750 per month plus utilities. References a must. One month rent, one month security. 718-628-6919 or caulderj@ed.com.

NEW POOL-SIDE LOUNGER for sale, was over \$160 new, selling for \$75.

607-855-6691.

OVER 600 NEW and used vehicles from local dealers near you - not hundreds, thousands of miles away, awaiting your arrival at www.shop4cars.com.

TWO ROOM TENT, sleeps 4-6.

\$100. 607-859-2658.

Circular drive, deep well, gas heat, covered front porch, metal roof. Newly remodeled. Quiet setting near State Road. Concederatus School District. Asking \$53,500.00. Text 936-219-8414 or email lento_rocks@yahoo.com or rlw626@windstream.net. Serious inquiries only.

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Smoke free, no pets.

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OFFICE for rent, 2 first floor modern offices for rent, private entrances, heat and air conditioning, private bathroom, parking available, one 700+ sq ft

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OVER 600 NEW and used vehicles from local dealers near you - not hundreds, thousands of miles away, awaiting your arrival at www.shop4cars.com.

TWO ROOM TENT, sleeps 4-6.

\$100. 607-859-2658.

High Bridge Wind Project

Chenango County, New York

NOTICE OF SUBMISSION OF APPLICATION

High Bridge Wind, LLC ("High Bridge" or "Applicant") is proposing to construct a major wind electric generating facility up to 100.8 megawatts (MW) in size in the Town of Guilford, Chenango County, New York ("High Bridge Wind Project" or "Facility"). Under Article 10 of the Public Service Law, the Applicant must obtain a Certificate of Environmental Compatibility and Public Need from the New York State Board on Electric Generating Siting and the Environment ("Siting Board") pursuant to Article 10 of the Public Service Law and the siting Board's rules (16 NYCRR Part 1000). The Siting Board's decision is expected to be issued on or about July 23, 2019. The Applicant will file an Application pursuant to 16 NYCRR 1000.6 seeking a Certificate from the Siting Board authorizing the construction and operation of the Facility under Article 10.

The Facility is a proposed wind-powered electric generation project consisting of up to 25 wind turbines generating up to 100.8 megawatts (MW) of electricity to be located in the Town of Guilford, Chenango County. The Facility will include wind turbines, access roads, electrical collection lines, a collection substation (which includes battery storage), a point of interconnection (POI) substation, a short overhead transmission line, permanent meteorological towers, an operation and maintenance (O&M) facility, a concrete batch plant and laydown area(s). Ownership of the POI substation will be transferred to New York State Electric and Gas (NYSEG) upon completion.

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Contact Information

High Bridge Wind, LLC
Alec Jarvis, Director of Development
Calpine Corporation
717 Texas Avenue, Suite 1000
Houston, TX 77002
Toll Free Number: 1-866-681-3312
Alec.Jarvis@calpine.com

DPS Article 10 Coordinator
James Dem
NY's Department of Public Service
3 Empire State Plaza
Albany, NY 12223
Tel: No. (518) 474-7080
James.dem@dps.ny.gov

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Perfect for single or couple. Great room opens to a large covered porch with stone and refrigerator. One bedroom with office area. Laundry hook up. Fresh carpet and paint. Gas heat. \$775+ security - utilities. No

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APARTMENTS FOR RENT EARLVILLE

JUST SEE Very large one bedroom upstairs with balcony \$600/month plus utilities. Security and references a must. Smoke free, no pets. Email: Earlville@yad.com or 718-288-0818.

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High Bridge Wind, LLC
Alec Jarvis, Director of Development
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717 Texas Avenue, Suite 1000
Houston, TX 77002
Toll Free Number: 1-866-681-3312
Alec.Jarvis@calpine.com

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Attachment 4

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

Application by High Bridge Wind LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 of the New York State Public Service Law for the High Bridge Wind Project in the Town of Guilford, Chenango County, New York.

Case No. 18-F-0262

AFFIDAVIT OF SERVICE

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

YVONNE LEO, being duly sworn, deposes and says that on the 17th day of July, 2019, she served the attached High Bridge Wind, LLC's Notice of Submission of Application by depositing a true and correct copy of the same, properly enclosed in a post-paid wrapper in the Official Depository maintained and exclusively controlled by the United States Postal Service at Albany, New York, upon the following recipients, as well as upon the Siting Board Public Information Coordinator, James Denn, via electronic mail to James.Denn@dps.ny.gov. The recipients listed below include each member of the state legislature in whose district any portion of the proposed Facility is located, as well as the Town Supervisor.

NYS Senator Fred Akshar
NYS Senate District: 52
44 Hawley Street, Room 1607
Binghamton, NY 13901

George Seneck, Town Supervisor
Town of Guilford
223 Marble Road
Guilford, NY 13780

NYS Assemblyman Clifford W. Crouch
NYS Senate District: 122
1 Kattelville Road, Suite 1
Binghamton, NY 13901



YVONNE LEO

Sworn to me before me this
17th day of July, 2019



Notary Public

ELIZABETH B. WYKES
Notary Public, State of New York
No. 01WY6392588
Qualified in Albany County
My Commission Expires 05/28/2023

Young / Sommer LLC

ATTORNEYS AT LAW

EXECUTIVE WOODS, FIVE PALISADES DRIVE, ALBANY, NY 12205

Phone: 518-438-9907 • Fax: 518-438-9914

www.youngsommer.com

Laura K. Bomyea, Esq.
Writer's Telephone Extension: 249
lbomyea@youngsommer.com

July 17, 2019

NYS Senator Fred Akshar
NYS Senate District: 52
44 Hawley Street Room 1607
Binghamton, NY 13901

Re: Notice of Submission of Article 10 Certificate Application for the High Bridge Wind Project, Chenango County, New York, Case 18-F-0262

Dear Senator,

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Please take notice that on or about July 23, 2019, High Bridge Wind plans to file its formal Article 10 CECPN Application with the Siting Board. The attached notice is being published in local newspapers and distributed online to ensure stakeholders and members of the public are aware of this filing. Notice will also be provided directly to the Town of Guilford, the host community for this project.

Please do not hesitate to reach out to me if you have any questions regarding the Project.

Respectfully submitted,

/s/ Laura K. Bomyea

James A. Muscato, II

Laura K. Bomyea

Young/Sommer LLC

Attorneys for High Bridge Wind LLC

Enclosure

Young / Sommer LLC

ATTORNEYS AT LAW

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Laura K. Bomyea, Esq.
Writer's Telephone Extension: 249
lbomyea@youngsommer.com

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NYS Senate District: 122
1 Kattelville Road, Suite 1
Binghamton, NY 13901

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Enclosure

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Laura K. Bomyea

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Attorneys for High Bridge Wind LLC

Enclosure

Kayleigh Robinson

From: Yvonne Leo
Sent: Wednesday, July 17, 2019 3:35 PM
To: James.Denn@dps.ny.gov
Cc: Laura Bomyea; Kayleigh Robinson
Subject: High Bridge Wind Project - Notice of Submission of Application 07/17/19
Attachments: 190717 Notice of Submission of Application - High Bridge Wind Project.pdf

Please see attached Notice of Submission of Application regarding the High Bridge Wind Project.

Thank you,

Yvonne Leo, Legal Assistant to Laura K. Bomyea and E. Hyde Clarke

Young / Sommer LLC

ATTORNEYS AT LAW

office: 518.438.9907 Ext. 245

fax: 518.438.9914

yleo@youngsommer.com

Executive Woods, Five Palisades Drive, Albany, NY 12205

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This e-mail is sent by a law firm and may contain information that is privileged or confidential. If you are not the intended recipient, please delete the e-mail and any attachments and notify us immediately.

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This notice is being provided in accordance with 16 NYCRR 1000.7 as part of the Article 10 process and will be published at least three days prior to the filing of the Application. In addition, a copy of the Application will be served on the Chief Executive Officer of each municipality in which any portion of the Facility is located, as well as those persons and agencies enumerated in 16 NYCRR 1000.6. Once an Application is filed and determined by the Siting Board to be complete, the Siting Board will schedule a public hearing on the Application. The Siting Board will also issue a notice of availability of application intervenor funds that are available to be used by parties to participate in formal review of the Application. A pre-hearing conference will be scheduled by the Hearing Examiner to identify intervenors, award intervenor funds, identify issues for the hearing, and establish a case schedule. Additional hearings regarding the application and project impact assessments will be scheduled by the Hearing Examiner as needed. After hearings, the stakeholders may brief their positions and the Hearing Examiner will issue a recommended decision upon which the Siting Board will base its decision. Article 10 requires that all proceedings on the Application, including a final decision by the Siting Board, must be completed within 12 months of when the Application is determined to be complete.

Upon filing the Application, the Applicant will provide funding in the amount of \$100,800 to be disbursed by the Siting Board to municipalities and other local parties to help pay expenses, including attorneys and consultants, associated with participating in the Article 10 process during the application review phase. By law, fifty percent (50%) of these intervenor funds are reserved for municipalities. Following the filing of an Application, the Hearing Examiner or the Secretary will issue a notice of availability of application intervenor funds that provides a schedule and related information describing how interested members of the public may apply for application funds. Requests for application funds must be submitted to the Hearing Examiner within thirty (30) days after the issuance of the notice of the availability of application intervenor funds. Following the submittal of any intervenor funding requests, the Hearing Examiner may schedule a pre-hearing conference to consider fund requests.

The record of this proceeding, including the Application, may be examined during normal business hours at the Offices of the New York State Department of Public Service (DPS) at 3 Empire State Plaza, Albany, NY 12223, and may also be viewed at the following public repositories: Guilford Town Hall, 223 Marble Rd., Guilford, NY 13780; Guernsey Memorial Library, 3 Court Street, Norwich, NY 13865; Oxford Memorial Library, 8 Ford Hill, Oxford, NY 13830; and Gilbertsville Free Library, 17 Commercial Street, Gilbertsville, NY 13776. Libraries often have free internet access.

Contact Information

High Bridge Wind, LLC
Alec Jarvis, Director of Development
Calpine Corporation
717 Texas Avenue, Suite 1000
Houston, TX 77002
Toll Free Number: 1-866-681-3312
Alec.Jarvis@calpine.com

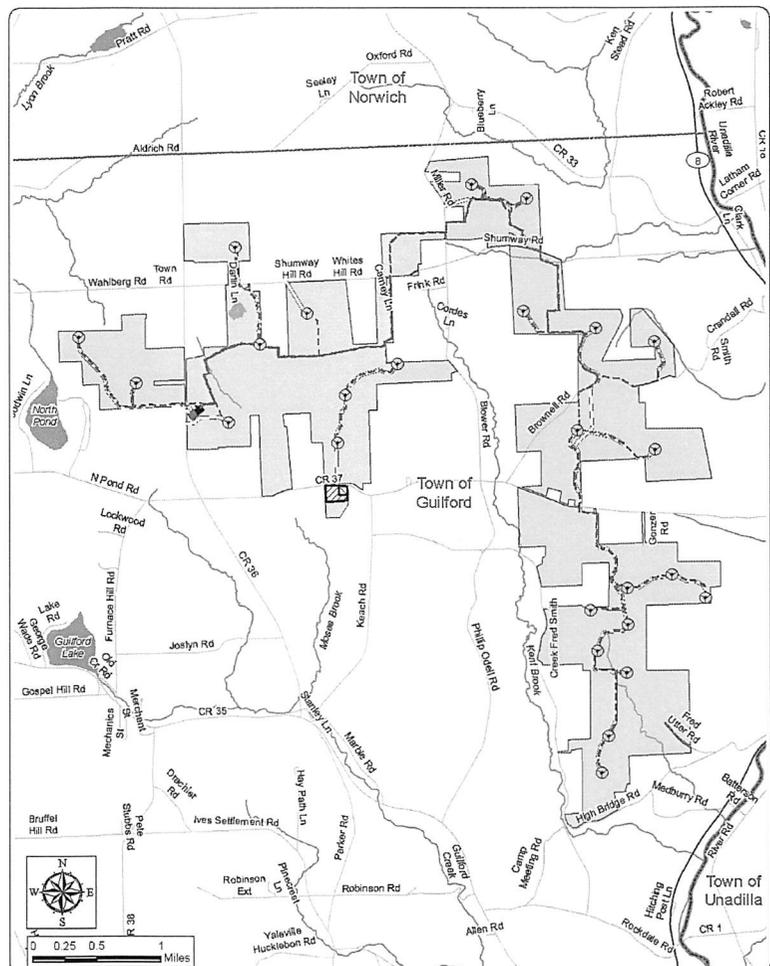
DPS Article 10 Coordinator
James Denn
NYS Department of Public
3 Empire State Plaza
Albany, NY 12223
Tel. No. (518) 474-7080
james.denn@dps.ny.gov

The Application will also be available at the Siting Board's website at (<http://www.dps.ny.gov>). To access documents, go to "Search" on the top of the webpage and search using the Case Number 18-F-0262, or visit the Project-specific website maintained by the Applicant: <http://www.calpine.com/highbridgewind>.

File a Request for Notices

Any interested member of the public may file a request with the DPS Secretary to receive copies of all notices concerning the Project. Written requests should be sent to the DPS Secretary at secretary@dps.ny.gov or sent by mail to the following address:

Honorable Kathleen H. Burgess
Secretary to the Commission
NYS Public Service Commission
Empire State Plaza Agency Building 3
Albany, New York 12223-1350



High Bridge Wind
Town of Guilford, Chenango County, New York

Proposed Facility

Notes: 1. Base map: ESRI StreetMap North America, 2008. 2. This map was generated in ArcMap on July 12, 2019.

- ⊙ Wind Turbine
- Collection Line
- Access Road
- Facility Site
- ▨ O&M Facility
- ▩ Laydown Area
- ▧ Collection Substation
- POI Substation



Attachment 5

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

Application by High Bridge Wind LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 of the New York State Public Service Law for the High Bridge Wind Project in the Town of Guilford, Chenango County, New York.

Case No. 18-F-0262

AFFIDAVIT OF SERVICE

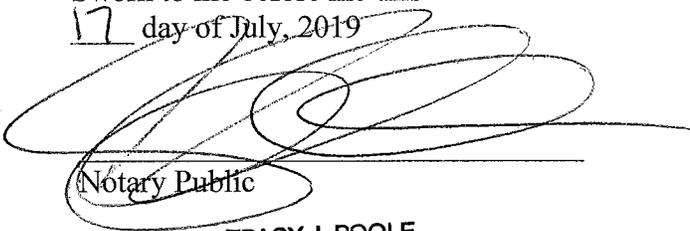
STATE OF NEW YORK)
COUNTY OF ALBANY) ss.:

LAURA K. BOMYEA, being duly sworn, deposes and says that on the 17th day of July, 2019, she served High Bridge Wind, LLC's Cover Letter to Secretary Burgess and Notice of Submission of Application upon the Party List in this matter via electronic mail to the addresses designated on DMM as of July 17, 2019; copies of the Cover Letter, Notice, and email are attached hereto.



LAURA K. BOMYEA

Sworn to me before me this
17 day of July, 2019



Notary Public

TRACY J. POOLE
Notary Public, State of New York
No. 01PO6036309
Qualified in Albany County
Commission Expires Jan. 24, 2018
2017

Laura Bomyea

From: Laura Bomyea
Sent: Wednesday, July 17, 2019 4:22 PM
To: Tara.Wells@agriculture.ny.gov; Kathleen.Tylutki@agriculture.ny.gov; Thomas1, Richard (HEALTH); guilfordsupervisor@frontier.com; Saviola, Michael (AGRICULTURE); bpratt052@gmail.com; James Muscato; jason.mulford@agriculture.ny.gov; nyslofenergy@gmail.com; mark.millspaugh@sterlingenvironmental.com; McGuire, Thomas (DEC); wj.maxey@gmail.com; Andrew Mason; jessicagombach@kw.com; article10@aceny.org; Cerbin, Andrea (DPS); Binder, Jonathan A (DEC); Brady L. Begeal
Subject: Case 18-F-0262, High Bridge Wind Notice of Application
Attachments: Cover Letter Submitting Notice of Application.pdf; 190717 Notice of Submission of Application - High Bridge Wind Project.pdf

Parties,

The attached Notice of Submission of Application has been submitted to the Secretary for filing in the High Bridge Wind proceeding. This notice will be published in local newspapers this week, and circulated to stakeholders.

Sincerely,

Laura K. Bomyea
Associate Attorney
Young / Sommer LLC
ATTORNEYS AT LAW
office: 518.438.9907 Ext. 249
fax: 518.438.9914
lbomyea@youngsommer.com
Executive Woods, Five Palisades Drive, Albany, NY 12205
www.youngsommer.com

This e-mail is sent by a law firm and may contain information that is privileged or confidential. If you are not the intended recipient, please delete the e-mail and any attachments and notify us immediately.

Young / Sommer LLC

ATTORNEYS AT LAW

EXECUTIVE WOODS, FIVE PALISADES DRIVE, ALBANY, NY 12205

Phone: 518-438-9907 • Fax: 518-438-9914

www.youngsommer.com

Laura K. Bomyea, Esq.
Writer's Telephone Extension: 249
lbomyea@youngsommer.com

July 17, 2019

Via Electronic Filing

Hon. Kathleen H. Burgess
Secretary to the Commission
New York State Public Service Commission
Agency Building 3
Albany, NY 12223

Re: Case No. 18-F-0262: Application of High Bridge Wind LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 to Construct a 100 MW Wind Powered Electric Generating Facility Located in the Town of Guilford, Chenango County.

Dear Secretary Burgess:

Our office represents High Bridge Wind, LLC (“High Bridge Wind”), a wholly owned subsidiary of Calpine Corporation, which is proposing to construct a 100.8 megawatt (MW) major wind electric generating facility in the Town of Guilford, Chenango County, New York. Enclosed please find High Bridge Wind’s Notice of Submission of Application, which is scheduled for publication in local newspapers this week, and which will be distributed to stakeholders through a variety of methods, all of which will be described in the Application submission. As the notice states, the Applicant intends to file an Application for a Certificate under Article 10 of the Public Service Law on or about July 23, 2019.

Please do not hesitate to reach out to me if you have any questions.

Very truly yours,

/s/ Laura K. Bomyea

James A. Muscato, II
Laura K. Bomyea
Young/Sommer LLC
Attorneys for High Bridge Wind LLC

Enclosure

CC: Party List in Case 18-F-0262 as of July 17, 2019

High Bridge Wind Project Chenango County, New York

NOTICE OF SUBMISSION OF APPLICATION

High Bridge Wind, LLC ("High Bridge" or "Applicant") is proposing to construct a major wind electric generating facility up to 100.8 megawatts (MW) in size in the Town of Guilford, Chenango County, New York ("High Bridge Wind Project" or "Facility"). Under Article 10 of the Public Service Law, the Applicant must obtain a Certificate of Environmental Compatibility and Public Need from the New York State Board on Electric Generating Siting and the Environment ("Siting Board") pursuant to Article 10 of the Public Service Law and the Siting Board's rules (16 NYCRR Part 1000). This notice announces that on or about July 23, 2019, the Applicant will file an Application pursuant to 16 NYCRR 1000.6 seeking a Certificate from the Siting Board authorizing the construction and operation of the Facility under Article 10.

The Facility is a proposed wind-powered electric generation project consisting of up to 25 wind turbines generating up to 100.8 megawatts (MW) of electricity to be located in the Town of Guilford, Chenango County. The Facility will include wind turbines, access roads, electrical collection lines, a collection substation (which includes battery storage), a point of interconnection (POI) substation, a short overhead transmission line, permanent meteorological towers, an operation and maintenance (O&M) facility, a concrete batch plant and laydown area(s). Ownership of the POI substation will be transferred to New York State Electric and Gas (NYSEG) upon completion.

The Facility is a zero-emission wind energy facility that will assist the State in meeting the goals of the State Energy Plan, which include obtaining 50% of energy generation from renewable sources by 2030 and significantly reducing greenhouse gas emissions. Other positive impacts of the Facility include diversification of energy supplies, introduction of an innovative battery storage component, new employment opportunities (both temporary construction employment and full-time jobs), and increased revenues to County and local tax bases, payments to the local hospitality industry, and purchase of local supplies and goods. In addition, the Applicant has attempted to minimize impacts to land associated with the Facility by limiting the disturbance to forested lands and wetlands to the maximum extent practicable. However, the construction and operation of the Facility may result in minor environmental impacts as more fully described in the Application, including, but not limited to: impacts on terrestrial ecology, including avian and bat species; minor impacts to forested land, wetlands and agricultural lands; and impacts to people, including noise, traffic and visual impacts.

Pursuant to the Article 10 process, the Applicant filed a Preliminary Scoping Statement (PSS) on January 24, 2019 with the Siting Board. After the public comment period on the PSS concluded, the Applicant prepared a reply to material comments that was submitted on March 21, 2019. On March 20, 2019, a pre-application conference to consider intervenor funding requests was held and the scoping stipulation process was ordered to commence. The Applicant is now ready to file an Application. The Applicant also intends to submit a request for a Water Quality Certification (WQC) under Section 401 of the federal Clean Water Act. The WQC is necessary to obtain a permit from the U.S. Army Corps of Engineers for the minor disturbance to federally regulated wetlands required to construct the Facility.

The Article 10 regulations outlining the required contents of the Application can be found at 16 NYCRR 1001.1 et seq. The Application includes, among other things: an analysis of the environmental setting of the Facility, a description of the Facility, including preliminary design drawings and related information; copies of reports, studies and plans submitted in support of the Application; and an assessment of impacts of construction and/or operation of the Facility relating to land use; consistency with State energy planning objectives, including climate change and renewable energy goals; public health and safety; terrestrial ecology, water resources and aquatic ecology, including avian and bat species and wetlands; communications, transportation and utilities; cultural, historical and recreational resources; visual, including shadow flicker; sound; electric magnetic fields; and impacts on the state-wide electrical system.

This notice is being provided in accordance with 16 NYCRR 1000.7 as part of the Article 10 process and will be published at least three days prior to the filing of the Application. In addition, a copy of the Application will be served on the Chief Executive Officer of each municipality in which any portion of the Facility is located, as well as those persons and agencies enumerated in 16 NYCRR 1000.6. Once an Application is filed and determined by the Siting Board to be complete, the Siting Board will schedule a public hearing on the Application. The Siting Board will also issue a notice of availability of application intervenor funds that are available to be used by parties to participate in formal review of the Application. A pre-hearing conference will be scheduled by the Hearing Examiner to identify intervenors, award intervenor funds, identify issues for the hearing, and establish a case schedule. Additional hearings regarding the application and project impact assessments will be scheduled by the Hearing Examiner as needed. After hearings, the stakeholders may brief their positions and the Hearing Examiner will issue a recommended decision upon which the Siting Board will base its decision. Article 10 requires that all proceedings on the Application, including a final decision by the Siting Board, must be completed within 12 months of when the Application is determined to be complete.

Upon filing the Application, the Applicant will provide funding in the amount of \$100,800 to be disbursed by the Siting Board to municipalities and other local parties to help pay expenses, including attorneys and consultants, associated with participating in the Article 10 process during the application review phase. By law, fifty percent (50%) of these intervenor funds are reserved for municipalities. Following the filing of an Application, the Hearing Examiner or the Secretary will issue a notice of availability of application intervenor funds that provides a schedule and related information describing how interested members of the public may apply for application funds. Requests for application funds must be submitted to the Hearing Examiner within thirty (30) days after the issuance of the notice of the availability of application intervenor funds. Following the submittal of any intervenor funding requests, the Hearing Examiner may schedule a pre-hearing conference to consider fund requests.

The record of this proceeding, including the Application, may be examined during normal business hours at the Offices of the New York State Department of Public Service (DPS) at 3 Empire State Plaza, Albany, NY 12223, and may also be viewed at the following public repositories: Guilford Town Hall, 223 Marble Rd., Guilford, NY 13780; Guernsey Memorial Library, 3 Court Street, Norwich, NY 13865; Oxford Memorial Library, 8 Ford Hill, Oxford, NY 13830; and Gilbertsville Free Library, 17 Commercial Street, Gilbertsville, NY 13776. Libraries often have free internet access.

Contact Information

High Bridge Wind, LLC
Alec Jarvis, Director of Development
Calpine Corporation
717 Texas Avenue, Suite 1000
Houston, TX 77002
Toll Free Number: 1-866-681-3312
Alec.Jarvis@calpine.com

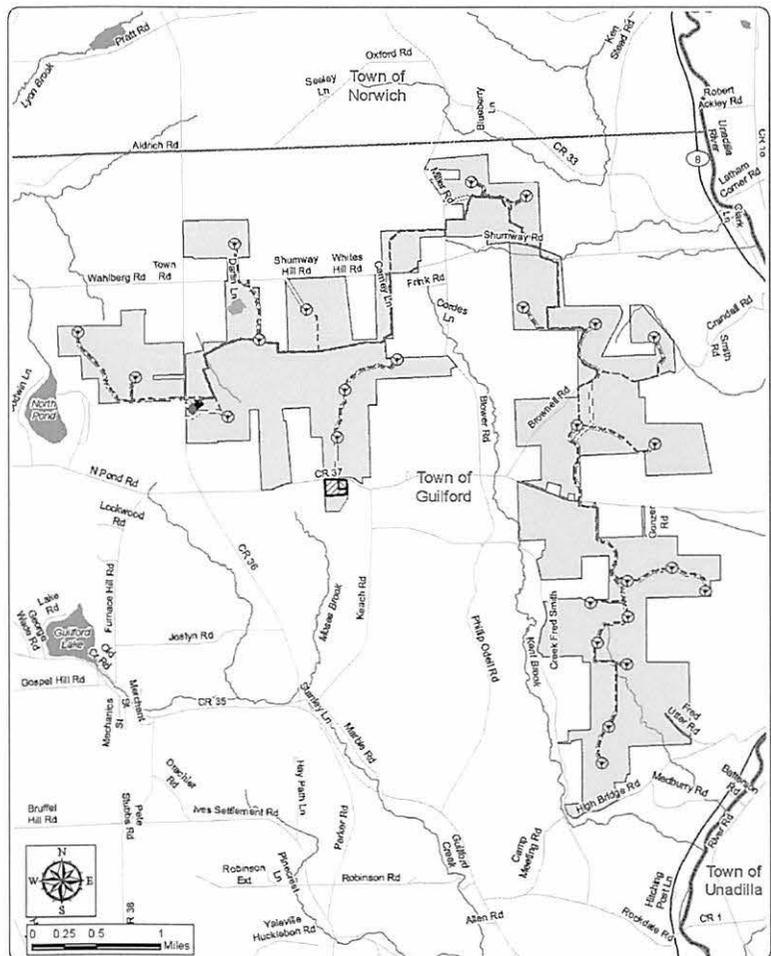
DPS Article 10 Coordinator
James Denn
NYS Department of Public
3 Empire State Plaza
Albany, NY 12223
Tel. No. (518) 474-7080
james.denn@dps.ny.gov

The Application will also be available at the Siting Board's website at (<http://www.dps.ny.gov/>). To access documents, go to "Search" on the top of the webpage and search using the Case Number 18-F-0262, or visit the Project-specific website maintained by the Applicant: <http://www.calpine.com/highbridgewind>.

File a Request for Notices

Any interested member of the public may file a request with the DPS Secretary to receive copies of all notices concerning the Project. Written requests should be sent to the DPS Secretary at secretary@dps.ny.gov or sent by mail to the following address:

Honorable Kathleen H. Burgess
Secretary to the Commission
NYS Public Service Commission
Empire State Plaza Agency Building 3
Albany, New York 12223-1350



High Bridge Wind
Town of Guilford, Chenango County, New York

Proposed Facility

Notes: 1. Base map: ESRI StreetMap North America, 2008. 2. This map was generated in ArcMap on July 12, 2019.

- ⊙ Wind Turbine
- Collection Line
- Access Road
- Facility Site
- ▨ O&M Facility
- ▩ Laydown Area
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- POI Substation



Attachment 6

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

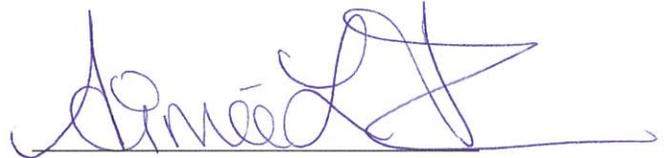
Application of High Bridge Wind, LLC, for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 of the New York State Public Service Law for the High Bridge Wind Project in the Town of Guilford, Chenango County, New York

CASE NO. 18-F-0262

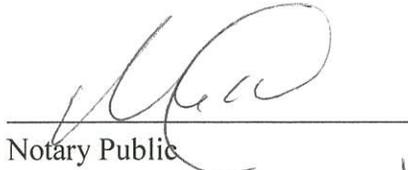
AFFIDAVIT OF SERVICE

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

Aimée Tarin, being duly sworn, deposes and says that on the 18th day of July, 2019, she mailed the attached Notice of Submission of Application upon the recipients identified in the attached list, by mailing a true hard copy thereof via USPS to their respective mailing addresses identified therein.



Sworn to me before
this 18 day of April 2018



Notary Public

MATTHEW E. MATOLIN
NOTARY PUBLIC STATE OF NY
REG. NO. 01MA 6340562
QUALIFIED IN OSWEGO CO.
COMM. EXP 4/18/20

High Bridge Wind Project

Chenango County, New York

NOTICE OF SUBMISSION OF APPLICATION

High Bridge Wind, LLC (“High Bridge”) is proposing to construct a major wind electric generating facility up to 100.8 megawatts (MW) in size in the Town of Guilford, Chenango County, New York (“Project”). High Bridge must obtain a Certificate of Environmental Compatibility and Public Need from the New York State Board on Electric Generating Siting and the Environment (“Siting Board”) pursuant to Article 10 of the Public Service Law and the Siting Board’s rules (16 NYCRR Part 1000). This notice announces that on or about July 23, 2019, High Bridge will file an Application seeking a Certificate from the Siting Board authorizing the construction and operation of the Project.

The Project will consist of up to 25 wind turbines and will also include access roads, electrical collection lines, a collection substation (which includes battery storage), a point of interconnection (POI) substation, a short overhead transmission line, permanent meteorological towers, an operation and maintenance facility, a concrete batch plant and laydown area(s). Ownership of the POI substation will be transferred to New York State Electric and Gas (NYSEG) upon completion.

The Project is a zero-emission wind energy facility that will assist the State in meeting the goals of the State Energy Plan, which includes obtaining 50% of energy generation from renewable sources by 2030 and significantly reducing greenhouse gas emissions. Other positive impacts of the Project include diversification of energy supplies, introduction of an innovative battery storage component, new employment opportunities (both temporary construction employment and full-time jobs), increased revenues to County and local tax bases, payments to the local hospitality industry, and purchases of local supplies and goods. In addition, High Bridge has attempted to minimize the Project’s impacts to forested lands and wetlands to the maximum extent practicable. However, the construction and operation of the Project may result in minor environmental impacts as more fully described in the Application, including, but not limited to: impacts on terrestrial ecology, including avian and bat species; minor impacts to forested land, wetlands and agricultural lands; and impacts to people, including noise, traffic and visual impacts.

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The Application includes, among other things: an environmental analysis of the Project; a description of the Project, including preliminary design drawings and related information; copies of reports, studies and plans submitted in support of the Application; and an assessment of impacts of construction and/or operation of the Project relating to land use; consistency with State energy planning objectives, including climate change and renewable energy goals; public health and safety; terrestrial ecology, water resources and aquatic ecology, including avian and bat species and wetlands; communications, transportation and utilities; cultural, historical and recreational resources; visual, including shadow flicker; sound; electric magnetic fields; and impacts on the statewide electrical system.

Article 10 requires this notice is published at least three days prior to the filing of the Application. A copy of the Application will be provided to the Chief Executive Officer of each municipality in which any portion of the Project is located, as well as those persons and agencies required by Article 10.

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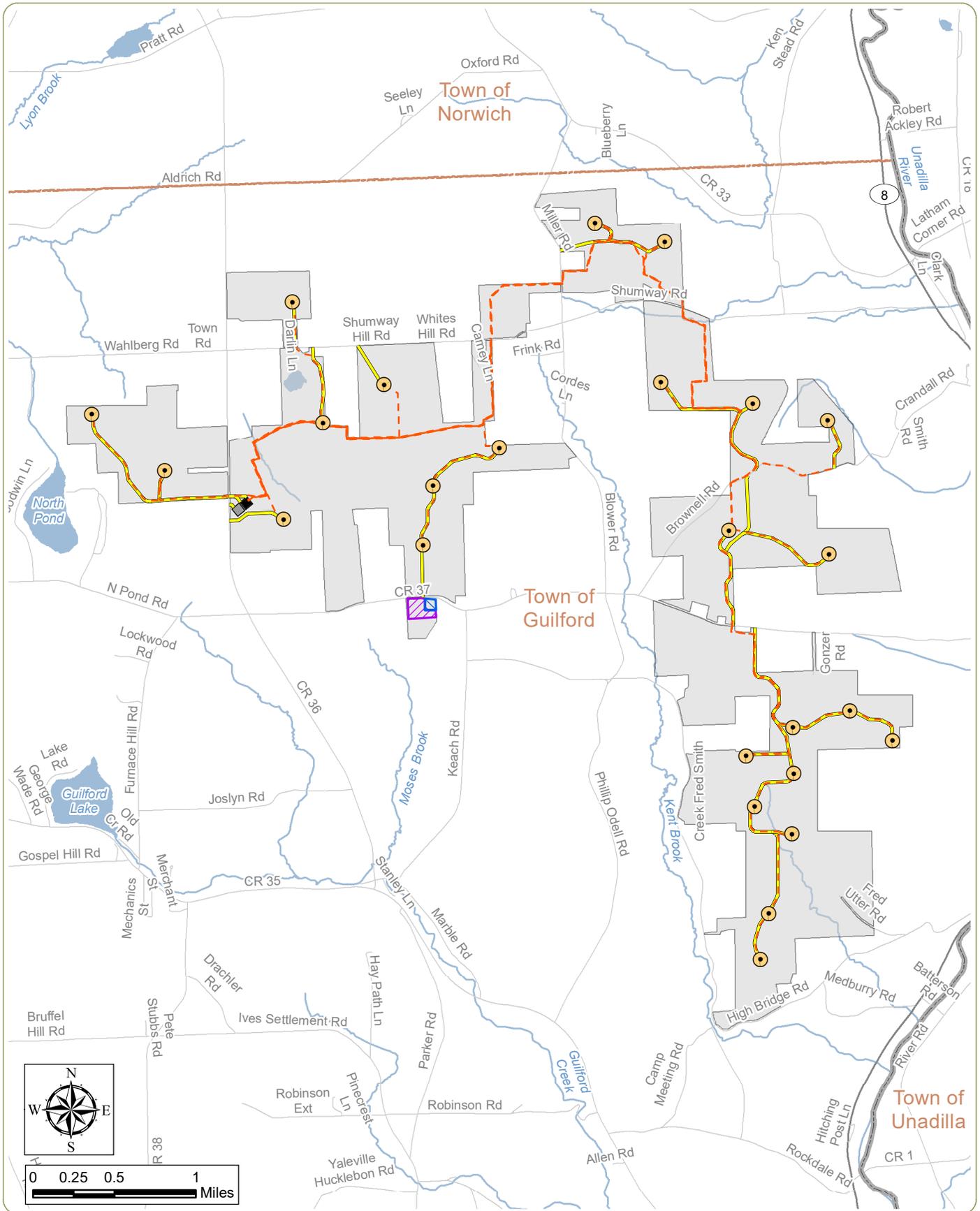
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Honorable Kathleen H. Burgess
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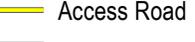
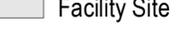
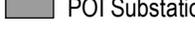


High Bridge Wind

Town of Guilford, Chenango County, New York

Proposed Facility

Notes: 1. Basemap: ESRI StreetMap North America, 2008. 2. This map was generated in ArcMap on July 12, 2019.

-  Wind Turbine
-  O&M Facility
-  Collection Line
-  Laydown Area
-  Access Road
-  Collection Substation
-  Facility Site
-  POI Substation



Primary Addressee	Attention	Street	City	State	Zipcode
Bainbridge-Guilford School District	Timothy Ryan, Superintendent of School	18 Juliand Street	Bainbridge	NY	13733
Borden Hose Co.	David Button, Chief	1698 NY-8	Mt. Upton	NY	13809
Chenango Bird Club	Charlene LaFever, Club President	3683 County Rd 32	Oxford	NY	13830
Chenango County	Mary Weidman, County Clerk	5 Court Street	Norwich	NY	13815
Chenango County	Lawrence Wilcox, Chairman of the Board of Supervisors, RC Woodford, Clerk of the Board	5 Court Street	Norwich	NY	13815
Chenango County Bureau of Fire and Emergency Management	Matthew Beckwith, Fire Coordinator Car 1	279 County Rd 46	Norwich	NY	13815
Chenango County Department of Public Works	Sean Fry, Director	79 Rexford Street	Norwich	NY	13815
Chenango County Farm Bureau	Bradd Vickers, President	6083 State Hwy 12 N	Norwich	NY	13815
Chenango County Highway Department	Doug Parry, Deputy Director of Highway Department	79 Rexford Street	Norwich	NY	13815
Chenango County Parks and Recreation		5 Court Street	Norwich	NY	13815
Chenango County Planning and Development	Shane H. Butler, Director of Planning	5 Court Street	Norwich	NY	13815
Chenango County Public & Environmental Health	Isaiah Sutton, Director of Environmental Health,	5 Court Street	Norwich	NY	13815
Chenango County Sheriff's Office	Earnest R. Cutting, Jr., Sheriff	279 County Road 46	Norwich	NY	13815
Chenango County Soil & Water Conservation District	Lance Lockwood, District Manager	99 North Borad Street	Norwich	NY	13815
City of Norwich	Christine A. Carnrike, Mayor	One City Plaza	Norwich	NY	13815
Cornell Cooperative Extension Chenango		99 North Broad Street	Norwich	NY	13815-1386
County of Chenango Industrial Development Agency	Steve Craig, President and CEO	15 South Broad Street	Norwich	NY	13815
Delaware Otsego Audubon Society	Becky Gretton, Program Director	PO Box 544	Oneonta	NY	13820
Empire State Development Corporation	Donna Howell, Southern Tier Regional Director	44 Hawley St., Room 1508	Binghamton	NY	13901
Empire State Development Corporation	Howard Zemsky, President and CEO	625 Broadway	Albany	NY	12245
Enterprise Products Partners L.P.		1100 Louisiana Street	Houston	TX	77002
Gilbertsville-Mount Upton Central School District	Annette Hammond, Superintendent/CSE	693 State Highway 51	Gilbertsville	NY	13776
Guilford Fire Department	Ken Haynes, Fire Chief	289 County Road 37	Guilford	NY	13780

Guilford Highway Department	Robert Fleming, Superintendent	223 Marble Road	Guilford	NY	13780
Lt. Warren E. Eaton Airport		6390 State Highway 12	Norwich	NY	13815
Maxey, William John		wj.maxey@gmail.com			
National Park Service	Kris Heister, Superintendent	274 River Road	Beach Lake	PA	18405
National Telecommunications and Information Administration	David J. Redl, Assistant Secretary of Communications and Information	1401 Constitution Avenue NW	Washington	DC	20230
New York Agricultural Land Trust	Nancy Hourigan, Board Chair	PO Box 216	Elbridge	NY	13060
New York Independent System Operator	Michael Bemis, Board Chair	10 Krey Boulevard	Rensselaer	NY	12144
New York Public Interest Research Group (NYPIRG) - Binghamton Chapter	State University College University Union	Box 2000	Binghamton	NY	13902
New York State Assembly	Clifford W. Crouch, Assembly Member, District 122	1 Kattelville Road, Suite 1	Binghamton	NY	13901
New York State Attorney General	Barbra Underwood, Acting NYS Attorney General	State Capitol Building	Albany	NY	12224
New York State Department of Agriculture and Markets	Richard Ball, Commissioner	10B Airline Drive	Albany	NY	12235
New York State Department of Environmental Conservation	Basil Seggos, Commissioner	625 Broadway	Albany	NY	12233
New York State Department of Environmental Conservation Region 7	Matt Marko, Regional Director	615 Erie Blvd. West	Syracuse	NY	13204-2400
New York State Department of Health	Howard A. Zucker, Commissioner	Corning Tower, Empire State Plaza	Albany	NY	12237
New York State Department of Public Service	Kathleen Burgess, Secretary to the Commission	Agency Building 3, Empire State Plaza	Albany	NY	12223
New York State Department of Public Service	James Denn, Public Information Officer	Agency Building 3, Empire State Plaza	Albany	NY	12223
New York State Department of Public Service	Lorna Gillings, Outreach Contact	Agency Building 3, Empire State Plaza	Albany	NY	12223
New York State Department of Public Service	John Rhodes, Chair of the Public Service Commission	Agency Building 3, Empire State Plaza	Albany	NY	12223
New York State Department of Public Service	Andrea Cerbin, Office of General Counsel	Agency Building 3, Empire State Plaza	Albany	NY	12223
New York State Department of Public Service	Andrew Davis, Office of Electric, Gas, and Water	Agency Building 3, Empire State Plaza	Albany	NY	12223
New York State Department of State	Rossana Rosado, Secretary of State	One Commerce Place, 99 Washington Avenue	Albany	NY	12231-0001

New York State Department of Transportation	Robert Sack, Director	50 Wolf Road	Albany	NY	12232
New York State Department of Transportation	Jack Williams, P.E, Regional Director	44 Hawley Street	Binghamton	NY	13901
New York State Division of Homeland Security and Emergency Services	Roger Parrino, Commissioner	1220 Washington Ave	Albany	NY	12226
New York State Electric and Gas	Carl A. Taylor, President and Chief Executive Officer	P.O. Box 5224	Binghamton	NY	13902-5224
New York State Energy Research and Development Authority (NYSERDA)	Kelly Tyler, Director of Communities and Local Government	17 Columbia Circle	Albany	NY	12203-6399
New York State Governor's Office	Andrew Cuomo, Governor of NY	NY State Capitol Building	Albany	NY	12224
New York State Office of Parks, Recreation and Historic Preservation	Rose Harvey, Commissioner	625 Broadway	Albany	NY	12207
New York State Senate	Frederick J. Akshar II, NYS Senator, 52nd District	1607 State Office Building, 44 Hawley Street	Binghamton	NY	13901
New York State Senate	James Seward, NYS Senator, 51st District	41 South Main Street	Oneonta	NY	13820
Norwich Department of Public Works	George Carnrike Jr., Assistant Superintendent	Hale Street	Norwich	NY	13815
Norwich Fire Department	Tracy Chawgo, Fire Chief	31 East Main Street	Norwich	NY	13815
Norwich Planning and Community Development		One City Plaza	Norwich	NY	13815
Norwich School District	Gerard O'Sullivan, Superintendent	89 Midland Drive	Norwich	NY	13815
Oneida Indian Nation	Raymond Halbritter, Nation Representative for Government-to-Government Consultation	5218 Patrick Road	Verona	NY	13478
Oneida Indian Nation	Stephen J. Selden, Esq., Member of General Council, Designated Environmental/NEPA/Legal Rep.	5218 Patrick Road	Verona	NY	13478
Oneida Nation of Wisconsin	Ed Delgado, Chairman, Designated representative	P. O. Box 365	Oneida	WI	54155-0365
Oneida Nation of Wisconsin	Corina Williams, THPO, Designated Environmental/NEPA/Section 106/Project Rep.	P. O. Box 365	Oneida	WI	54155-0365
Otsego County	Kathy Sinnott Gardner, County Clerk	197 Main Street	Cooperstown	NY	13326
Otsego County	David Bliss, Board of Representatives Chair	197 Main Street	Cooperstown	NY	13326

Otsego County Farm Bureau	Paul Greer, President	PO Box 76	Roseboom	NY	13450
Otsego County Planning Department	Karen Sullivan, Director	197 Main Street	Cooperstown	NY	13326
Oxford Academy & Central School District	Shawn Bissetta, Superintendent	12 Fort Hill Park	Oxford	NY	13830
Sidney Central School District	William Christensen, Superintendent	95 West Main Street	Sidney	NY	13838
Sidney Municipal Airport		199 River St	Sidney	NY	13838
Sierra Club-Susquehanna Group	Scott Lauffer, Chair	17 Nanticoke Ave	Endicott	NY	13760
Southern Tier East Regional Planning Development Board	Jennifer Gregory, Director	49 Court Street, Suite 222	Binghamton	NY	13901-3274
Susquehanna River Basin Commission	Andrew D. Dehoff, Executive Director	4423 N. Front Street	Harrisburg	PA	17110-1788
The Nature Conservancy - Eastern NY	Rick Werwaiss, Executive Director	195 New Karner Road, Suite 201	Albany	NY	12205
The Wetlands Trust	Jim Curatolo, Director	4729 State Route 414	Burdett	NY	14818
Town of Bainbridge	Town Supervisor, Dolores Nabinger	15 N Main Street	Bainbridge	NY	13733
Town of Butternuts	Town Supervisor, Bruce Giuda	1234 State Highway 51	Gilbertsville	NY	13776
Town of Guilford	George Seneck, Town Supervisor	223 Marble Road	Guilford	NY	13780
Town of Morris	Supervisor, Lynn Joy	P.O. Box 117	Morris	NY	13808
Town of New Berlin	Robert T. Starr, Town Supervisor	P.O. Box 204	New Berlin	NY	13411
Town of Norwich	Town Supervisor, Dave Evans	157 County Road 32A	Norwich	NY	13815
Town of Oxford	Lawrence Wilcox, Supervisor	P.O. Box 271	Oxford	NY	13830
Town of Preston	Peter C. Flanagan, Town Supervisor	299 Preston Center Road	Oxford	NY	13830
Town of Unadilla	Town Supervisor, George DeNys	P.O. Box 455	Unadilla	NY	13849
Tuscarora Environmental Program (Tuscarora Nation)	Neil Patterson, Jr., Director, designated representative for Environment/NEPA	2045 Upper Mountain Road	Sanborn	NY	14132
Tuscarora Indian Nation	Leo Henry, Chief, Government-to-Government Consultation Section 106, and projects	2006 Mt. Hope Road	Vis Lewiston	NY	14092
Unadilla Valley Central School District	Robert J. Mackey, Superintendent	4238 State Highway 8, PO Box F	New Berlin	NY	13411
Unatego Central School District	David Richards, Superintendent of Schools	2641 State Highway 7, P.O. Box 483	Otego	NY	13825
Upper Susquehanna Conservation Alliance	David Stilwell, Chairman	3817 Luker Road	Cortland	NY	13045
US Army Corps of Engineers	Steve Metivier, Chief, NY Application Evaluation Section	1776 Niagara Street	Buffalo	NY	14207
US Congress	Anthony Brindisi, Representative, District 22	PO Box 165	Utica	NY	13503
US Congress	Antonio Delgado, Representative, District 19	256 Clinton Ave	Kingston	NY	12401

US Department of Defense Siting Clearinghouse	Steven J. Sample, Mission Evaluation Branch	3400 Defense Pentagon, Room 5C646	Washington	DC	10301
US Federal Aviation Administration	Steve Urlass, Eastern Region Director	1 Aviation Plaza	Jamaica	NY	11434
US Fish and Wildlife Service: New York Ecological Services Field Office		3817 Luker Road	Cortland	NY	13045
US Senate	Charles E. Schumer, US Senator	15 Henry Street, Room 100AF	Binghamton	NY	13901
US Senate	Kirsten E. Gillibrand, US Senator	100 South Clinton Street, P.O. Box 7378	Syracuse	NY	13261-7378
Village of Gilbertsville	Ken Nolan, Mayor	PO Box 146	Gilbertsville	NY	13776
Village of Oxford	Terry M. Stark, Mayor	20 LaFayette Park, P.O. Box 866	Oxford	NY	13830-0866
Current Resident or Landowner		60 Columbia St	Elmwood Park	NJ	7407
Current Resident or Landowner		215 Phillips-Odell Rd	Mt. Upton	NY	13809-4161
Current Resident or Landowner		205 Goodwin Ln	Guilford	NY	13780
Current Resident or Landowner		157 Shumway Hill Rd	Guilford	NY	13780
Current Resident or Landowner		1641 Andrews Ave Apt 3C	Bronx	NY	10453
Current Resident or Landowner		486 Whites Hill Rd	Guilford	NY	13809
Current Resident or Landowner		209 Glacier Dr	Cedar Park	TX	78613
Current Resident or Landowner		220 Crandall Rd	Mt Upton	NY	13809
Current Resident or Landowner		220 Hopkins Crandall Rd	Mt Upton	NY	13809
Current Resident or Landowner		329 Miller-Shumway Rd	Norwich	NY	13815
Current Resident or Landowner		3409 Easterly Ln	North Lake	TX	76226
Current Resident or Landowner		801 21st St Apt 23	Union City	NJ	7087
Current Resident or Landowner		210 East 17th St Apt 5D	New York	NY	10003
Current Resident or Landowner		P.O. Box 259	Lavallette	NJ	8735
Current Resident or Landowner		559 Awosting Rd	Pine Bush	NY	12566
Current Resident or Landowner		1242 Co Rd 33	S New Berlin	NY	13843
Current Resident or Landowner		448 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		30 Felmley Rd	Whitehouse Station	NJ	8889
Current Resident or Landowner		452 Anderson Ave	Cliffside Park	NJ	07010-1506
Current Resident or Landowner		759 County Rd. 37	Mt. Upton	NY	13809
Current Resident or Landowner		4 Cold Spring Ln	Huntington	NY	11743-5143
Current Resident or Landowner		1 Bonner Hl	Gardiner	NY	12525
Current Resident or Landowner		25 Willow Dr	Hopewell Jct	NY	12533
Current Resident or Landowner		5104 Tudor Dr	Pompton Plains	NJ	7444
Current Resident or Landowner		P.O. Box 104	Yulan	NY	12792-0104

Current Resident or Landowner		2 Silver Brook Rd	Westport	CT	6880
Current Resident or Landowner		1300 County Rd 33	South New Berlin	NY	13843
Current Resident or Landowner		222 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		147 Orange Tpke	Sloatsburg	NY	10974
Current Resident or Landowner		147 Orange Tpke	Sloatsburg	NY	10974
Current Resident or Landowner		109 Butler Ln	Guilford	NY	13780
Current Resident or Landowner		66 Smith St	Ronkonkoma	NY	11779
Current Resident or Landowner		691 Wahlberg Rd	Norwich	NY	13815
Current Resident or Landowner		115 Carney Ln	Guilford	NY	13780
Current Resident or Landowner		28 Jones Ave	Norwich	NY	13815
Current Resident or Landowner		115 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		1435 Lincoln Pl	Brooklyn	NY	11213
Current Resident or Landowner		175 Brandon Brooks Rd	Unadilla	NY	13849
Current Resident or Landowner		649 High Bridge Rd	Mt Upton	NY	13809
Current Resident or Landowner		16 Musgrave St	Tuckahoe	NY	10707
Current Resident or Landowner		695 Ives Settlement Rd	Bainbridge	NY	13733
Current Resident or Landowner		401 Shumway Hill Rd	Guilford	NY	13780
Current Resident or Landowner		P.O. Box 267	Mt Upton	NY	13809
Current Resident or Landowner		P.O. Box 267	Mt Upton	NY	13809
Current Resident or Landowner		915 Lyman Ave	Peekskill	NY	10566
Current Resident or Landowner		296 High Bridge Rd	Mt Upton	NY	13809
Current Resident or Landowner		240 Round Pond Rd	Smithville Flats	NY	13841
Current Resident or Landowner		212 Creek-Fred Smith Rd	Mt. Upton	NY	13809
Current Resident or Landowner		370 Blower Rd	Guilford	NY	13780
Current Resident or Landowner		114 Cordes Ln	Guilford	NY	13780
Current Resident or Landowner		23 Deer Path	Hillsborough	NJ	8844
Current Resident or Landowner		416 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		P.O. Box 182	Norwich	NY	13815
Current Resident or Landowner		181 Shumway Hill Rd	Guilford	NY	13780
Current Resident or Landowner		296 High Bridge Rd	Mt Upton	NY	13809
Current Resident or Landowner		134 Commonwealth St	Franklin Square	NY	11010
Current Resident or Landowner		299 High Bridge Rd	Mt. Upton	NY	13809
Current Resident or Landowner		160 Pilot St Apt 408	Bronx	NY	10464
Current Resident or Landowner		44 Association Rd	Bellport	NY	11713
Current Resident or Landowner		11 Cager Pl	S Huntington	NY	11746

Current Resident or Landowner		732 County Rd 37	Mt Upton	NY	13809
Current Resident or Landowner		6358 Henderson Rd	Belmont	NY	14813
Current Resident or Landowner		1108 County Rd 33	Norwich	NY	13815
Current Resident or Landowner		161 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		303 Vernon Ave Apt 11G	Brooklyn	NY	11206
Current Resident or Landowner		2595 Mermaid Ave	Wantagh	NY	11793
Current Resident or Landowner		458 VanBussum Ave	Garfield	NJ	7026
Current Resident or Landowner		414 Linden St	East Earl	PA	17519
Current Resident or Landowner		379 Blower Rd	Guilford	NY	13780
Current Resident or Landowner		890 McLean Rd	Cortland	NY	13045
Current Resident or Landowner		220 Oxford Rd	Norwich	NY	13815
Current Resident or Landowner		56-51 136th Street	Flushing	NY	11355
Current Resident or Landowner		836 Wahlberg Rd	Guilford	NY	13780
Current Resident or Landowner		475 Gower St	Staten Island	NY	10314-6462
Current Resident or Landowner		1523 State Hwy 8	Mount Upton	NY	13809
Current Resident or Landowner		682 Co Rd 36	Guilford	NY	13780
Current Resident or Landowner		712 Cty Rd 36	Guilford	NY	13780
Current Resident or Landowner		200 Crandall Rd	Mt Upton	NY	13809
Current Resident or Landowner		211 Medbury Rd	Mt. Upton	NY	13809
Current Resident or Landowner		342 County Rd 37	Guilford	NY	13780
Current Resident or Landowner		266 Crandall Rd	Mt Upton	NY	13809
Current Resident or Landowner		364 Shumway Hill Rd	Guilford	NY	13780
Current Resident or Landowner		853 High Bridge Rd	Mt Upton	NY	13809
Current Resident or Landowner		607 Oak Tree Ave	S Plainfield	NJ	7080
Current Resident or Landowner		69 Maple Ave	Locust Valley	NY	11560
Current Resident or Landowner		196 Howard Ave	Brooklyn	NY	11233
Current Resident or Landowner		789 Wahlberg Rd	Guilford	NY	13780
Current Resident or Landowner		24 Stacey Ln	E Northport	NY	11731
Current Resident or Landowner		197 Southgate Rd	New Providence	NJ	7974
Current Resident or Landowner		1278 Westbrook Rd	West Milford	NJ	7480
Current Resident or Landowner		245 Blower Rd	Guilford	NY	13780
Current Resident or Landowner		731 County Rd 37	Mt Upton	NY	13809
Current Resident or Landowner		107 Kings Highway	Congers	NY	10920
Current Resident or Landowner		836 County Rd 36	Guilford	NY	13780
Current Resident or Landowner		86 Lusscroft Rd	Sussex	NJ	7461

Current Resident or Landowner		508 County Rd 36	Guilford	NY	13780
Current Resident or Landowner		279 Shumway Hill Rd	Guilford	NY	13780
Current Resident or Landowner		279 Shumway Hill Rd	Guilford	NY	13780-3170
Current Resident or Landowner		242-07 Jamaica Ave	Bellerose	NY	11426
Current Resident or Landowner		689 High Bridge Rd	Mt. Upton	NY	13809
Current Resident or Landowner		1689 State Hwy 8	Mt Upton	NY	13809
Current Resident or Landowner		341 County Rd 37	Guilford	NY	13780
Current Resident or Landowner		313 County Rd 37	Guilford	NY	13780
Current Resident or Landowner		289 County Rd 37	Guilford	NY	13780
Current Resident or Landowner		298 Cty Rd 37	Guilford	NY	13780
Current Resident or Landowner		320 Miller-Shumway Rd	Norwich	NY	13815
Current Resident or Landowner		678 Wahlberg Rd	Norwich	NY	13815
Current Resident or Landowner		110 Cordes Ln	Guilford	NY	13780
Current Resident or Landowner		65 Canasawacta Rd	Norwich	NY	13815-1305
Current Resident or Landowner		136 Highbridge Rd	Mt Upton	NY	13809
Current Resident or Landowner		248 St. Andrew's Rd	Walden	NY	12586
Current Resident or Landowner		1010 Stagecoach Blvd	Evergreen	CO	80439
Current Resident or Landowner		319 Miller-Shumway Rd	Norwich	NY	13815
Current Resident or Landowner		336 Miller-Shumway Rd	Norwich	NY	13815
Current Resident or Landowner		P.O. Box 134	Mt. Upton	NY	13809
Current Resident or Landowner		247 Miller-Shumway Rd	Guilford	NY	13780
Current Resident or Landowner		61 Fireside Ln	E Setauket	NY	11733
Current Resident or Landowner		1183 State Hwy 8	Mt Upton	NY	13809
Current Resident or Landowner		170 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		196 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		41 Crystal Ln	Towanda	PA	18848
Current Resident or Landowner		P.O. Box 104	Gilbertsville	NY	13776
Current Resident or Landowner		188 Lake Rd	Guilford	NY	13780
Current Resident or Landowner		563 County Rd. 36	Guilford	NY	13780
Current Resident or Landowner		P.O. Box 234	Guilford	NY	13780
Current Resident or Landowner		520 Co Rd 36	Guilford	NY	13780
Current Resident or Landowner		507 North Pond Rd	Guilford	NY	13780
Current Resident or Landowner		225 Boulevard	Pompton Plains	NJ	7444
Current Resident or Landowner		30 Oakridge Ave	Nutley	NJ	7110
Current Resident or Landowner		614 Onyx Cave Rd	Hamburg	PA	19526

Current Resident or Landowner		44 Holland St	Harrison	NY	10528
Current Resident or Landowner		21 Ravine Ave	Nutley	NJ	7110
Current Resident or Landowner		21 Ravine Ave	Nutley	NJ	7110
Current Resident or Landowner		247 Creek-Fred Smith Rd	Mt Upton	NY	13809
Current Resident or Landowner		172 Miller-Shumway Rd	Guilford	NY	13780
Current Resident or Landowner		821 Co Hwy 37	Mt Upton	NY	13809
Current Resident or Landowner		RR 1 Box 236 Co Rt 33	S New Berlin	NY	13843
Current Resident or Landowner		845 Co Rd 36	Guilford	NY	13780
Current Resident or Landowner		875 County Rd 36	Guilford	NY	13780
Current Resident or Landowner		7 Jolliffe Ln	Congers	NY	10920
Current Resident or Landowner		7 Sheldon St	Norwich	NY	13815
Current Resident or Landowner		285 Sills Rd Bldg 5-6, Ste F	East Patchogue	NY	11772
Current Resident or Landowner		210 Co Rd 37	Guilford	NY	13780
Current Resident or Landowner		20 Kirby St	Bainbridge	NY	13733
Current Resident or Landowner		328 Miller-Shumway Rd	Norwich	NY	13815
Current Resident or Landowner		443 Keach Rd	Guilford	NY	13780
Current Resident or Landowner		2573 Co Hwy 4	S New Berlin	NY	13843
Current Resident or Landowner		246 Goodwin Ln	Guilford	NY	13780
Current Resident or Landowner		1339 Co Rd 33	So New Berlin	NY	13843
Current Resident or Landowner		130-19 59th Ave	Flushing	NY	11355
Current Resident or Landowner		250 High Bridge Rd	Mount Upton	NY	13809
Current Resident or Landowner		P.O. Box 63	Bainbridge	NY	13733
Current Resident or Landowner		875 Co Rd 37	Mt Upton	NY	13809
Current Resident or Landowner		12 Eagle Valley Rd	Sloatsburg	NY	10974
Current Resident or Landowner		6991 Greenway New London Rd	Verona	NY	13478
Current Resident or Landowner		357 Chelsea Rd	Fairless Hills	PA	19030
Current Resident or Landowner		388 State Hwy 7	Sidney	NY	13838
Current Resident or Landowner		388 State Hwy 7	Sidney	NY	13838
Current Resident or Landowner		861 Highbridge Rd	Mt. Upton	NY	13809
Current Resident or Landowner		221 Charles Ave	Massapequa Park	NY	11762
Current Resident or Landowner		232 Highbridge Rd	Mt Upton	NY	13809
Current Resident or Landowner		262 Fisher Ave	Staten Island	NY	10307
Current Resident or Landowner		1506 Lennox Dr	St James	NY	11780
Current Resident or Landowner		67 Rope Ln	Levitown	NY	11756
Current Resident or Landowner		6 Calendarview Dr	Bayville	NY	11709

Current Resident or Landowner		551 Phillips-Odell Rd	Mt Upton	NY	13809
Current Resident or Landowner		5 Smith Ln	Wayne	NJ	7470
Current Resident or Landowner		325 N Pond Rd	Guilford	NY	13780
Current Resident or Landowner		681 High Bridge Rd	Mt Upton	NY	13809
Current Resident or Landowner		273 Crandall Rd	Mt Upton	NY	13809
Current Resident or Landowner		116 Shumway Hill Rd	Guilford	NY	13780
Current Resident or Landowner		278 Shumway Hill Rd	Guilford	NY	13780
Current Resident or Landowner		135 Holmesville Hill Rd	Norwich	NY	13815
Current Resident or Landowner		4349 State Hwy 23	Norwich	NY	13815
Current Resident or Landowner		394 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		285 Miller-Shumway Rd	Guilford	NY	13780
Current Resident or Landowner		256 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		8016 Adel Ln	Zephyrhills	FL	33540
Current Resident or Landowner		928 Co Rd 36	Guilford	NY	13780
Current Resident or Landowner		165 Phillips Odell Rd	Mt Upton	NY	13809
Current Resident or Landowner		244 County Rd. 34	Norwich	NY	13815
Current Resident or Landowner		25 Woodstock Dr	Wayne	NJ	7470
Current Resident or Landowner		Apt 21-L	Jersey City	NJ	07302-3635
Current Resident or Landowner		398 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		323 Blower Rd	Guilford	NY	13780
Current Resident or Landowner		14 East Field Dr	Sussex	NJ	7461
Current Resident or Landowner		708 Almeda Dr	Toms River	NJ	8753
Current Resident or Landowner		598 Phillips Odell Rd	Mt Upton	NY	13809
Current Resident or Landowner		670 Phillips-Odell Rd	Mt Upton	NY	13809
Current Resident or Landowner		81 Bunny Trail Rd	Bangor	PA	18013
Current Resident or Landowner		23 Chenango St	Oxford	NY	13830
Current Resident or Landowner		383 Shumway Hill Rd	Guilford	NY	13780
Current Resident or Landowner		95 N Main St	Earlville	NY	13332
Current Resident or Landowner		138 Cross Rd	Guilford	NY	13780
Current Resident or Landowner		7 Laurel Cove Rd	Oyster Bay	NY	11771-1921
Current Resident or Landowner		134 Hartford Rd	Mount Laurel	NJ	8054
Current Resident or Landowner		436 Blower Rd	Guilford	NY	13780
Current Resident or Landowner		P.O. Box 72	Parksville	NY	12768
Current Resident or Landowner		157 County Rd 37	Guilford	NY	13780
Current Resident or Landowner		494 County Rd 36	Guilford	NY	13780

Current Resident or Landowner		361 Manor Rd	Douglaston	NY	11363
Current Resident or Landowner		146 Blower Rd	Guilford	NY	13780
Current Resident or Landowner		17 Barnes Rd	Manorville	NY	11949
Current Resident or Landowner		386 High Bridge Rd	Mt Upton	NY	13809
Current Resident or Landowner		441 County Rd 37	Guilford	NY	13780
Current Resident or Landowner		667 Co 37	Mount Upton	NY	13809
Current Resident or Landowner		436 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		956 Co Rd 37	Mt Upton	NY	13809
Current Resident or Landowner		107 Edgewood Dr	Norwich	NY	13815
Current Resident or Landowner		106 Bee Ln	Somerdale	NJ	8083
Current Resident or Landowner		P.O. Box 392	Mt. Bethel	PA	18343
Current Resident or Landowner		22 Prospect St	Bainbridge	NY	13733
Current Resident or Landowner		139 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		365 County Rd. 37	Guilford	NY	13780
Current Resident or Landowner		4489 North Shore Dr	Punta Gorda	FL	33980
Current Resident or Landowner		P.O. Box 100	Mt. Upton	NY	13809
Current Resident or Landowner		570 Hazen Rd	DeLand	FL	32720
Current Resident or Landowner		2915 Falcon Ave	Medford	NY	11763-1307
Current Resident or Landowner		222 Medbury Rd	Mt Upton	NY	13809
Current Resident or Landowner		24 Ellen St	Bethpage	NY	11714
Current Resident or Landowner		153 Brabant St Apt 5A	Staten Island	NY	10303-1938
Current Resident or Landowner		990 High Bridge Rd	Mt Upton	NY	13809
Current Resident or Landowner		56-19 203rd St	Oakland Gardens	NY	11364
Current Resident or Landowner		459 Keach Rd	Guilford	NY	13780
Current Resident or Landowner		222 Creek Fred Smith Rd	Mt Upton	NY	13809
Current Resident or Landowner		473 W 145th St #1	New York	NY	10031-4704
Current Resident or Landowner		P.O. Box 784	Oneonta	NY	13820
Current Resident or Landowner		364 Highbridge Rd	Mt. Upton	NY	13809
Current Resident or Landowner		846 County Rd 37	Mt Upton	NY	13809
Current Resident or Landowner		250 County Rd. 34	Norwich	NY	13815
Current Resident or Landowner		245 Camp Meeting Rd	Mt. Upton	NY	13809
Current Resident or Landowner		772 Co Rte 37	Mt Upton	NY	13809
Current Resident or Landowner		331 Blower Rd	Guilford	NY	13780
Current Resident or Landowner		P.O. Box 91	Mt. Upton	NY	13809
Current Resident or Landowner		518 William Floyd Pkwy	Shirley	NY	11967

Current Resident or Landowner		369 Split Rock Rd	Syosset	NY	11791
Current Resident or Landowner		124 Burdick Medbury Rd	Norwich	NY	13815
Current Resident or Landowner		1508 State Route 12 Apt 1	Binghamton	NY	13901
Current Resident or Landowner		402 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		100 Commerce Blvd	Wilkes-Barre	PA	18702
Current Resident or Landowner		471 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		742 County Rd 37	Mt. Upton	NY	13809
Current Resident or Landowner		709 Co Rd 37	Mt Upton	NY	13809
Current Resident or Landowner		419 N Pond Rd	Guilford	NY	13780
Current Resident or Landowner		221 Shumway Hill Rd	Guilford	NY	13780
Current Resident or Landowner		241 Riley Ave	Baiting Hollow	NY	11933
Current Resident or Landowner		6385 State Route 9	Chestertown	NY	12817
Current Resident or Landowner		791 High Bridge Rd	Mt. Upton	NY	13809
Current Resident or Landowner		247 County Rd. 34	Norwich	NY	13815
Current Resident or Landowner		744 High Bridge Rd	Mt. Upton	NY	13809
Current Resident or Landowner		583 County Rd 36	Guilford	NY	13780
Current Resident or Landowner		493 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		P.O. Box 489	West Winfield	NY	13491
Current Resident or Landowner		13801 Wireless Way	Oklahoma City	OK	73134
Current Resident or Landowner		22 Larchwood Dr	Goshen	NY	10924
Current Resident or Landowner		439 Blower Rd	Guilford	NY	13780
Current Resident or Landowner		422 Blower Rd	Guilford	NY	13780
Current Resident or Landowner		200 County Rd. 37	Guilford	NY	13780
Current Resident or Landowner		804 Wahlberg Rd	Guilford	NY	13780
Current Resident or Landowner		804 Wahlberg Rd	Guilford	NY	13780
Current Resident or Landowner		170 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		117 Pederson Ln	Norwich	NY	13815
Current Resident or Landowner		103 Smith Rd	Mt Upton	NY	13809
Current Resident or Landowner		111 Medbury Rd	Mt Upton	NY	13809
Current Resident or Landowner		96 Ballymount Dr	Millerton	NY	12546
Current Resident or Landowner		191 County Rd 4	Unadilla	NY	13849
Current Resident or Landowner		191 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		1278 West Brook Rd	West Milford	NJ	7480
Current Resident or Landowner		227 Whites Hill Rd	Guilford	NY	13780
Current Resident or Landowner		105 Wills Way`	Guilford	NY	13780

Current Resident or Landowner		762 Highbridge Rd	Mt Upton	NY	13809
Current Resident or Landowner		762 Highbridge Rd	Mt Upton	NY	13809
Current Resident or Landowner		2514 County Rd. 35	Bainbridge	NY	13733
Current Resident or Landowner		734 County Rd 36	Guilford	NY	13780
Current Resident or Landowner		P.O. Box 177	Sidney	NY	13838
Current Resident or Landowner		1100 Co Rd 37	Mt Upton	NY	13809
Current Resident or Landowner		367 Blower Rd	Guilford	NY	13780

Attachment 7

Calpine | High Bridge Wind Project



Project Overview

High Bridge Wind, LLC, a wholly owned subsidiary of Calpine Corporation, is proposing to submit an Application for Article 10 of the Public Service Law to construct an approximately 100 megawatt (MW) wind powered electric generating facility to be located in the town of Guilford, Chenango County, New York.

High Bridge Wind, LLC filed Proposed Stipulations on July 24, 2019, starting an 18-day public comment period. During the public comment period, anyone may comment on proposed stipulations by providing them to Alec Jarvis (see “Contact Us” section for details) and by filing a copy with the Secretary to the Siting Board (Hon. Kathleen H. Burgess at secretary@dps.ny.gov). Click to access the [Stipulations Notice](#) and [Proposed Stipulations](#). High Bridge’s Final Scoping Statement may be accessed [here](#).

Following the conclusion of the 18-day public comment period (ends August 11, 2019), High Bridge Wind, LLC will file an Application seeking a Certificate from the Siting Board authorizing the construction and operation of the Facility under Article 10. Please see [here](#) for the Application Submission Notice and see section “Accessing Public Documents and Information” for details on accessing the Application once it has been submitted.

The Applicant will provide funding along with the Application, in the amount of \$100,800, to be disbursed by the Siting Board to municipalities and other local parties to help pay expenses associated with participating in the Article 10 process during the application review phase. By law, 50% of intervenor funds are reserved for municipalities. The Hearing Examiner or the Secretary will issue a notice of availability of intervenor funds that provides a schedule and information on how parties may apply for the funds.

Project: High Bridge Wind Farm

Location: Guilford, Chenango County, New York

Potential Capacity: Approximately 100 megawatts

Number of Wind Turbines: Up to 25

Project Summary: The High Bridge Farm is a 100 MW, utility-scale wind energy project that is under advanced development for eastern Chenango County, New York, town of Guilford. The project will interconnect into an existing New York State Electric and Gas Corporation (NYSEG) transmission line that traverses the area, delivering power into the New York State power grid. Calpine began initial outreach in 2017 and is executing leases with landowner partners in early 2018. Calpine continues its community outreach efforts to landowners, local officials and area residents.

Community Benefits: Wind energy represents a viable, long-term revenue stream for families in the form of land-lease and easement-agreement payments during the development and operation of a wind farm. Rural communities also benefit from public road enhancements and increased tax revenues to fund local infrastructure and public services, including school systems, hospitals, libraries and emergency services. Moreover, construction, operations and maintenance jobs create direct and indirect benefits of additional jobs and increased demand for local goods and services.

Article 10 Process:

High Bridge Wind will be permitted pursuant to New York State's Article 10 Siting Process prior to construction and operation. As part of the Article 10 process, applicants are required to provide funds to be used to defray certain expenses incurred by municipal and local parties as they participate in the pre-application scoping process and in the proceeding before the Siting Board to consider the Article 10 Application. For more information on the Article 10 Process, visit the New York State Department of Public Service's website [click here](#).

High Bridge Wind Farm Public Documents:

- [Public Involvement Plan \(PIP\) and PIP Tracker](#)
- [Preliminary Scoping Statement \(PSS\)](#)
- Article 10 Application (In process. Will be made available upon submission.)
- [Code of Conduct - High Bridge Wind Farm](#)

Accessing Public Documents and Information:

In addition to the links provided above, you may access all documents electronically via the New York State Department of Public Service's [Document and Matter Management system \(DMM\)](#) or physically at one of the following locations below:

- Guilford Town Hall, 223 Marble Road, Guilford, NY 13780. Monday-Wednesday and Friday, 9 a.m.-1 p.m.; Thursday, 4-6 p.m.; Saturday, 9 a.m.-12 p.m.
- Guernsey Memorial Library, 3 Court Street, Norwich, NY 13815. Monday-Thursday, 9 a.m.-8:30 p.m.; Friday, 9 a.m.-6 p.m.; Saturday 9 a.m.-p.m.; Sunday, 1-4 p.m.
- Oxford Memorial Library, 8 Fort Hill Park, P.O. Box 552, Oxford, NY 13830. Monday-Thursday, 9:30 a.m.-8 p.m.; Friday, 9:30 a.m.-5 p.m.; Saturday, 9:30 a.m.-1 p.m.
- Gilbertsville Free Library, 17 Commercial Street, P.O. Box 332, Gilbertsville, New York 13776. Monday, 3:15-5:15 p.m.; Tuesday, 10 a.m.-12 p.m. and 3:15-5:15 p.m.; Wednesday, 10 a.m.-12 p.m., 3:15-5:15 p.m. and 6:30-8 p.m.; Friday, 10 a.m.-12 p.m. and 3:15-5:15 p.m.; Saturday 9 a.m.-1 p.m.

The [DMM](#) also offers the public the opportunity to post comments about the project throughout the application process. It also provides a means for interested parties to sign up to receive automated email alerts when filings are made by joining the "Service List."

CONTACT US:

For questions and comments related to High Bridge Wind, and for joining the stakeholder list, please contact High Bridge Wind Project Developer [Alec Jarvis](#) at 866-896-0508 (toll free) or 207-956-1169, Calpine Corporation, 717 Texas Ave., Suite 1000, Houston, TX 77002.

Attachment 8

Young / Sommer LLC

ATTORNEYS AT LAW

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August 12, 2019

Hon. Erika Bergen
Hon. James A. Costello
Administrative Law Judges
NYS Department of Public Service
Empire State Plaza
Agency Building 3
Albany, NY 12223-1350

Hon. Daniel P. O'Connell
Administrative Law Judge
NYS Department of Environmental Conservation
Office of Hearings and Mediation Services
625 Broadway, First Floor
Albany, New York 12233-1550

Re: Case No. 18-F-0262: Application of High Bridge Wind, LLC, for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 for Construction of the High Bridge Wind Project in the Town of Guilford, Chenango County, NY

Dear Judges Bergen, Costello and O'Connell:

We represent High Bridge Wind, LLC ("High Bridge Wind" or the "Applicant") in the above-referenced proceeding. On August 12, 2019, High Bridge Wind will file an Application under Public Service Law (PSL) Article 10 for the High Bridge Wind Project (the "Application"). The Application contains certain information which the Applicant asserts is confidential and should be protected from disclosure pursuant to the Siting Board's regulations. As such, please find enclosed the Comprehensive Brief required by 16 NYCRR § 6-1.4 providing the basis for the Applicant's assertion of confidentiality.

Copies of various documents for which the Applicant is seeking protection from disclosure are included with this letter. Certain materials that are either extremely bulky, not available in printed format (such as GIS Shapefiles) and/or were supplied to the appropriate agency staff separate from the above-referenced Application are not included with this submission. If you require copies of these documents in order to make the requested

confidentiality determination, please let us know and we will supply them to you, unless specifically prohibited by applicable laws.

If you have any questions, please feel free to let us know.

Respectfully submitted,

/s/ Laura K. Bomyea

James A. Muscato II

Laura K. Bomyea

Young/Sommer LLC

Attorneys for High Bridge Wind, LLC

cc: Party List (*via DMM*)