

# CURTIN LAW FIRM, P.C.

Paul J. Curtin, Jr.

Attorneys at Law  
www.curtinlawpc.com

Cynthia M. Curtin \*  
Of Counsel

Brian T. Sinsabaugh

\*Admitted in California Only

June 12, 2017

***VIA ELECTRONIC MAIL***

Hon. Kathleen H. Burgess  
Secretary to the Commission  
New York State Public Service Commission  
Empire State Plaza  
Agency Building 3  
Albany, NY 12223-1350

***Re: Case No. 16-F-0268: Application of Atlantic Wind LLC for a Certificate of Environmental Compatibility and Public Need to Construct up to a 100 Megawatt Wind-Powered Electric Generating Facility in the Towns of Parishville and Hopkinton, St. Lawrence County, New York***

Dear Secretary Burgess:

Our firm represents the Concerned Citizens for Rural Preservation ("CCRP") in the above referenced proceeding before the Siting Board on Electric Generation and the Environment ("Siting Board") under Article 10 of the NY Public Service Law ("Article 10").

In accordance with the Notice Extending Deadline for Submission of Comments issued May 24, 2017, I have enclosed a Request for Intervenor Funds on behalf of the CCRP .

Should you have any questions or concerns, please contact me. Thank you.

Very truly yours,

**CURTIN LAW FIRM, P.C.**



Brian T. Sinsabaugh, Esq.  
bsinsabaugh@curtinlawpc.com

**Request for Intervenor Funds**

Instructions: Provide all applicable information by filling in the text boxes as indicated.  
If necessary, attach additional information in a separate document.

This request is to be submitted either electronically (preferred) or by regular mail.

To submit this request electronically, save your changes and attach it to an e-mail sent to:  
secretary@dps.ny.gov

To submit this request by regular mail, print it and mail it to:

Secretary,  
NYS Board on Electric Generation  
Siting and the Environment  
3 Empire State Plaza  
Albany, NY 12223

Copies must also be submitted to the Presiding Examiner and other parties to the proceeding.

**TO THE SECRETARY:**

I hereby provide a request for intervenor funds in the following Article 10 case before the NYS Board on Electric Generation Siting and the Environment:

Case Number: 16-F-0268

Title of Case: Application of Atlantic Wind LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 for Construction of the North Ridge Wind Energy Project in the Towns of Parishville and Hopkinton, St. Lawrence County.

Name of Party: Concerned Citizens for Rural Preservation

Contact Person: Brian T. Sinsabaugh, Esq.

Firm Name: Curtin Law Firm, PC

Contact Address: 42 Albany Street  
Cazenovia, New York 13035

Contact Telephone Number: 315.815.4221

Contact E-mail Address: bsinsabaugh@curtinlawpc.com

Amount of Funds Requested: \$17,500

IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.

The basis of eligibility for intervenor funds is as follows: (Check one)

- Eligible Municipal Party** [County, city, town or village located in New York State that may be affected by the proposed major electric generating facility]
- Eligible Individual Local Party** [Person residing in a community who may be individually affected by the proposed major electric generating facility]
- Eligible Group Local Party** [Persons residing in a community who may be collectively affected by the proposed major electric generating facility]

1(a) Provide a statement of the number of persons the requesting party represents:

The Concerned Citizens for Rural Preservation ("CCRP") represents the land owners and residents of the Towns of Hopkinton and Parishville, including the growing Amish population. Currently, the CCRP has acquired membership and/or support from approximately twenty percent (20%) of the total population of the Towns of Hopkinton and Parishville and thirty-six percent (36%) of all adults aged 18 and over who reside in the Towns of Hopkinton and Parishville. The previously mentioned figures are based upon the 2010 census data, which provides for a total population of 3,230 persons. Membership has continued to increase to-date. Currently, CCRP's membership and/or supporting persons exceeds 700 persons.

1(b) Provide a statement of the nature of the interests the requesting party represents:

The CCRP is comprised of land owners and residents of the Towns of Hopkinton and Parishville, in which the proposed wind turbine development would take place. The CCRP was formed to ensure the health, safety and welfare of the land owners and residents of the Towns of Hopkinton and Parishville is protected by providing a singular, focused voice for its members and supporters through which such member landowners and residents may most effectively participate in the Article 10 process.

2(a) Provide a statement of the efforts that have been made to obtain funds from other sources:

Other than unsolicited in-kind donations of its members (who are of limited means), Atlantic Wind, LLC's intervenor funding is the only other source of funds for the CCRP.

2(b) Provide a statement of the availability of funds from the resources of the requesting party:

As stated above, the CCRP's funds are comprised solely of in-kind donations of its members and supporters. Such donations consist primarily of donations of office supplies and vehicle/transportation expenses. The CCRP does have an organizational checking account which is held separately the funds of any private members and all such funds are made available for use by the organization only. As of this date, such account holds approximately \$310. The CCRP has no other funding available at this time.

2(c) Provide a statement of the availability of funds from the resources of sources other than the requesting party:

The CCRP has no other financial resources at its disposal.

3(a) Indicate the type of funds being sought: (Check one)

- Pre-Application Stage Funds** [Generally available upon the filing by the Project Applicant of a Preliminary Scoping Statement (PSS)]
- Application Stage Funds** [Generally available upon the filing by the Project Applicant of an Article 10 Application]

**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

**3(b) State the amount of funds being sought:**

The CCRP is requesting \$17,500 in intervenor funds. This amount is equal to one half of the full amount the intervenor funds, and will cover a portion of those funds required to obtain proper representation by Curtin Law Firm, PC and E-Coustic Solutions, LLC., which are estimated to total of \$33,680.

**4(a) If expert witnesses, consultants, attorneys, or others are to be employed, provide to the extent possible, the name and qualifications of each person to be employed:**

The intervenor funds would be used to retain the services of the following:

Paul J. Curtin, Jr., Esq.  
Curtin Law Firm, P.C.  
42 Albany Street  
Cazenovia, NY 13035

Curtin Law Firm, PC will provide the CCRP legal counsel throughout the Article 10 pre-application stage.

Richard R. James  
E-Coustics Solutions, LLC  
P.O. Box 1129  
Okemos, MI 48805

Richard R. James will provide the CCRP with expert review and analysis of the Preliminary Scoping Statement and the applicable local municipal wind laws, and conduct independent studies of acoustic/ambient noise levels within the proposed overlay zone.

**\*\* C/V and information attached \*\***

IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.

- 4(b) If expert witnesses, consultants, attorneys, or others are to be employed and it is not possible to provide the name of each person to be employed, provide for each person that cannot be named a statement of the necessary professional qualifications for the person:

Dr. Jerry Punch, PhD, may also provide a review and analysis of the health effects on persons residing in the area surrounding wind turbines and wind turbine developments.

Les Blomberg may also provide on-site testing of acoustic/ambient noise levels within the proposed overlay zone.

James Wiegand, an environmental biologist, may also provide environmental consulting services for the CCRP. The services he would provide would include a review of the Project's impact on bird, bat and raptor wildlife.

Michael McCann may also provide professional appraisal guidelines and methodology to analyze the effects of wind turbines on surrounding real property values.

- 5 Provide, if known, the name of any other interested person or entity who may, or is intending to, employ any such expert witnesses, consultants, attorneys, or others:

Town of Hopkinton  
Town of Parishville  
The Parishville Hopkinton Alliance

IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.

6(a) For all expert witnesses, consultants, attorneys, or others to be employed, provide a detailed statement of the services to be provided:

Mr. Curtin represents the CCRP in the current Article 10 proceeding. To date his cost to the organization has been underwritten by limited funding received through in-kind donations of its members and supporters (as previously described above). During the stipulation phase when the parties and applicant are negotiating what to include in the final scoping document and what is to be considered for examination and study in the formal application, Mr. Curtin will attend all of these formal meetings and negotiations. The funding request is to cover any preparation costs for the stipulation phase and any legal costs associated with attending, participating and representing the CCRP.

On behalf of CCRP, Mr. James will conduct a detailed review of the applicant's scoping document to insure that potential environmental impacts, including but not limited to noise impacts, will be thoroughly and properly analyzed in accordance with federal and state mandated guidelines and/or standard accepted procedures. In addition, Mr. James will review the applicant's proposed criteria and methodology for the establishment of site baseline conditions to insure that the subsequent evaluation and/or comparison of estimated environmental impacts vs. baseline conditions is applicable and accurate. And finally, Mr. James will review the scope of proposed studies and/or field investigations to be performed by the applicant and make specific recommendations, if necessary, regarding the extent of the study area, data collection methods, etc.

6(b) For all expert witnesses, consultants, attorneys, or others to be employed, provide a detailed basis for the fees requested, including hourly fee, wage rate, and expenses:

Paul J. Curtin, Jr., Esq. / Curtin Law Firm, PC:

Hourly Rate: \$265.00  
Review & Reporting (4 hrs): \$1,060.00  
Stipulation Conference (32 hrs): \$8,480.00  
Travel (4 days): \$3,840.00  
Total: \$13,380.00

Richard R. James / E-Coustic Solutions, LLC:

Hourly Rate: \$190 (Principal), \$  
Conduct Review of relevant portions of the applicant's Article 10 Application (6 hrs.): \$1,140  
Conduct background sound measurements of infra sound at selected homes: \$3,500  
Review information provided regarding sound propagation modeling for sufficiency, accuracy and reliability (6 hrs.) \$1,140  
Conduct critical review of research on peer reviewed literature (12 hrs.): \$2,280  
Conduct review of research and government agency documents re. noise (6 hrs.): \$1,140  
Prepare Pre-filed Testimony (28 hrs.): \$5,320  
Attend Evidentiary Hearings: \$3,500  
Consultation (12 hrs.): \$2,280  
Total: \$20,300

**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

- 6(c) For all expert witnesses, consultants, attorneys, or others to be employed during the Pre-Application Stage, provide a detailed statement specifying how such services and expenses will make an effective contribution to review of the Preliminary Scoping Statement and the development of an adequate scope of appropriate studies for the application to be submitted and thereby provide early and effective public involvement:

Article 10 rules state that once a stipulation agreement has been reached the parties can no longer object to any issues related to the methods and approach in future hearings and proceedings. For that reason, the CCRP has elected to have its attorney present during these negotiations to protect the interests of the CCRP and its land owner and resident members, and to ensure that all issues considered by the applicant are comprehensive and studied fully. The CCRP also has elected to obtain professional expert representation by Mr. Richard R. James to ensure proper and complete review of certain provisions and stipulations of the applicant regarding ambient and accoustic noise. Such review and analysis will be supported by the opinions and analysis of medical professionals and utilize recognized state-of-the-art tools and procedures.

**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

- 6(d) For all expert witnesses, consultants, attorneys, or others to be employed during the Application Stage, provide a detailed statement specifying how such services and expenses will contribute to the compilation of a complete record as to the appropriateness of the site and facility and will facilitate broad participation in the proceeding.

N/A



**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

**7(a) For any study to be performed, a description of the purpose of the study:**

No studies are anticipated to be performed in the Pre-Application Stage

**7(b) For any study to be performed, a description of the methodology and a statement of the rationale supporting the methodology:**

No studies are anticipated to be performed in the Pre-Application Stage

**7(c) For any study to be performed pursuant to any proposed methodology that is new or original, explaining why pre-existing methodologies are insufficient or inappropriate:**

No studies are anticipated to be performed in the Pre-Application Stage

**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

- 7(d) For any study to be performed, provide a description of the timing for completion of the study and a statement of the rationale supporting the timing proposed:

No studies are anticipated to be performed in the Pre-Application Stage

- 8(a) For any study to be performed, a statement as to the result of any effort made to encourage the applicant to perform the proposed studies or evaluations and the reason it is believed that an independent study is necessary:

No studies are anticipated to be performed in the Pre-Application Stage

- 9 For all expert witnesses, consultants, attorneys, or others to be employed, provide a copy of any contract or agreement or proposed contract or agreement with each such expert witness, consultant, attorney, or other person.

**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

**10** Provide a statement of any additional justification for the funding request not already addressed above:

N/A

**PAUL J. CURTIN, JR., ESQ.**

Curtin Law Firm, P.C.  
42 Albany Street  
Cazenovia, New York 13035  
Phone: (315) 815-4221  
Email: pcurtin@curtinlawpc.com

- Born:** Syracuse, New York - October 16, 1949
- Education:** New York Military Academy, Cornwall-On-Hudson, NY Graduated 1967
- Villanova University, Villanova, Pennsylvania 1967 - 1969
- Marist College, Poughkeepsie, New York 1969-72 Bachelor of Arts  
Cum Laude - Graduated June 1972
- New England Law - Boston, Massachusetts 1973-1976 - Juris Doctor Graduated May 1976. Honors: Deans List 1973-1976
- Career:** Admitted to practice before all courts of the State of New York and before the Supreme Court of the United States as well as the Federal District Court, Northern District and Southern District of New York.
- 1976-79 – Associate, Private Practice Law Firm, Syracuse, New York,
- 1979-86 - General Counsel - Community Technology, Inc., Syracuse, New York – Primary emphasis included real estate acquisition, development and financing. Major Development: Village Green P.U.D., Camelot Homeowners Association, Bishops House Condominium, Standart Woods Apartments, Harbour House Condominium.
- 1986-90 - Assistant General Counsel, Assistant Secretary – Fay's Incorporated, Liverpool, New York “Fortune 500”– Regional Chain Pharmacy Company; Primary Emphasis commercial leasing, land acquisition and development and general corporate matters.
- 1990-September 30, 2013 – Partner in the law firm of Shulman, Curtin & Grundner, P.C., 250 South Clinton Street, Suite 502, Syracuse, New York 13202
- October 1, 2013 to date – Founding Partner of Curtin Law Firm, P.C.
- Practice Concentration:** Residential and commercial land development, zoning, condominium offerings, homeowners associations, commercial leasing and financing and municipal law.
- Significant Client List:** The Pyramid Companies, Pioneer Development, The Widewaters Group, The Edgewater Group, Stringer Development and Construction Company, Fay's Incorporated, CNY Development Group, Mutual of New York, Oneida Savings Bank and the Sisters of St. Francis of the Neumann Communities.

Represented clients before Town and Planning Boards and Zoning Board of Appeals in the Towns of Camillus, Canton, Cazenovia, Marcellus, Geddes, Spafford, Salina, Van Buren, Clay, Dewitt, Manlius and Lysander, Cape Vincent, Lyme, the Village of Skaneateles, Cazenovia and the City of Syracuse, Binghamton, Ithaca, Potsdam, Watertown, Utica, Rome, Oneida, as well as numerous other municipalities throughout Upstate New York.

**Organizations  
and Community  
Activities:**

New York State Bar Association  
Onondaga County Bar Association  
Madison County Bar Association  
Oneida County Bar Association

Hospice of Central New York (former Board President)  
Hospice Foundation (Board of Directors – former Board President)  
Huntington Family Center, Inc. (former Board President)  
Rape Crisis Center of Syracuse, Inc. (Board of Directors)  
Madison Environmental Services, Inc. (Board President)  
American Cancer Society (Advisory Board)  
New York Military Academy (former President, Board of Trustees) (1998-2010)  
Erie Canal Museum (Board of Directors, Secretary) (2011 – 2017)  
Oneida Savings Bank (Board of Directors) (2014 – 2015)

Town of Camillus Planning Board – Attorney  
(2000 – to date)

Town of Geddes – Town Attorney  
(March 2013 – December 2016)

City of Syracuse, Common Council – Special Counsel  
(Oct. 2011 – to date)

Town of Cape Vincent – Special Counsel  
(Jan. 2012 – to date)

Town of Hounsfield – Special Counsel  
(2016 – to date)

Cazenovia Advisory Conservation Commission  
(2011 – to date)

Diocese of Central New York – Chancellor  
(1998 – to date)

Lecturer for Continuing Legal Education courses offered by:

- The New York State Bar Association
- The Onondaga County Bar Association
- Lorman Education Services
- National Business Institute

Listed under “The Best Lawyers in America” as well as “Super Lawyers” for Land Use and Zoning Law; Rated “AV” Preeminent, Martindale-Hubbell, Peer voted Lawyer of the Year for Land Use and Planning in Central New York

**Educational  
Activities:**

Adjunct Professor State University of New York, College of Environmental Science and Forestry: Zoning and Land Use Law (2013 – to date)

# E-Cooustic Solutions LLC

NOISE CONTROL • SOUND MEASUREMENT • CONSULTATION  
COMMUNITY • INDUSTRIAL • RESIDENTIAL • OFFICE • CLASSROOM • HIPPA ORAL PRIVACY  
P.O Box 1129, Okemos, MI, 48805  
RICKJAMES@E-COUSTIC.COM

RICHARD R. JAMES  
PRINCIPAL  
TEL: 517-507-5067  
FAX: (866) 461-4103

January 18, 2017

TO:

Subject: Qualifications of R. James

Dear {Insert}:

I am the Owner and Principal Consultant for E-Cooustic Solutions, LLC, of Okemos, Michigan. I have been a practicing acoustical engineer for over 40 years. My career started as an acoustical engineer working for the Chevrolet Division of General Motors Corporation in the early 1970s. Since that time my clients include many large manufacturing firms, such as, General Motors, Ford, Goodyear Tire & Rubber, and others who have manufacturing facilities community noise and worker noise exposure. In addition, I have worked for many small companies and private individuals. I have been actively involved with the Institute of Noise Control Engineers (INCE) since its formation in the early 1970's and am currently a Member Emeritus.

My academic credentials include a degree in Mechanical Engineering (BME) from General Motors Institute, Flint Michigan (now Kettering Institute). I was an adjunct Instructor to the Speech and Communication Science Department at Michigan State University from 1985 to 2013 and am currently an adjunct Professor for the Department of Communication Disorders at Central Michigan University.

Specific to wind turbine noise, I have worked for clients on wind turbine related projects in over 60 different communities.

Written and oral testimony was provided in approximately 30 of those cases. I have also authored or co-authored four papers covering wind turbine noise topics including:

- Criteria for wind turbine projects necessary to protect public health (2008),
- Demonstrating that wind turbine sound immissions are predominantly comprised of infra and low frequency sound (2011), and
- A peer reviewed historical review of other types of low frequency noise sources with similar sound emission characteristics, such as large HVAC systems (fans) which caused noise induced Sick Building Syndrome and other noise sources that have known adverse health effects on people exposed to their sound. (2012).
- A peer reviewed paper published in 2016 describing research conducted over the last 40 years showing that wind turbine noise has specific characteristics that pose risks of adverse impacts on a community if wind turbines are located too close to homes. It focuses on the arguments presented by the wind industry when it asserts that wind turbines pose no risks to the public's health and welfare.

I have been qualified as an expert in acoustics for hearings and court proceedings in several countries including several in New York. Qualifications in Canada and the U.S are shown in the table below.:

Jurisdiction	Before	Qualified as:
Ontario, CA (January 2014)	Ministry of Environment (MOE) and Environmental Review Tribunal (ERT)	Qualified to provide evidence on matters related to acoustics and noise control engineering and wind turbines
Alberta, CA (Dec. 2013)	Alberta Utilities Commission (AUC)	an acoustical engineer and acoustician with expertise in the field of sound including noise, low frequency noise, sounds emitted from industrial wind turbines and human response to noise.
Michigan, US	Michigan Circuit Court	<ol style="list-style-type: none"><li>1. acoustician with expertise in measurement of wind turbine noise and its effects on people. (Dec. 2013)</li><li>2. acoustician qualified to opine that the plaintiff's symptoms were caused by the defendant's wind turbines. After special Daubert Hearing (Dec. 2013)</li></ol>

I have attached two documents to support my qualifications and experience. The first is a set of documents covering my qualifications, a summary of cases and jurisdictions where I have provided testimony related to community noise, and a list of my more recent publications. The second is a copy of my statement filed in the hearing before the New Hampshire Siting Evaluation Committee regarding the application for the Antrim Wind, project as Exhibit JL-RJ-1.

Sincerely,

E-Coustic Solutions LLC



Richard R. James, INCE

EXAMPLE



## BIOGRAPHICAL SKETCH

NAME	POSITION TITLE	BIRTHDATE
Richard R. James	Principal Consultant, E-Coustic Solutions, LLC (2006- )	3/3/48

### ACADEMIC CREDENTIALS

INSTITUTION	DEGREE/POSITION	YEAR	FIELD
General Motors Institute, Flint, MI	B. Mech. Eng.	1966-1971	Noise Control Engineering
Michigan State University, East Lansing, MI	Adjunct Instructor	1985-2013	Acoustics and Effects of Noise on People
Central Michigan University, Mount Pleasant, MI	Adjunct Professor	2012-2017	Wind Turbine Noise and its Impact on People

### RESEARCH AND PROFESSIONAL EXPERIENCE:

Richard R. James has been actively involved in the field of noise control since 1969, participating in and supervising research and engineering projects related to control of occupational and community noise in industry. In addition to his technical responsibilities as principal consultant, he has developed noise control engineering and management programs for the automotive, tire manufacturing, and appliance industries. Has performed extensive acoustical testing and development work in a variety of complex environmental noise problems utilizing both classical and computer simulation techniques. In 1975 he co-directed (with Robert R. Anderson) the development of SOUND™, an interactive acoustical modeling computer software package based on the methods that would be later codified in ISO 9613-2 for pre and post-build noise control design and engineering studies of in-plant and community noise. The software was used on projects with General Motors, Ford Motor Company, The Goodyear Tire & Rubber Co., and a number of other companies for noise control engineering decision making during pre-build design of new facilities and complaint resolution at existing facilities. The SOUND™ computer model was used by Mr. James in numerous community noise projects involving new and existing manufacturing facilities to address questions of land-use compatibility and the effect of noise controls on industrial facility noise emissions. He is also the developer of ONE\*dB™ software. He was also a co-developer (along with James H. Pyne, Staff Engineer GM AES) of the Organization Structured Sampling method and the Job Function Sound Exposure Profiling Procedure which in combination form the basis for a comprehensive employee risk assessment and sound exposure monitoring process suitable for use by employers affected by OSHA and other governmental standards for occupational sound exposure. Principal in charge of JAA's partnership with UAW, NIOSH, Ford, and Hawkwa on the HearSaf 2000™ software development CRADA partnership for world-class hearing loss prevention tools.

- 1966-1970 Co-operative student: General Motors Institute and Chevrolet Flint Metal Fabricating Plant.
- 1970-1971 GMI thesis titled: "Sound Power Level Analysis, Procedure and Applications". This thesis presented a method for modeling the effects of noise controls in a stamping plant. This method was the basis for SOUND™.
- 1970-1972 Noise Control Engineer-Chevrolet Flint Metal Fabricating Plant. Responsible for developing and implementing a Noise Control and Hearing Conservation Program for the Flint Metal Fabricating Plant. Member of the GM Flint Noise Control Committee which drafted the first standards for community noise, GM's Uniform Sound Survey Procedure, "Buy Quiet" purchasing specification, and guidelines for implement-ing a Hearing Conservation Program.
- 1972-1983 Principal Consultant, Total Environmental Systems, Inc.; Lansing, MI. Together with Robert R. Anderson formed a consulting firm specializing in community and industrial noise control.
- 1973-1974 Consultant to the American Metal Stamping Association and member firms for in-plant and community noise.
- 1973 Published: "Computer Analysis and Graphic Display of Sound Pressure Level Data For Large Scale Industrial Noise Studies", Proceedings of Noise-Con '73, Washington, D.C.. This was the first paper on use of sound level contour 'maps' to represent sound levels from computer predictions and noise studies.
- Nov. 1973 Published: "Isograms Show Sound Level Distribution in Industrial Noise Studies", Sound & Vibration Magazine
- 1975 Published: "Computer Assisted Acoustical Engineering Techniques", Noise-Expo 1975, Atlanta, GA which advanced the use of computer models and other computer-based tools for acoustical engineers.
- 1976 Expert Witness for GMC at OSHA Hearings in Washington D.C. regarding changes to the "feasible control" and cost-benefit elements of the OSHA Noise Standard. Feasibility of controls and cost-benefit were studied for the GMC, Fisher Body Stamping Plant, Kalamazoo MI.
- 1977-1980 Principal Consultant to GMC for the use of SOUND™ computer simulation techniques for analysis of design,

- layout, and acoustical treatment options for interior and exterior noise from a new generation of assembly plants. This study started with the GMAD Oklahoma City Assembly Plant. Results of the study were used to refine noise control design options for the Shreveport, Lake Orion, Bowling Green plants and many others.
- 1979-1983 Conducted an audit and follow-up for all Goodyear Tire & Rubber Company's European and U.K. facilities for community and in-plant noise.
- 1981-1985 Section Coordinator/Speaker, Michigan Department Of Public Health, "Health in the Work Place" Conference.
- 1981 Published: "A Practical Method for Cost-Benefit Analysis of Power Press Noise Control Options", Noise-Expo 1981, Chicago, Illinois
- 1981 Principal Investigator: Phase III of Organization Resources Counselors (ORC), Washington D.C., Power Press Task Force Study of Mechanical Press Working Operations. Resulted in publishing: "User's Guide for Noise Emission Event Analysis and Control", August 1981
- 1981-1991 Consultant to General Motors Corporation and Central Foundry Division, Danville Illinois in community noise citation initiated by Illinois EPA for cupola noise emissions. Resulted in a petition to the IEPA to change state-wide community noise standards to account for community response to noise by determining compliance using a one hour  $L_{eq}$  instead of a single not-to-exceed limit.
- 1983 Published: "Noise Emission Event Analysis-An Overview", Noise-Con 1983, Cambridge, MA
- 1983-2006 Principal Consultant, James, Anderson & Associates, Inc.; Lansing, MI. (JAA), Together with Robert R. Anderson formed a consulting firm specializing in Hearing Conservation, Noise Control Engineering, and Program Management.
- 1983-2006 Retained by GM Advanced Engineering Staff to assist in the design and management of GM's on-going community noise and in-plant noise programs.
- 1984-1985 Co-developed the 1985 GM Uniform Plant Sound Survey Procedure and Guidelines with James H. Pyne, Staff Engineer, GM AES.
- 1985-2013 Adjunct instructor in Michigan State University's Department of Communicative Sciences and Disorders from 1985-2013
- 1986-1987 Principal Consultant to Chrysler Motors Corporation, Plant Engineering and Environmental Planning Staff. Conducted Noise Control Engineering Audits of all manufacturing and research facilities to identify feasible engineering controls and development of a formal Noise Control Program.
- 1988-2006 Co-Instructor, General Motors Corporation Sound Survey Procedure (Course 0369)
- 1990 Developed One\* $dB^{(tm)}$ , JAA's Occupational Noise Exposure Database manager to support Organizational structured sampling strategy and Job Function Profile (work-task) approach for sound exposure assessment.
- 1990-1991 Co-developed the 1991 GM Uniform Plant Sound Survey Procedure and Guidelines with James H. Pyne, Staff Engineer, GM AES. Customized One\* $dB^{(tm)}$  software to support GM's program.
- 1990-2006 Principal Consultant to Ford Motor Company to investigate and design documentation and computer data management systems for Hearing Conservation and Noise Control Engineering Programs. This included bi-annual audits of all facilities.
- 1993-2006 GM and Ford retain James and JAA as First-Tier Partners for all non-product related noise control services.
- 1993 Invited paper: "An Organization Structured Sound Exposure Risk Assessment Sampling Strategy" at the 1993 AIHCE
- 1993 Invited paper: "An Organization Structured Sound Exposure Risk Assessment Database" at the Conference on Occupational Exposure Databases, McLean, VA sponsored by ACGIH
- 1994-2001 Instructor for AIHA Professional Development Course, "Occupational Noise Exposure Assessment"
- 1996 Task Based Survey Procedure (used in One\* $dB^{(tm)}$ ) codified as part of ANSI S12.19 Occ. Noise Measurement
- 1995-2001 Coordinate JAA's role in HearSaf 2000<sup>tm</sup> CRADA with NIOSH, UAW, Ford, and HAWKWA
- 1997-2007 Board Member, Applied Physics Advisory Board, Kettering Institute, Flint, Michigan
- 2002-2006 Member American National Standards Institute (ANSI) Accredited Standards Committee S12, Noise
- 2006 Closed James, Anderson and Associates, Inc. (JAA) and founded E-Coustic Solutions (E-CS)
- 2006-Present Consultant to local communities and citizen's groups on proper siting of Industrial Wind Turbines. This includes presentations to local governmental bodies, assistance in writing noise standards, and formal testimony at zoning board hearings and litigation.
- 2008 Paper on "Simple guidelines for siting wind turbines to prevent health risks" for INCE Noise-Con 2008, coauthored with George Kamperman, INCE Bd. Cert. Emeritus, Kamperman Associates.

2008 Expanded manuscript supporting Noise-Con 2008 paper titled: "The "How To" Guide To Siting Wind Turbines To Prevent Health Risks From Sound"

2009 "Guidelines for Selecting Wind Turbine Sites," Kamperman and James, Published in the September 2009 issue of Sound and Vibration.

2010 Punch, J., James, R., Pabst, D., "Wind Turbine Noise, What Audiologists should know," Audiology Today, July-August 2010

2011 Jerry L. Punch, Jill L. Eifenbein, and Richard R. James, "Targeting Hearing Health Messages for Users of Personal Listening Devices," Am J Audiol 0: 1059-0889\_2011\_10-0039v1

2011 Bray, W., HEAD Acoustics, James, R., "Dynamic measurements of wind turbine acoustic signals, employing sound quality engineering methods considering the time and frequency sensitivities of human perception," invited paper for Noise-Con 2011, Portland OR

2012 James, R., "Wind Turbine Infra and Low Frequency Sound: Warning Signs that were not Heard," April 2012, Bulletin of Science, Technology and Society

2012 Appointed to position as Adjunct Professor in the Department of Communication Disorders at Central Michigan University.

**Professional Affiliations/Memberships/Appointments**

Research Fellow - Metrosonics, Inc.	American Industrial Hygiene Association (through 2006)
National Hearing Conservation Association (through 2006)	Institute of Noise Control Engineers (Full Member)
American National Standards Institute (ANSI) S12 Working Group (through 2006)	Founder and Board Member of the Society for Wind Vigilance, Inc.
Adjunct Professor, CMU 2012-2017	Adjunct Instructor, MSU 1985-2013

**Summary of Court and Administrative Agency Cases  
for Richard R. James, INCE Since 2010  
Dec. 12, 2016**

<b>Description</b>	<b>Date</b>	<b>Case No.</b>	<b>Topic</b>
Chatham Ontario, Kent Breeze Wind	February 1, 2010	Hearing before Ontario Environmental Board of Review: Case No: 10-121/10-122	Hearing on whether project complies with Ontario regulations to protect health under the Green Energy Act.
Town of Albany, VT	February 1, 2011	Hearing before Public Services Commission, Docket No. 7628	Hearing before PUC on application for permit by Green Mountain Power Corp. for Kingdom Mountain Wind, LLC.
State of Maine	July 7, 2011	Hearing before the Maine Board of Environmental Protection	Hearing before the BEP on a Petition for Rule Change for Maine's Chapter 375 Noise Regulations to add specific Rules for wind turbine noise.
State of Michigan Circuit Court of Leelanau county	Nov. 8-10, 2011	Michigan Circuit Court, Leelanau County. Case No: 11-8456-CZ	Complaint of Nuisance Noise and other effects of a 100kW Residential class wind turbine
Illinois, Bureau County, Friesland Farms, LLC, Pierson, Plaintiff, v. Big Sky Wind, LLC)	Dec. 30, 2011 (filed testimony) Feb. 1, 2012 Deposed	US District Court, Central District of Illinois, Peoria. Case No. 10-01232	Complaint of noise annoyance and adverse health effects. Case to be heard in early 2013.
Escanaba Twp. (Gladstone MI) vs. Wells Lions Race Track	March 2012 field study and June 2012 report to town attorney	Township enforcement actions	Complaint of noise annoyance related to ice racing race track adjoining residentially zoned property.
Vermonters for a Clean Environment vs. U.S.D.A. Forest Service,	July 23, 2012 filed testimony for Appeal of Decision	US District Court, District of Vermont Civil Action No. 1:12-cv-73	USFWS Failed to properly consider impact of Deerfield Wind Project on Aiken Wilderness Area in its Decision to Approve said project.
Intervenors opposing Application for Certification: Pursuant to RSA 162-H of ANTRIM WIND ENERGY, LLC	PFT and oral testimony presented Aug. 23, 2012. Additional oral testimony on Nov. 29, 2012.	State of New Hampshire Site Evaluation Committee. Docket No. 2012-01	Application for Certification: Pursuant to RSA 162-H of ANTRIM WIND ENERGY, LLC. Testimony on behalf of North Branch Residents Intervenors Group, Abutting Property Owners Intervenors Group, and Katharine Elizabeth Sullivan. Case to be heard Oct. 2012.
Union Neighbors United, Intervenors opposing Application of Champaign Wind LLC before Ohio Power Siting Board	PFT and oral testimony presented Nov. 2012	State of Ohio, Power Siting Board Case No: 12-0160-EL-BGN	Testimony on behalf of Union Neighbors United in opposition to 2nd Phase of Buckeye Wind project. Champaign County, Ohio.
Private lawsuit by Wiltzer family against Stoney Creek Wind Project, McBain, Michigan	Affidavits and other documents	Lawsuit pending	Testimony on behalf of family who has vacated their home as a result of a 2.5 MW wind turbine being operated at 1350 feet from their home.
Private Lawsuit by Zawadzki family vs. Noble Bliss Wind Park and Town of Eagle, New York	Affidavits, noise studies and other related testimony.	Before the State of New York, Supreme Court, Wyoming County, NY, Index No. 43260/10	Testimony on behalf of family who allege that the subject wind utility causes sleep interference and other adverse effects from operation of wind turbines located approximately 1500 feet from home.
MOE Public Hearing for St. Columban Wind Project,	Critical review of Noise Impact Assessment conducted by Zephyr North for St. Columban Wind.	Ontario EBR Registry Number 011-7629, Ministry Reference Number: 6602-8V9P97	Written testimony on behalf of residents living in or near the foot print of the St. Columban project, Huron County, Ontario, Canada
Wisconsin, Public Service Commission, Hearing on Application of Highland Wind Farm, Towns of Forest and Cylon, Wisconsin.	Supplemental Direct Testimony and additional statements to WPSC. Oral testimony pending on January 17, 2013.	WPSC Docket No. 2353-CE-100	Testimony on behalf of Forest Voice on advanced analysis methods and findings from use of those methods to analyze the calibrated audio files collected by the PSC selected Team at homes of affected families in Shirley Wind Project, Glenmore, Wisconsin.
Michigan 28th Circuit Court: Wiltzer vs. Heritage Sustainable Energy, LLC	July 7, 2013 through April 3, 2014	Case No. 12 8205 CZ	Deposition by Heritage July 7, 2013 Daubert Hearing: Oct. 24, 2013 and Dec. 5, 2013 2nd Deposition: April 3, 2014

**Summary of Court and Administrative Agency Cases  
for Richard R. James, INCE Since 2010  
Dec. 12, 2016**

<b>Description</b>	<b>Date</b>	<b>Case No.</b>	<b>Topic</b>
Paulus vs. Citicorp, Bank data processing center backup diesel generator noise	Deposition: Dec. 18, 2013 Declarations and assistance with motions	Case No. 2:12-cv-856 Settled out of court by mitigation	Deposition by Citibank on Dec. 18, 2013 Judge's response to motions for summary judgment and Daubert Hearing on James' qualifications for noise related to combustion engine noise and human response.
Dixon et. al v. Director, MOE and Middlesex- Lambton Wind Action Group Inc. et. al. v. Director, MOE	Sept. 26, 2013	Case Nos. 13-084-13- 087 and Case. Nos. 13- 088-13-089	Hearing on Application under Ontario Renewable Energy Act for St. Columban Wind project approval.
Cooper vs. Comer, Onandaga Race Track, Leslie, MI	Noise Study: Oct. 12, 2013, Hearing: Mar. 17, 2014, June 22, and Aug. 24, 2015, Feb. 4, 2016 and Mar. 28, 2016	File No: 13-1193-ND	Noise study of drag strip events and hearing with audio visual demonstration of noise at three test sites.
Drennan v. Director, Ministry of the Environment	Oct. 21, 2013	Case Nos. 13-097/13- 098	Hearing on Application under Ontario Renewable Energy Act for Kings Bridge 2 Wind Project approval.
Michigan, 28th Circuit Court for County of Missaukee. Wiltzer vs. Heritage Sustainable Energy. Daubert Hearing	Oct. 24, 2013 and Dec. 5, 2013	Case No. 12 8205 CZ	Deposition: July 22, 2013 Daubert Hearing: Dec. 5, 2013 2nd Deposition: April 3, 2014
Alberta, CA, Alberta Utility Commission, Bull Creek Wind	Nov. 18, 2013-Dec.	Proceeding ID No. 1955	Testimony on behalf of Killarney Lake Group regarding deficiencies in Application for Bull Creek Wind and other reasons the application should be rejected.
Koeplin v. Director, Ministry of the Environment (ARMOW)	January 8, 2014	Case: 13-124/13-125	Hearing on Application under Ontario Renewable Energy Act for ARMOW Wind Project approval.
Rueter v. Osceola Windpower, LLC Iowa District Court/Osceola County	Deposition: original date of Aug. 21, 2014 postponed at defendant's request. To be rescheduled	EQCV0018304	Noise Nuisance lawsuit against wind energy utility
Cham Shan Temple v. Director, Ontario Ministry of Environment (MOE)	Dec. 19, 2014 via Skype	ERT File: 13-140/13-141/13-142.	Hearing on impact of Sumac project wind turbines on Buddhist pilgrimage meditation practices.
Dingeldein v. Director, Ontario Ministry of Environment and Climate Change (MOECC)	May 6, 2015 at Grey Highlands Zero Power ERT	ERT File:15-011	Hearing on impact of Grey Highland Zero Power Project.
Fohr v. Director, Ontario Ministry of Environment and Climate Change (MOECC)		ERT File: 15-026	Hearing on Impact of Grey Highland Clean Energy Project. Oral testimony not given due to problems with teleconference equipment.
Daniel Brian Williams v. Invenergy LLC, et al.	Written testimony, deposition, and preparations for trial Nov. 7-10, 2016. Case settled out of court.	Case No. 2:13-cv-01391- AC US District Court, District of Oregon	Written Testimony and Deposition.
Intervenors v. Walnut Ridge Wind LLC (BHE Renewables)	July 23, 2105 and August 12, 2105	BCZBA-WRW Bureau County, IL, USA	Oral and written testimony before Bureau County Zoning Board of Appeals regarding Walnut Ridge Wind Project.
Alliance to Protect Prince Edward County (APPEC) et al v. Director, MOECC	Nov. 19, 2015	ERT Case Nos. 15-068/15-069	Oral and written testimony before Ontario Environmental Review Tribunal regarding appeal of permit
Walker et al v. Kingfisher Wind, LLC,et al	Deposition Dec. 2015, Case dismissed	Case No. 14-cv-914-D	US District Court, Western District of Oklahoma
Falmouth v Falmouth (Anderson) and (Ohkagawa)	Pending outcome of appeal of ZBA denial of new permit	Docket no. BACV2013-00281-A	Suit filed against Falmouth, MA regarding actions or inactions of Zoning Board of Appeals

**Summary of Court and Administrative Agency Cases  
for Richard R. James, INCE Since 2010  
Dec. 12, 2016**

<b>Description</b>	<b>Date</b>	<b>Case No.</b>	<b>Topic</b>
Apex Clean Energy, Inc Lighthouse Wind LLC application to NYPSC on behalf of Save Our Shores (SOS)	In Process, initial response to Preliminary Scoping Statements filed Jan. 12, 2016. Additional comments filed through attorney.	Case No. 14-F-0485 filed Nov. 2015	Expert testimony for Save Our Shores, a citizens group intervening in the Lighthouse Wind, LLC application.
Alberta, CA, Alberta Utility Commission, Grizzly Bear Creek Wind Power Project	Nov. 18, 2013- Dec. Continuation of Application filed in 2014, suspended until 2015. Written testimony filed Jan. 31, 2016, oral testimony on Mar. 15 16, 17, 2016	Proceeding ID No. 3329-Do1	Testimony on behalf of Grizzly Bear Coulee Protection Group (GBCPG), an Alberta citizen group intervenor to the E.ON Climate and Renewables Ltd. (E.ON) Grizzly Bear Creek Wind Project (GBCWP or the Project).
Application for New Market Brookman Corners Compressor Station	Written testimony submitted Feb. 9, 2016	SEQRA Review before Minden Twp. Board	Written testimony on behalf of Ostego 2000, Inc. intervenors on behalf of Minden Twp. Residents.
Alliance to Protect Prince Edward County, V. Director MOECC. White Pines Wind Project	Written testimony submitted Sept. 9, 2015, and Dec. 12, 2015. Oral Testimony Nov. 11, 2015	Reference No.: 2344- 9R6RWR, ERT Case No.: 15- 068, ERT Case Name: Hirsch v. Ontario (Environment and Climate Change)	Oral and written testimony before Ontario Environmental Review Tribunal regarding appeal of permit
Alliance to Protect Amherst Island (APAI) v. Director, MOECC	Written Statement submitted April 21, 2016, Oral testimony on April 22, 2016	ERT Case No: 15-084	Oral and written testimony before Ontario Environmental Review Tribunal regarding appeal of permit
Penn Forest Wind Application for Permit in Penn Forest, PA	Oral testimony July 23, 2016 with Powerpoint testimony and exhibits	Hearing before Penn Forest, PA Zoning Board	Oral and written testimony before Zoning Board on behalf intervenors
Timbermill Wind, LLC, Perquimans and Chowan Counties, NC	Written testimony submitted jointly by R. James and R. Rand, Sept. 21, 2016	Hearing before Perquimans County, NC Zoning Board	Written testimony on behalf of Perquimans County, N.C. intervenors
Dan's Mountain	Written testimony of May 23, 2016, Oral testimony presented Sept. 16, 2016 before .	Case No: 9413	Oral and written testimony before Maryland Public Service Commission.
Antrim Wind Hearing	Written and oral testimony (10-20-2016) before NH Site Evaluation Committee	SEC Hearing 2015-02	Testimony regarding opinions on proposed Antrim Wind Energy Project's application under revised NH rules.

<sup>1</sup> This list is not intended as a definitive list of all work. It lists the primary cases where testimony was provided. It may also have incomplete or inaccurate information as a result of rescheduling or other changes.

# E-Coustic Solutions LLC

Noise Control ● Sound Measurement ● Consultation  
Community ● Industrial ● Residential ● Office ● Classroom ● HIPPA Oral Privacy  
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Richard R. James  
Principal  
Tel: 517-507-5067

Fax: (866) 461-4103

## List of Recent Publications

Oct. 10, 2016

- 2008 Paper on guidelines for siting wind turbines to prevent health risks for INCE Noise-Con 2008, co-authored with George Kamperman, Kamperman Associates.
- 2008 Expanded manuscript supporting Noise-Con 2008 paper titled: "The 'How To' Guide To Siting Wind Turbines To Prevent Health Risks From Sound"
- 2009 "Guidelines for Selecting Wind Turbine Sites," Kamperman and James, Published in the September 2009 issue of Sound and Vibration.
- 2010 Punch, J., James, R., Pabst, D., "Wind Turbine Noise, What Audiologists should know," Audiology Today, July-August 2010
- 2011 Jerry L. Punch, Jill L. Elfenbein, and Richard R. James , "Targeting Hearing Health Messages for Users of Personal Listening Devices," Am J Audiol 0: 1059-0889\_2011\_10-0039v1
- 2011 Bray, W., HEAD Acoustics, James, R., "Dynamic measurements of wind turbine acoustic signals, employing sound quality engineering methods considering the time and frequency sensitivities of human perception," invited paper for Noise-Con 2011, Portland OR
- 2012 James, R., "Wind Turbine Infra and Low Frequency Sound: Warning Signs that were not Heard," April 2012, Bulletin of Science, Technology and Society, <http://bsts.sagepub.com>, DOI:10.1177/0270467611421845
- 2016 Punch, J. L., James, R.R., "Wind turbine noise and human health: a four-decade history of evidence that wind turbines pose risks," Journal of Hearing Health and Technology Matters, October 4, 2016, <http://hearinghealthmatters.org/journalresearchposters/files/2016/09/Final-Final-16-09-30-Wind-Turbine-Noise-Final-Manuscript-HHTML-Punch-James.pdf>.

# LES BLOMBERG

Box 1137, Montpelier, Vermont 05601  
802-229-1659

## PROFESSIONAL EXPERIENCE

### EXECUTIVE DIRECTOR

Noise Pollution Clearinghouse, Montpelier, VT, 1996-present

- Founded a national non-profit clearinghouse dealing with noise pollution and hearing loss issues.
- Created and maintained an extensive noise pollution library.
- Conducted research into noise and its effects.
- Wrote articles and fact sheets for magazines, journals, and web sites.
- Advised consultants, communities, and individuals about noise pollution issues.

### MEMBERSHIPS AND AFFILIATIONS

Member, American National Standards Accredited Standards Committee S12, Noise.

- Evaluated, revised, and approved national standards for noise measurement as a voting member of the S12 committee and as members of specific working groups.
- Member, ANSI S12 Working Group 15, Measurement and Evaluation of Outdoor Community Noise.
- Member ANSI S12 Working Group 38, Noise Labeling In Products.
- Member ANSI S12 Working Group 41, Model Community Noise Ordinances.
- Member ANSI S12 Working Group 50, Information Technology (IT) Equipment in Classrooms.

Past Memberships

- Former Member, Acoustical Society of America (ASA).
- Former Member, Acoustical Society of America Technical Committee on Noise.
- Former Member, National Hearing Conservation Association (NHCA).
- Former Member, Institute of Noise Control Engineering (INCE).

### PAPERS AND PUBLICATIONS (partial list)

- "Update on Regulations Adding Noise to Electric and Hybrid Vehicles," invited paper, Acoustical Society of American, 2014.
- "Noise in the 21<sup>st</sup> Century," Acoustical Society of American Lay Language Paper, 2014.
- "Noise in the 21<sup>st</sup> Century," invited paper, Acoustical Society of American, 2014.
- "Regulatory Inertia and Community Noise," invited paper, Acoustical Society of America, 2014.
- "Natural Quiet: Were to Find It, How to Increase It," invited paper, Noise in Communities and Natural Areas Workshop, Institute of Noise Control Engineering, 2013.
- "Optimizing Detection of Masked Vehicles," invited paper, Acoustical Society of America, 2013.



- “Validity of a Temporary Threshold Shift (TTS) Detector for Use in iPods and Other Portable Audio Devices,” National Hearing Conservation Association, 2010.
- “Five Ways to Quiet Your Neighborhood,” published in *One Square Inch of Silence*, 2009.
- “Noise Masking of Vehicles, A Comparison of Gasoline/Electric Hybrids and Conventional Vehicles,” Noise Pollution Clearinghouse, 2008.
- “Wind, Noise, and Energy,” Noise Pollution Clearinghouse for American Wind Energy Association, 2008.
- “What’s the Ear For?” Chapter 47 of *Handbook for Sound Engineers*, 2008.
- “Hearing Damage Related to In-Ear Music Devices and other Consumer Products,” International Consumer Product Health and Safety Organization Symposium, 2007.
- “10 Ways to Quiet Our National Parks,” Acoustical Society of America, 2007.
- “Criteria Levels for Non-Occupational Noise Exposure,” Acoustical Society of America, 2006.
- “Consumers, Products, and Noise: The Economic, Social, and Political Barriers to Reducing Noise in Consumer Products Sold in North America,” Acoustical Society of America, 2006.
- “Opportunities and Progress in Consumer Product Noise Testing and Labeling,” Institute of Noise Control Engineering, 2006.
- “Noise (is) Pollution,” Quiet Zone, 2006.
- “The Nature of Noise,” Quiet Zone, 2006.
- “The State of State Noise Regulations in New England,” Institute of Noise Control Engineering, 2005.
- “Consumer Oriented Measurement of Product Noise,” Institute of Noise Control Engineering, 2005.
- “Acoustical Advocacy,” National Hearing Conservation Association, 2005.
- “Barriers to Community Input to Noise Policy Decisions,” Institute of Noise Control Engineering, 2004.
- “The Nature of Noise in Society,” Acoustical Society of America, 2004.
- “24 Hours of Noise in a Large City; Problems and Solutions,” Acoustical Society of America, 2004.
- “Why Diesel Trucks Are Quieter than Boats,” Lakeline, 2004.
- “The Future of Peace and Quiet,” Quiet Zone, 2003.
- “The Interest of the Public in Noise Control,” Institute of Noise Control Engineering, 2002.
- “A Punch from Michael Tyson Averaged over an Hour is a Very Long Love Pat, The Problems of Averaging in Noise Measurement,” MIT Seminar, 2001.
- “Noise Ordinances: the Good, the Bad, and the Ugly, An overview of more than 200 existing noise ordinances,” Acoustical Society of America, 2001.
- “Soundscapes, Quiet Zoning, and a Noise Sabbath,” Wisconsin Lakes Partnerships Conference, 2001.
- “Amphitheater Noise, A Community Perspective,” Acoustical Society of America, 2000.
- “Educating the Public about the Effects of Noise Pollution,” Acoustical Society of America, 2000.
- “Noise in the News, What the Media Is and Is Not Covering,” Acoustical Society of America, 2000.
- “Sound Decisions,” New Rules, 1999.
- “Noise, Civility, and Sovereignty,” Noise Pollution Clearinghouse, 1999.

## PATENTS

- Number 7,780,609, Temporary Threshold Shift Detector, Issued August 24, 2010, allows users of personal listening devices to determine if they have listened at levels that could damage their hearing.

## CLIENTS AND CONSULTING

Assisted hundreds of communities, mayors, council members, zoning boards, and police chiefs to understand, interpret, rewrite and enforce their noise regulations.

- Drafted modifications to noise ordinances.
- Drafted new or complete overhauls of noise regulations.
- Advised communities on appropriate monitoring equipment.

Assisted Vermont towns with understanding, enforcing, and revising noise regulations.

- St. Albans
- Montpelier
- Waitsfield

Developed noise measurement procedures, evaluated testing facilities, and tested consumer product noise levels.

- Consumer Reports
- Quiet Zone (Noise Pollution Clearinghouse publication)

Modeled noise levels from various noise sources.

- Transportation
- Resource extraction

Created online libraries of important noise related documents and answered questions about noise from the general public.

- US EPA
- Noise Pollution Clearinghouse

Partial List of clients:

- US EPA
- Consumer Report
- American Wind Energy Association
- East Hampton, NY Airport
- Boston, MA
- Sierra Club
- Natural Resources Defense Council

Partial list of proceedings in Vermont in which participated or testified:

- 2014, Vermont State Environmental Court, Docket No. 99-7-13 Vtec
- 2014, Vermont State Environmental Court, Docket No. 182-12-13 Vtec
- 2013, District 3 Environmental Commission, Act 250, Application #3W1049
- 2013, Vermont State Environmental Court, Docket No. 159-10-11 Vtec
- 2012, District 7 Environmental Commission, Application #7C1321

- 2012, Vermont Environmental Court, Docket Nos. 122-7-04, 210-9-08 and 136-8-10 Vtec
- 2011, Vermont Public Service Board Docket #7628
- 2010, Vermont Public Service Board Docket #7156
- 2009, Greensboro, Vermont Zoning Permit, Lakeview Inn
- 2008, Vermont Environmental Court, O'Neil Sand & Gravel, LLC Docket No. 48-2-07 Vtec, Act 250 Application #2S0214-6A
- 2008, Bristol Vermont Zoning Permit, Lathrop Gravel Pit
- 2007, Vermont Environmental Court, Wright Quarry Docket Nos. 156-7-06 Vtec and 190-8-06 Vtec
- 2007, East Calais, Vermont Zoning Permit, Gravel Pit
- 2007, District 5 Environmental Commission, Route 100 Bypass
- 2006, District 5 Environmental Commission, Application #5W1455
- 2005, State Environmental Court, Docket No. 203-11-03 Vtec
- 2005, District 3 Environmental Commission, Act 250 Application #3W0929
- 2004, Norwich, Vermont Zoning Permit, Verizon Wireless Tower
- 2004, Moretown, Vermont Zoning Permit, Quarry
- 2003, District 5 Environmental Commission, Barre Town Police Firing Range
- 2001, District Number 5 Environmental Commission, Bull's Eye Sporting Center and Case Number 5W0743-3
- 2001, Dummerston, Vermont Zoning Permit, Quarry
- 1999, Vermont State Environmental Board OMYA, Inc. and Foster Brothers Farm, Inc., Land Use Permit #9A0107-2-EB.
- 1999, Vermont State Environmental Board, Barre Granite Quarries, LLC, Application #7C1079-EB

## EDUCATION

SEMINAR CADNA A EXPERT (Noise Model)

SEMINAR CADNA A ADVANCED

SEMINAR CADNA A BASIC

Datakustic, 2013

INTEGRATED NOISE MODEL TRAINING COURSE (FAA Noise Model)

Harris, Miller, Miller, and Hanson, 2010

COMMUNITY NOISE ENFORCEMENT CERTIFICATION COURSE

Rutgers Noise Technical Assistance Center, 1997

MASTER OF ARTS in Environmental Philosophy, 1993

Colorado State University, Fort Collins, Colorado

BACHELOR OF SCIENCE in Applied Mathematics, minor in Physics, 1989

BACHELOR OF ARTS in Philosophy, with honors, 1989

University of Minnesota, Duluth, Minnesota