



Robert W. Rand, Member ASA, INCE (Member Emeritus)  
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## **CAPABILITIES STATEMENT JANUARY 2019**

Rand Acoustics is a sole proprietor acoustics consultancy offering expertise since 1996 in environmental noise impact assessment and interior acoustics and audio-visual design; noise measurement, analysis, and mitigation.

### **AREAS OF EXPERTISE**

- Industrial and Environmental Noise Impact Assessment, Analysis and Mitigation
- Expert Witness Testimony
- Architectural Acoustics and Sound System Design
- Audible Noise Measurements, Recording, Analysis and Mapping
- Infrasonic Acoustic Pressure Measurement and Analysis
- Noise Exposure Level Prediction, Analysis and Cost Estimating
- Specialized Consulting on Request

### **PROFESSIONAL EXPERIENCE**

- Rand Acoustics, Owner and Principal Consultant, 1996-
- Technology Systems, Inc, Project Manager, 1993-1996
- Stone & Webster Engineering Corporation, Principal Consultant, Noise & Vibration, 1988-1993
- Envision Systems, Inc, Principal Designer, Acoustics and A/V Systems, 1985-1988
- Stone & Webster Engineering Corporation, Project Scientist, Noise & Vibration, 1980-1984

### **ACADEMIC DEGREE**

- B.A., 1979, University of Maine, Mathematics, Minor Computer Sciences  
One-Year Study, Noise and Vibration Control Theory, Electrical Engineering Dept

### **PROFESSIONAL ORGANIZATIONS**

- Institute of Noise Control Engineering (INCE), 1982-Present
- Acoustical Society of America (ASA), 1980-1984, 1993-Present
- Association for Computing Machinery (ACM), 1980-1985
- American Society of Composers, Authors and Publishers (ASCAP), 2010-Present

### **PROFESSIONAL PUBLICATIONS**

- Krogh, C. M. , Dumbrille, A. , McMurtry, R. Y. , James, R. , Rand, R. W. , Nissenbaum, M. A. , Aramini, J. J. and Ambrose, S. E. (2018). Health Canada's Wind Turbine Noise and Health Study—A Review Exploring Research Challenges, Methods, Limitations and Uncertainties of Some of the Findings. Open Access Library Journal, 5, e5046. doi: <http://dx.doi.org/10.4236/oalib.1105046>.
- "Letter to the Editor: A critical analysis: Why firm conclusions are not possible", (with Aramini, J.J. and Krogh, C. M.), Environmental Research 155(73–76) 2017. <https://www.ncbi.nlm.nih.gov/pubmed/28189877>.
- "Falmouth, Massachusetts wind turbine infrasound and low frequency noise measurements" (with Ambrose, S. E., and Krogh, C. M.), Proceedings of Inter-Noise 2012, New York, NY, August 19-22.

- "Wind Turbine Acoustic Investigation: Infrasound and Low-Frequency Noise--A Case Study" (with Ambrose, S. E., and Krogh, C. M.), SAGE Bulletin of Science Technology & Society 2012 32: 128.
- "Occupational Health and Industrial Wind Turbines: A Case Study" (with Ambrose, S. E., and Krogh, C. M.), SAGE Bulletin of Science Technology & Society 2011 31: 359.
- "Noise Ordinance Design: Mapping by Land Use" (with Ambrose, S. E., and Segalla, C.), INCE NoiseCon, Reno, NV, 2007.
- "Statistical Audio Dosimetry Methodology" (with Teplitsky, A.M., Bradley, W.E., and Suuronen, D.E.), American Speech-Language-Hearing Association, November 1984.
- "Performance of a Large Reactive Silencer" (with Strong, W.F.), presented orally at the Acoustical Society of America, October 1982.

Publications in print

- "Wind turbine noise, an independent assessment" (with Ambrose, S.E.), Knox Courier Gazette, Rockland, Maine, September 2010.
- "Wind turbine noise: an independent assessment of sound quality" (with Ambrose, S.E.), Knox Courier Gazette, Rockland, Maine, September 2010.
- "Wind turbine noise: noise complaints predictable" (with Ambrose, S.E.), Knox Courier Gazette, Rockland, Maine, October 2010.

**EXPERT TESTIMONY**

<b>Date</b>	<b>Case or Project</b>	<b>Case Number</b>	<b>Location</b>
• Nov-10	Bog Wind	n/a	Wareham, MA, Zoning Board of Appeals
• Feb-11	Plymouth Wind	n/a	Plymouth, MA, Selectmen Hearing
• Jul-11	Noise Rulemaking: Exhibit AR-79	n/a	Maine, Board of Environmental Protection
• Jun-12	Wind Turbine Health Effects	12-015 & -018	Ontario, Environmental Review Tribunal
	○ Attorney of record: Gillespie, Eric K., Toronto, Ontario. Telephone: 416-703-6362.		
• Oct-12	Urirama Wind, Aruba	n/a	Aruba, Hearing with Prime Minister Aruba, Parliamentary Special Hearing
• Jan-13	Highland Wind Farm, LLC	2535-CE-100	Wisconsin, Public Service Board
• Nov-13	SB 58	n/a	Ohio Senate, Public Utilities Commission
• Apr-15	Citizens for Quiet Skies	2013CV031563	District Court, Boulder County, CO
• Jul-16	SUP, Osborn Wind, LLC	n/a	Planning and Zoning Commission, Clinton County, MO
• Aug-16	Timbermill CUP Hearings	CUP-16-01	Board Of Commissioners, Perquimans County, NC
• Jul-18	Penn Forest Hearings	17-1011	Zoning Board, Penn Forest, PA
• Sep-18	Dekalb County Public Hearing	n/a	Zoning Board, Dekalb County, IL

## CLIENT/PROJECT LIST (PARTIAL)

- Advanced Recycling, Concord, NH, Five-Year Continuous Noise Monitoring System
- Air Force Band Studio Building, Acoustic Design, Hanscomb Air Force Base, Hanscomb, MA
- Bank of Boston Conference Rooms Design, Interior Acoustics and Noise Control
- Beth El Temple Center, Belmont, MA A/V and Acoustics Consulting
- Boston Museum of Science Exhibit Designs, Interior Acoustics
- Boston University Teaching Rooms Designs, Interior Acoustics
- Boston Stock Exchange A/V Consulting
- Boston Children's Museum Exhibit Designs, Acoustics
- Bridgeville Compressor Station, Eastern Shore Natural Gas Company
- CBS Corporation, Foxboro, MA, CBS Scene Complex, Interior Acoustics and A/V Designs
- Citizens Bank, Boston, Conference Rooms Design
- City of Bath, ME, Noise Abatement Study
- Dana Farber Hospital, PET/CT Facility, Speech Intelligibility and Noise Mitigation Project
- Deer Island Secondary Treatment Plant, MWRA, Noise Emissions Consulting
- East Ryegate Plant, Ryegate, VT, Noise Emissions Study
- Harvard Business School, Spangler Center Teaching Rooms Designs
- Harvard Business School, Mailbox Project
- Harvard Law School, Langdell Hall Renovation
- Holden Frost House, Topsham, ME, Acoustic Analysis
- Houghton Mifflin Company
- Massachusetts Institute of Technology Teaching Rooms Designs
- Merrill Auditorium, Portland, ME, Second Opinion Committee & Kirkegaard Associates, Acoustic Review
- Ministry of Education Center, Kuwait Teaching Rooms Designs
- Mount Vernon, Maine, Community Center, Acoustic Improvements
- Nieman Institute, Cambridge, MA, A/V Consulting
- Ocean Mammal Institute Whale Study, Maui, Study of Navy LFAS Noise Emissions
- Old Orchard Beach, ME, Noise Ordinance Revisions
- Peabody Essex Museum, Salem, MA, "Sound of Spirit" Exhibit Acoustic Design
- Philadelphian Cogeneration Facility, Philadelphia, PA, Noise and Vibration Reduction Project
- Pownal, Maine, Community Center, Interior Acoustics Impulse Study and Improvements
- Public Service Company, NH, Schiller Station, Unit Five Noise Assessment Project
- South Freeport, Maine, Community Church Interior Acoustic Improvements
- Sylvania Lightpoint Training Center, Danvers, MA Acoustic and A/V Consulting
- Tennessee Aquarium, Exhibit Acoustic Designs
- Ulysses S. Grant National Historic Site, A/V Consulting
- United States Army, STRICOM OSV Program, Electro-Acoustic System Design and Acceptance Testing
- University of Massachusetts, Teaching Rooms Acoustic and A/V Designs
- University of Texas at Austin, Bass Concert Hall, Vibration/Acoustic Noise Reduction Project
- Verizon Data Center, Andover, MA, A/V Consulting
- Victoria Mansion, Portland, ME, Noise Reduction Consulting
- Virginia Air and Space Museum, Acoustic Impulse Study, Exhibit Design