

ROBERT D. O'NEAL, CCM, INCE BD. CERT.

PRINCIPAL

**EDUCATION**

M.S., Atmospheric Science, Colorado State University, 1987
B.A., Engineering Science, Dartmouth College, 1983

REGISTRATIONS

Certified Consulting Meteorologist, #578
Institute of Noise Control Engineering, Board Certified

PROFESSIONAL SUMMARY

A Principal of the firm, Mr. O'Neal is a Certified Consulting Meteorologist with over 25 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, modeling of future impacts, conceptual mitigation analyses, and compliance testing. Rob has performed noise measurement and modeling assessments for wind energy and fossil-fuel power generation facilities in the Northeast, the Mid-Atlantic region, the Midwest, and the Southwestern U.S. Other industries served include hard rock quarries, aggregate handling, asphalt and concrete plants, C&D processing facilities, landfills, real estate development, and mobile sources. He has also provided expert witness testimony on noise impact studies and air pollution modeling in front of local boards, courts of law, and adjudicatory hearings. His air quality background involves applying air quality dispersion models for regulatory permitting applications, as well as for general air quality impact evaluations.

PROFESSIONAL EXPERIENCE***Wind Energy Projects***

- ◆ *Relight US Corp. – Meridien Wind, Logan County, IL.* Developed an extensive sound level modeling program for a proposed 230 MW wind farm in Illinois. Various Noise Reduction Options (NROs) were incorporated to demonstrate compliance with the Illinois Pollution Control Board octave band sound levels limits. The results were presented as expert witness testimony during the County Commission public hearings.
- ◆ *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.

- ◆ *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.
- ◆ *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.
- ◆ *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.
- ◆ *Pioneer Green Energy – Great Bay Wind, Somerset County, MD.* Developed an extensive sound level measurement and modeling program for a proposed 99 MW wind farm on the eastern shore of Maryland. Concurrent sound level data and meteorological data were collected and analyzed. The results were used in the state-level permit applications.
- ◆ *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.
- ◆ *TCI Renewables – Crown City Wind Farm, Cortland County, NY.* Developed an extensive sound level measurement and modeling program for a proposed 80 MW wind farm in central NY. Concurrent sound level data and meteorological data were collected and analyzed. The results were used in the state-level permit applications.
- ◆ *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.

Independent Power Projects

- ◆ *Braintree Electric Light Department – Thomas A. Watson Generating Station, Braintree, MA.* Conducted long-term continuous ambient sound level measurement program for a proposed 105 MW natural gas and oil-fired simple-cycle electric power generation facility. Acoustical modeling, including several rounds of mitigation, was performed to demonstrate compliance with the State noise policy.
- ◆ *Montgomery Energy Billerica Power Partners – Billerica Energy Center, Billerica, MA.* Worked on noise aspects for a proposed 350 MW natural gas and oil-fired simple-cycle electric power generation facility. Acoustical modeling, including several rounds of mitigation, was performed to demonstrate compliance with the State noise policy. Expert testimony on noise issues was presented to the Energy Facilities Siting Board.
- ◆ *Advanced Power Services – Brockton Power, Brockton, MA.* Conducted a 168-hour continuous ambient sound level measurement program at multiple sites for a proposed 350 MW natural gas-fired combined-cycle electric power generation facility. Acoustical modeling, including mitigation, was performed to demonstrate compliance with the State noise policy. Expert testimony on noise issues was presented to the Energy Facilities Siting Board.
- ◆ *Besicorp-Empire Development Company – Rensselaer, NY.* Prepared interrogatory responses, and testimony for the Noise section of the Article X application for this proposed 505 MW combined-cycle gas-fired electric power generation facility, recycled newsprint manufacturing

plant, and waste water treatment plant. Additional testimony was provided for Technical Conference hearings before a NYS DEC Administrative Law Judge.

- ◆ *Cornell University, Ithaca, NY.* Prepared a sound level impact assessment report for the NY SEQRA process and Article VII natural gas pipeline application for this proposed 30 MW combined heat and power generation facility.
- ◆ *Milford Power Co., LLC – Milford, CT.* Conducted post-construction ambient sound level measurements for a 544 MW combined-cycle gas-fired electric generating facility. The project utilizes two Alstom GT-24 combustion turbines, one steam turbine, and an 8-cell wet mechanical cooling tower. High-pressure steam blows and transformer noise were also measured during construction and assessed for community impacts.
- ◆ *FPL Energy – Jamaica Bay Peaking Facility, Far Rockaway, NY.* Managed the noise impact study as part of an Environmental Assessment for a 50 MW natural gas-fired peaking plant utilizing two P&W combustion turbines. A compliance demonstration with the local noise ordinance was done utilizing the ambient background data and acoustical modeling. Follow-up noise monitoring was done to evaluate vendor performance specifications.
- ◆ *FPL Energy – Bayswater Peaking Facility, Far Rockaway, NY.* Managed the noise impact study as part of an Environmental Assessment for a 55 MW natural gas-fired peaking plant utilizing two P&W combustion turbines. A compliance demonstration with the local noise ordinance was done utilizing the ambient background data and acoustical modeling.
- ◆ *Sithe Energies – Heritage Station, Oswego, NY.* Conducted ambient sound level measurements and performed sound level modeling at the 1000 MW Independence Station power plant in support of permitting a proposed 800 MW combined-cycle electric generation facility adjacent to the existing station in Oswego. The proposed project will utilize General Electric's new "H" System combustion turbine technology, and a 16-cell wet mechanical cooling tower. A compliance demonstration with the local noise ordinance was done utilizing the ambient background data and acoustical modeling. Mr. O'Neal prepared the Noise section of the Article X Application in conjunction with the New York State Public Service Law as well as expert testimony on noise for the Article X public hearings.
- ◆ *Duke Energy Power Services, LLC – OH, IN, IL, MO.* Conducted ambient sound level measurement programs and performed acoustical modeling for six proposed simple-cycle electric power generation facilities in the Midwest for Duke Energy. These 640 MW peaking stations were permitted for 8 GE 7EA combustion gas turbines. The results of the noise impact assessment were used to secure site plan approval from the local community.
- ◆ *Calpine Corporation – Ontelaunee Energy Center, Ontelaunee, PA.* Conducted 24-hour ambient sound level measurements at multiple sites for a proposed 543 MW natural gas-fired combined-cycle electric power generation facility utilizing two Westinghouse 501F combustion turbines. A compliance demonstration with the local noise ordinance was done utilizing the ambient background data and acoustical modeling. Post-construction sound level measurements were done on the turbines to confirm they met the vendor guaranteed noise limits.

Linear Siting and Transmission Projects

- ◆ *NSTAR 345 kV Transmission Reliability Project, Stoughton, Canton, Milton, Boston, MA:* Responsible for noise impact assessment for this proposed 18 mile multi-circuit underground 345 kV project. Construction noise impacts along the route and operational noise from substations in Hyde Park and South Boston were analyzed. Expert testimony before the EFSB was provided.
- ◆ *Weaver's Cove Energy, Fall River, MA.* Managed the implementation of an extensive existing condition sound level measurement program. Long-term continuous and short-term measurements were taken at multiple locations around a proposed liquefied natural gas (LNG) import terminal. Expected future sound level impacts from operation of the LNG import terminal were calculated. In addition, community sound level impacts from an associated 2.5 million yd³ dredging project in the adjacent channel were evaluated. The FERC Resource Report 9 section on noise impacts was prepared.

Industrial/Commercial Projects

- ◆ *General Electric Company, Hudson River PCBs Superfund Site, Hudson River, NY.* Prepared the Noise Impact Assessment for dredging, processing, and construction activities associated with Phase 1 of the Final Design Report. Source-specific sound level measurements of key sources were also made. Sound level monitoring was done during Phase 1 dredging and processing of the sediment to determine compliance with the Quality of Life Performance Standards.
- ◆ *Former Coal Tar Gasification Facility, Island End River, Everett, MA.* Managed an extensive sound level measurement program prior to and during a dredging operation. An existing condition measurement program over multiple seasons was conducted for one-week intensive periods. A measurement program during a 10-day pilot study was carried out to determine key sources of dredge noise within the community. Sound level monitoring was also conducted throughout the remediation work program itself. This work was coordinated with the land-based and water-based parties on the remediation team.
- ◆ *Environmental Soil Management, Inc., Loudon, NH.* An extensive sound level measurement program was conducted for a thermal soil treatment plant in response to community noise complaints. Simultaneous overnight measurements were made at multiple locations with and without the plant operating to identify the possible sources of area noise. Digital audio tape recordings were collected and presented at the local zoning board meeting to demonstrate the low noise levels. Follow-up measurements were made to satisfy decibel limits imposed by the board in order to allow 24-hour per day operations.
- ◆ *The Stop & Shop Supermarket Company, Freetown, MA.* Noise impacts from loading dock activity, truck traffic, and rooftop mechanical equipment were analyzed as part of the local approval process for a 1,500,000 square foot regional distribution center in Freetown. The results of the study were presented to the neighborhood in a series of meetings.

Transportation Projects

- ◆ *Tren Liviano EIS, San Juan, Puerto Rico.* Developed an extensive sound level measurement and modeling program for a proposed 5.3 mile light rail system in Old San Juan. The analysis was done in accordance with EQB and US FTA procedures. Meetings were held with the Permit Management Office (OGPe) and City of San Juan officials to discuss the scope of study. In addition, Epsilon attended the DEIS public hearings in San Juan to answer noise-related questions.
- ◆ *Tren Caguas EIS, San Juan, Puerto Rico.* Developed an extensive sound level and vibration measurement and modeling program for a proposed 17 mile rapid transit rail system linking Caguas to San Juan. The analysis was done in accordance with EQB and US FTA procedures.
- ◆ *Town of Westwood, MA.* Independent technical reviewer for Town of Westwood government officials for noise-related issues associated with highway traffic noise from Interstate 95/Route 128 in Westwood, MA. Reviewed FHWA TNM modeling for interchange modifications and exit ramp widening impacts on residential neighborhoods, including barrier wall design analyses. In addition, Epsilon attended public hearings in Westwood to present the findings to concerned citizens and answer noise-related questions.

Rock Quarries

- ◆ *A. Colarusso & Son., Inc., Hudson, NY.* A sound level impact analysis was performed for a proposed rock quarry expansion at a site in Columbia County in support of the NYS DEC Mined Land Reclamation Permit and SEQRA process. Ambient background sound level measurements were collected around the site. Project-specific impacts of the excavation and haul equipment were measured at an existing excavation site and were used to calculate future sound level impacts.
- ◆ *Aggregate Industries, Peabody, MA.* A Noise Management Plan was developed as part of the Special Permit requirements at this site. A method of correlating noise complaints with meteorological conditions were set-up. In addition, a series of Best Management Practices for noise reduction were implemented. An extensive community sound level monitoring program was developed and implemented. Mitigation measures to reduce noise from the quarry were designed and presented to city officials and the neighborhood.
- ◆ *Sour Mountain Realty, Inc., Fishkill, NY.* A sound level impact analysis was performed at the site of a proposed hard rock quarry in support of a NYS DEC Mined Land Reclamation Permit application in Dutchess County. Ambient background sound level measurements were collected around the site. Project-specific impacts of the excavation and processing equipment were measured at existing rock quarries and used to calculate future sound level impacts. Expert testimony on noise impacts was provided before a NYS Administrative Law Judge.
- ◆ *Paquette Pit, Center Harbor, NH.* A sound level impact analysis on rock-crushing and processing equipment, and electrical generators was conducted for a proposed quarry. The results were submitted to the Planning Board.

- ◆ *A.A. Wills Materials, Inc., Freetown, MA.* Ambient sound level measurements were conducted at residential locations around an existing 105-acre hard rock quarry along Route 140. Four days of continuous measurements were made with and without the quarry operating to determine the impact of the operations on ambient sound levels in the neighborhood.

Sand & Gravel Operations

- ◆ *Okemo Mountain Resort, Ludlow, VT.* A sound level impact analysis was performed for a proposed sand and gravel excavation site in Ludlow. Ambient background sound level measurements were collected around the site. Project-specific impacts of the excavation and haul equipment were used to model future sound levels from operation of gravel extraction. Expert testimony on noise impacts was presented before the Act 250 District Environmental Commission and the local review board.
- ◆ *Dalrymple Gravel & Contracting Co., Inc., Erwin, NY.* A sound level impact analysis was performed for a proposed sand and gravel excavation site ("Scudder Mine") at a site in Steuben County in support of the NYS DEC Mined Land Reclamation Permit and SEQRA process. Ambient background sound level measurements were collected around the site. Project-specific impacts of the excavation and haul equipment were measured at an existing excavation site and were used to calculate future sound level impacts. Expert testimony on noise impacts was presented before a NYS Administrative Law Judge.
- ◆ *Palumbo Block Co., Inc., Ancram, NY.* A sound level impact analysis was performed for a proposed sand and gravel excavation site ("Neer Mine") in Columbia County in support of the NYS DEC Mined Land Reclamation Permit process. Ambient background sound level measurements were collected around the site. Project-specific impacts of the excavation and haul equipment were measured at existing excavation sites and used to calculate future sound level impacts. Expert testimony on noise impacts was presented before a NYS Administrative Law Judge.
- ◆ *Newport Sand & Gravel, Goshen, NH.* A sound level impact analysis was performed for a proposed 68-acre sand and gravel excavation site along Route 10 in Goshen. Ambient background sound level measurements were collected around the site. Project-specific impacts of the excavation and haul equipment were measured at existing excavation sites and used to calculate future sound level impacts. The results of this work were presented to the local Zoning Board of Appeals.
- ◆ *Morse Sand & Gravel, Lakeville, MA.* A sound level impact analysis was performed for an existing concrete batch plant. Ambient background and operational sound level measurements were collected around the site. A mitigation program was designed and the effectiveness of various noise control options were tested. The results of this work were presented as expert witness testimony in Massachusetts Land Court in Boston.
- ◆ *Ambrose Brothers, Inc., Sandwich, NH.* A sound level measurement program was performed for an existing sand and gravel excavation site in Sandwich. A future sound level measurement program will be conducted upon the opening of a new phase of the operation to determine the sound level change due to equipment relocation.

- ◆ *Granite State Concrete, Inc., Lyndeborough/New Boston/Mont Vernon, NH.* A sound level impact analysis was performed for a proposed 39-acre expansion of an existing sand and gravel excavation site in Lyndeborough. Ambient background sound level measurements were collected around the site. Project-specific impacts of the excavation and haul equipment were measured at the existing excavation site and used to calculate future sound level impacts. The results of this work were presented to the local Zoning Board of Appeals.
- ◆ *P.J. Keating Co., Townsend, MA.* A sound level impact analysis was performed for a proposed sand and gravel excavation site. Ambient background sound level measurements were collected around the site. Project-specific impacts of the excavation and haul equipment were measured at existing excavation sites and used to calculate future sound level impacts. The results of this work were presented as expert witness testimony in Massachusetts Land Court in Boston.

Transfer Stations/Landfills

- ◆ *Confidential Client, ME.* Project manager for an ambient air quality monitoring plan submitted to ME DEP for two existing landfills as part of the landfill gas and odor management system. CALMET meteorological modeling and CALPUFF dispersion modeling were used to specify the continuous hydrogen sulfide (H₂S) monitoring locations and appropriate H₂S Action Levels.
- ◆ *Pine Tree Waste, Inc., Westbrook, ME.* Prepared a noise impact assessment for a proposed construction & demolition transfer station and processing facility. This project involved calculation of expected operational noise impacts from the processing equipment, a compliance evaluation with State and local noise regulations, and testimony before the local Planning Board.
- ◆ *Holliston Transfer Station, Holliston, MA.* Prepared a noise impact assessment for an existing C&D and MSW transfer station in Holliston, MA. This project involved ambient background noise monitoring at sensitive receptors around the site, a compliance evaluation with State and local noise regulations, and expert testimony before the Board of Health during the site assignment hearings.
- ◆ *Resource Recovery of Cape Cod, Sandwich, MA.* Prepared a noise impact and mitigation assessment for an existing 600-ton/day construction & demolition transfer station on Cape Cod. This project involved extensive ambient background noise monitoring at sensitive receptors around the site, calculation of expected operational noise impacts from the processing equipment, a compliance evaluation with State noise regulations, and mitigation calculations.
- ◆ *Valley Mill Corp., Pittsfield, MA.* Prepared a noise impact assessment for a proposed 250-ton/day C&D transfer station in Pittsfield. This project involved ambient background noise monitoring at sensitive receptors around the site, calculation of expected operational noise impacts from the processing equipment, and a compliance evaluation with State noise regulations.
- ◆ *WSI, Oxford, MA.* Prepared a noise impact assessment for a proposed 750-ton/day C&D and MSW transfer station in Oxford, MA. This project involved ambient background noise

monitoring at sensitive receptors around the site, calculation of expected operational noise impacts from the processing equipment, a compliance evaluation with State noise regulations, and expert testimony before the Board of Health during the site assignment hearings.

EXPERT TESTIMONY EXPERIENCE

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 and Climate Change] (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 and Climate Change] (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 Dufferin Wind Power, Melancthon, Ontario [Case ERT 13-070 to 13-075, Bovaird v. Director, Ministry of the Environment] (2013).

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 NH Site Evaluation Committee on noise issues for the 30 MW Antrim Wind Project (2012); 48 MW Groton Wind project (2010).

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).

Expert witness in Vermont Act 250 Land Use proceedings on noise issues for a proposed sand and gravel excavation site at Okemo Mountain (2007).

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).

PROFESSIONAL ORGANIZATIONS

Institute of Noise Control Engineers (INCE), Board Certified Member, Board of Directors (2014-2015)

Acoustical Society of America

American Meteorological Society - Certified Consulting Meteorologist #578

Air and Waste Management Association

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., 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. Evaluating and controlling noise from a metal shredder system. Presented at *INTER-NOISE 2012*, NY, NY, August 19-22, 2012.

- 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.
- O'Neal, R.D., 2001: The Impact of Ambient Sound Level Measurements on Power Plant Noise Control in Massachusetts: A Case Study. Proceedings of the Air & Waste Management Association 94th Annual Meeting and Exhibition, Orlando, FL, June 24-28.
- Hendrick, E.M., and R.D. O'Neal, 2001: A Case Study of Class I Impacts Using CALPUFF Screen. Proceedings of the Air & Waste Management Association Guideline On Air Quality Models: A New Beginning, Newport, RI, April 2001.
- O'Neal, R.D., 1994: Indoor air sampling techniques used to meet workplace and ambient air toxic detection requirements. Proceedings of the Air & Waste Management Association 87th Annual Meeting and Exhibition, Cincinnati, OH, June 19-24.
- O'Neal, R.D., 1992: Estimating future noise levels from industrial noise sources. Acoustical Society of America 124th Meeting, New Orleans, LA, October 31 - November 4.
- O'Neal, R.D., 1991: Temporal traffic fluctuations and their impact on modeled peak eight-hour carbon monoxide concentrations. Proceedings of the Air & Waste Management Association 84th Annual Meeting and Exhibition, Vancouver, B.C., June 16-21.
- O'Neal, R.D., 1990: Noise barrier insertion loss: A case study in an urban area. Proceedings of the Air & Waste Management Association 83rd Annual Meeting and Exhibition, Pittsburgh, PA, June 24-29.