Ch. 375, Sec. 10, subsec. I Sound Level Standards for Wind Energy Developments

Supplemental Basis Statement and Response to Comments

Attachment A: List of Commenters

Chapter 375, Section 10, subsection I Sound Level Standards for Wind Energy Developments Supplemental Basis Statement and Response to Comments - Attachment A List of Commenters		
Witness Name - Affiliation	Comments Submitted	Administrative Record Reference
Bodwell, R. Scott for First Wind	Pre-hearing submission	• AR-46
Brown, Rufus, Esq. for Petitioners	Hearing July 18th August 29th	• AR-100, AR-102 thru AR-111, AR-140, AR-265, AR-266
Browne, Juliet, Esq. for First Wind	Hearing July 18th August 29th	• AR127 thru AR-136, AR-270, AR-271
Guldberg, Pete Industry Witness	Pre-hearing submission	• AR-47
James, Richard for Petitioners	Pre-hearing submission	• AR-04
Kaliski, Kenneth for Patriot Renewables and Highland Wind	Pre-hearing submission	• AR-58, AR-59, AR-65, AR-141
McCunney, Robert, MD for First Wind	Hearing	• AR-63
Nissenbaum, Michael, MD for Petitioners	Pre-hearing submission	• AR-05
O'Neal, Robert for First Wind	Hearing	• AR-64
Smith, Gordon, Esq. for Patriot Renewables	August 29th	• AR-272
Ahrens, Philip, Esq. for EDP Renewables and Iberdrola Renewables	August 29th	• AR-289
Allen, John	Hearing	•
Ambrose, Steve Inst. Noise Control Eng (INCE)	Hearing August 29th	• AR-89, AR-193
Aniel, Albert	August 29th	• AR-252
Aniel, Monique	Hearing July 18th August 29th	• AR-99, AR-179, AR-253
Appell, George	August 29th	• AR-214
Aromaa, Karl	August 29th	• AR-278
Aromaa, Rita	August 29th	• AR-280
Ballweber, Leola	Hearing	• AR-78
Barnard, Jessa	July 18th	• AR-96
Barnett, Alice	July 18th August 29th	• AR-95, AR-180, AR-248
Bennett Dave	Hearing	• AR-76
Bennett, Carrie	Hearing	•

Chapter 375, Section 10, subsection I Sound Level Standards for Wind Energy Developments Supplemental Basis Statement and Response to Comments - Attachment A List of Commenters		
Witness Name - Affiliation	Comments Submitted	Administrative Record Reference
Bennett, Steve	Hearing August 29th	• AR-69, AR-249
Blake, Brad	August 29th	• AR-178
Blake, Bradbury	August 29th	• AR-256
Bonne, Gary	August 29th	• AR-205
Botting, Victor	August 29th	• AR-200
Boulter, David	Hearing August 29th	• AR-267
Bridges, David	August 29th	• AR-281
Bridges, Glen	July 18th	• AR-101
Buotte, Peter	August 29th	• AR-263
Burbank, Nick	Hearing	•
Campbell, Gary	August 29th	• AR-190
Carter, Jonaton	Hearing	•
Cleveland, James	August 29th	• AR-273
Conlking, Philip Island Institute	Hearing August 29th	• AR-114, AR-288
Conney, John	Hearing	• AR-77
Cook, Keith	August 29th	• AR-212
Cooney, John	Hearing	•
Cuddy, Scott	Hearing	• AR-74
Cushing, C	August 29th	• AR-203
Davis, Susan	July 18th August 29th	• AR-91, AR-185
DiCenso, Mike	August 29th	• AR-81, AR-174, AR-217, AR-264
Doughty, Richard	August 29th	• AR-243
Drumond, Greg/Patrice	August 29th	• AR-191
Dube, Christine	August 29th	• AR-260
Emery, Heidi	August 29th	• AR-246
Fairman, Randall	August 29th	• AR-195
Farago, Alan	Hearing August 29th	• AR-225
Fuller, Paul	Hearing	•
Gates, John	August 29th	• AR-281
Gifford, Jeff	August 29th	• AR-269
Gilman, Ben	Hearing	•
Gray, Penelope	August 29th	• AR-208, AR-257
Hall, Denise	August 29th	• AR-262
Hayes, Mary Ann	August 29th	• AR-207
Heller, Frank	August 29th	• AR-196

Chapter 375, Section 10, subsection I Sound Level Standards for Wind Energy Developments Supplemental Basis Statement and Response to Comments - Attachment A List of Commenters		
Witness Name - Affiliation	Comments Submitted	Administrative Record Reference

John, Mary Ann			August 29th	• AR-176, AR-254
Johnson, Gordon			August 29th	• AR-228
Jones, Sue for Windependence	Hearing	July 18th		• AR-112
Jones, Tina (RSE)			August 29th	• AR-291
Kalloch, Audrey			August 29th	• AR-227
Kalloch, Norman			August 29th	• AR-226
Keaney, Diarmuid			August 29th	• AR-202
Kearns, Matt for First Wind	Hearing	July 18th		• AR-121 thru AR-126
Kevin & Marie			August 29th	• AR-201
Klein, Dorie			August 29th	• AR-244
Kuhn, Abigail			August 29th	• AR-183
Kuhn, Gary			August 29th	• AR-175
Lano, Maxine			August 29th	• AR-215
Leveille, Esther		July 18th		• AR-97
Lindgren, Art	Hearing			• AR-68, AR-94
Lindgren, Cheryl	Hearing	July 18th	August 29th	• AR-67, AR-93, AR-224
Madden, Bernie			August 29th	• AR-274
Mahoney, Sean for CLF		July 18th		• AR-142
May, Sara			August 29th	• AR-268
McGuire, Sally			August 29th	• AR-231
McKay, Dan			August 29th	• AR-184, AR-279
Michka, Alan		July 18th	August 29th	• AR-92, AR-194, AR-251
Michka, M. Kay			August 29th	• AR-258
Miller, Nick			August 29th	• AR-216
Mills, Dora	Hearing	July 18th		• AR-66, AR-83, AR-86
Mitchell, Marjorie			August 29th	• AR-283
Morin, Anne			August 29th	• AR-197
Murillo, Margaret			August 29th	• AR-199
O'Halloran, Bob			August 29th	• AR-210
O'Neil, Chris		July 18th		• AR-98
O'Toole, Nancy			August 29th	• AR-259
Olds, Alison			August 29th	• AR-261
Olds, Tom			August 29th	• AR-188, AR 242
Patrick, Mahala			August 29th	• AR-232
Payne, Jeremy	Hearing		August 29th	• AR-73, AR-285

Chapter 375, Section 10, subsection I Sound Level Standards for Wind Energy Developments Supplemental Basis Statement and Response to Comments - Attachment A List of Commenters		
Witness Name - Affiliation	Comments Submitted	Administrative Record Reference
Me. Renewable Energy Assoc		
Pease, Karen	Hearing July 18th August 29th	• AR-80, AR-88, AR-173, AR-209
Perkins, Greg	Hearing July 18th August 29th	• AR-71, AR-182
Perkins, Jennifer	Hearing July 18th	• AR-87, AR-276
Presson, Todd for Patriot Renewables	July 18th	• AR-113
Pullaro, Francis	Hearing August 29th	• AR-72, AR-172, AR-292
Rand, Robert (INCE)	Hearing August 29th	• AR-79, AR-85, AR-189
Roper, Gar	August 29th	• AR-277
Roper, Harrison	August 29th	• AR-245
Sawyer, Marrylyn	August 29th	• AR-198
Schiller, Carol	August 29th	• AR-293
Schwabe, Ed	August 29th	• AR-234
Sholler, James	July 18th	• AR-137
Simpson, Maureen	August 29th	• AR-229
Smith, Donald	August 29th	• AR-282
Smith, Mike for Pisgah Mountain	July 18th	• AR-139
Sousa, Cindy	July 18th	• AR-84
Sousa, Erin-Kate	August 29th	• AR-211
Sousa, Robert	August 29th	• AR-204
Soychalk, Anthony	August 29th	• AR-230
Spear, Jody	August 29th	• AR-192
Staton, Rose	August 29th	• AR-290
Steiber, Chris	July 18th	• AR-90
Steinberg, Gary	August 29th	• AR-181, AR-247
Stowell, Rand	August 29th	• AR-233
Strauch, Patrick	July 18th	• AR-138
Sullivan, Richard	August 29th	• AR-275
Swett, Errol	August 29th	• AR-206
Thurston, Steve	August 29th	• AR-177, AR-286
Todd, Wendy	Hearing	• AR-70
Volk, Amy	August 29th	• AR-255
Vtridgerunner	August 29th	• AR-213
Wallace, Charles Resource Systems	Hearing	• AR-62, AR-115 thru AR-120.1, AR-291

Chapter 375, Section 10, subsection I Sound Level Standards for Wind Energy Developments Supplemental Basis Statement and Response to Comments - Attachment A List of Commenters		
Witness Name - Affiliation	Comments Submitted	Administrative Record Reference

Engineering			
West, Jane	Hearing		•
West, Nora		August 29th	• AR-250
Williams, Lynn		August 29th	• AR-186
Williamson, Paul	Hearing	August 29th	• AR-75, AR-287
Wylie, Sally	July 18th	August 29th	• AR-82, AR-187
Yeo, Charlie		August 29th	• AR-171

Ch. 375, Sec. 10, subsec. I Sound Level Standards for Wind Energy Developments

Supplemental Basis Statement and Response to Comments

Attachment B: Index of Comments Received

Administrative Record	Date	Exhibit Summary
AR-01	01/04/2011	Citizen Initiated Petition for Rulemaking Amendment (attached references): • Exhibit a. - Ebbing Acoustics, "Some Limitations and Errors in Current Turbine Noise Models (July 2009) • Exhibit b. - C.E. Ebbing, "Applied Acoustics Handbook." • Exhibit c. - NASA, Hubbard & Shepard, "Wind Turbine Acoustics" (1990) • Exhibit d. - George W. Kemperman & Richard James, "Simple Guidelines for Siting Wind Turbine to Prevent Health Risks," NOISE-CON, Dearborn, Michigan (July 28-31, 2008) • Exhibit e. - George W. Kemperman & Richard James, "The 'How To' Guide to Siting Wind Turbines To Prevent Health Risks From Sound" (October 28, 2008) • Exhibit f. - Frank H. Brittain & Marlund E. Hale, "Some Limitations of Ray-Tracing Software for Predicting Community Noise from Industrial Facilities," NOISE-CON, Dearborn, Michigan (July 28-30, 2008). • Exhibit g. - ~~Hawkins on Modeling, ASHRAE Guide for ILFN effects, The Effects of Low Frequency Noise and Vibration on People, Colin H. Hansen, Hessler C-Wt Limits for rural areas (1986)~~ • Exhibit h. - Maine State Planning Office Technical Assistance Bulletin #4 and Model Wind Energy Facility Ordinance August 27, 2009. • Exhibit i. - Daniel J. Alberts. "Addressing Wind Turbine Noise" Revised Oct. 2006. • Exhibit j. - Eja Pedersen and Kerstin Waye, "Perception and Annoyance Due to Wind Turbine Noise – a Dose – Response Relationship," J. Acoust. Soc. Am. 116 (2004). • Exhibit k. - Eja Pedersen and Kerstin Waye. "Wind Turbines-Low Level Noise Sources Interfering With Restoration?," Environmental Res. Lett. 3 (2008) • Exhibit l. - Frits van den Berg, Eja Pedersen, Jelte Bouma & Roel Bakker. "WINDFARMperception, Visual and Acoustic Impact of Wind Turbine Farms on Residents," June 3, 2008 • Exhibit m. - Eja Pedersen, Frits van den Berg, Roel Bakker & Jelte Bouma. "Response to Noise from Modern Wind Farms in the Netherlands," J Acoust. Soc. Am 126 (2), August 2009. • Exhibit n. - Eja Pedersen, "Third International Meeting on Wind Turbine Noise," Aalborg Denmark 17-19 June 2009. • Exhibit o. - Kerstin Waye. "Perception and Environmental Impact of Wind Turbine Noise," Inter-Noise 2009 (August 23-26 2009 Ottawa Canada). • Exhibit p. - Minnesota Department of Health Environmental Health Division. "Public Health Impacts of Wind Turbines," May 22, 2009. • Exhibit q. - Keith Stelling & Carmen Krogh. "Summary of Recent Research on Adverse Health Effects of Wind Turbines" 20 October 2009. • Exhibit r. World Health Organization. "Night Noise Guidelines for Europe" (2009) • Exhibit s. - World Health Organization. "Night Noise Guidelines for Europe" (2007) • Exhibit t. - Dr. Christopher Hanning, "Sleep Disturbance and Wind Turbine Noise," June 2009

Administrative Record	Date	Exhibit Summary
		• Exhibit u. – not applicable • Exhibit v. - Dr. Christopher Hanning, "Wind Trubine Noise, Sleep and Health," April 2010. • Exhibit w. - W. David Colby, M.D., et als, "Wind Turbine Sound and Health Effects: An Expert Panel," Prepared for the American Wind Energy Association and the Canadian Wind Energy Association, December 2009. • Exhibit x. - Brett Horner, et als, "Wind Energy Industry Acknowledgement of Adverse Health Effects", prepared by the Society for Wind Vigilance (January 2010). • Exhibit y. - Geoff Leventhall, "Low Frequency Noise. What We Know, What We do not Know and What We would Like to Know."
AR-02	06/23/2011	Petitioner's Proposed Noise Rule Amendment (Bold language represents modifications)
AR-03	07/01/2011	Petitioner Statement on Petition "Friends of Maine's Mountains" • Exhibit A – Revised Proposed Noise Rule Amendment (06/30/2011)
AR-04	07/01/2011	Richard James • Cover Letter and CV • Pre-filed testimony
AR-05	07/01/2011	Michael Nissenbaum, MD • Pre-filed testimony • Testimony attachment – Exhibits A through F
AR-06	10/20/09	• Summary of Recent Research on Adverse Health Effects of Wind Turbines // Keith Stelling, MA, MNIMH, Dip Phyt, MCPP (England)
AR-07		• The Acoustic Ecology Institute – Wind Farm Noise 2011 (Science and policy overview) // Jim Cummings
AR-08	11/2010	• Wind Turbine Noise, Sleep and Health // Dr. Christopher Hanning,
AR-09		• Disconnect Between Turbine Noise Guidelines and Health Authority Recommendations // John P. Harrison
AR-10		• England and Wales Court of Appeal (Civil Division) Decisions // 2011 EWCA Civ 638 – Case No: C1/2010/2166/QBACF
AR-11	06/13-16/10	• Inter Noise 2010, Predicting Annoyance by Wind Turbine Noise (June 13 – 16, 2010)
AR-12		• Acoustics 2008: Acoustics and Sustainability: how should acoustics adapt to meet future demands?
AR-13	2011	• Annoyance caused by amplitude modulation of wind turbine noise (Noise Control Eng. Jan-Feb 2011)
AR-14		• Fact Sheet: (Massachusetts Department of Environmental Protection)
AR-15		• Assessing and Mitigating Noise Impacts (New York State Department of Environmental Conservation)
AR-16		• New Zealand Wind Energy Association: The New Zealand Wind Farm Noise Standard
AR-17		• Noise Control Regulation for Industry and Commerce (340-035-0035)
AR-18	06/17-19/09	• Third International Meeting on Wind Turbine Noise – Aalborg Denmark

Administrative Record	Date	Exhibit Summary
		17-19 June 2009: A New Explanation for Wind Turbine Whoosh – Wind Shear
AR-19		• Wind turbine noise, annoyance and self-reported health and well-being in different living environments
AR-20		• Health aspects associated with wind turbine noise – results from three field studies: Eja Pedersen
AR-21	12/09/10	• Independent Peer-Review (December 9, 2010)
AR-22	01/2010	• Wind Energy Industry Acknowledgement of Adverse Health Effects / Part 2 Detailed Analysis (January 2010)
AR-23		• Protective Noise Levels: Condensed Version of EPA Levels Document
AR-24		• Information on Levels of Environmental Noise Requisite to Protect public Health and Welfare with an Adequate Margin of Safety US EPA (March 1974)
AR-25	05/16/1989	• DEP Memorandum: Bill Laflamme – Proposed Noise Control Regulations (May 16, 1989)
AR-26		• Basis Statement: 1987 Legislature Enacted LD 1803
AR-27		• Infrasound: Your ears "hear" it but they don't tell your brain. // Alec N. Salt, PhD
AR-28		• ELSEVIER - Hearing Research: Responses of the ear to low frequency sounds, infrasound and wind turbines // Alec N. Salt, Timothy Hullar
AR-29	04/2011	• Fourth International Meeting on Wind Turbine Noise – Rome Italy 12-14 April 2011: Responses of the Inner Ear to Infrasound (Alec N. Salt and Jeffery T. Lichtenhan)
AR-30	04/2011	• Fourth International Meeting on Wind Turbine Noise – Rome Italy 12-14 April 2011: Wind turbine noise and health-related quality of life of nearby residents: a cross-sectional study in New Zealand (Daniel Shepherd, David McBride, David Welch, Kim Dirks, Erin Hill)
AR-31	09/14/2010	• The Society of Wind Vigilance Response to and Analysis of: "Low frequency Noise and Infrasound Associated with Wind Turbine Generator Systems A Literature Review Ontairo Ministry of the Environment RFp NO. Oss-078696 Draft for Discussion" (September 14, 2010)
AR-32	2009	• ECHOES – The newsletter of the acoustical society of America // Perspectives on Wind Turbine Noise (Volume 19, Number 3 Summer 2009)
AR-33	1999	• Guidelines for Community Noise – World Health Organization, Geneva (April 1999)
AR-34	07/19/2010	• Haste makes Waste – An analysis of the National Health and Medical Research Council "Wind Turbines and Health A Rapid Review of the Evidence July 2010": Prepared by The Society for Wind Vigilance (July 19, 2010)
AR-35	06/03/2010	• Delay Denial and Disappointment: An Analysis of the Chief Medical Officer of Health (CMOH) of Ontario "The Potential Health Impacts of

Administrative Record	Date	Exhibit Summary
		Wind Turbines May 2010": Prepared by The Society for Wind Vigilance (June 3, 2010)
AR-36		• 11th International Meeting on Low Frequency Noise and Vibration and its Control Masstricht The Netherlands 30 August to 1 September 2004: Do wind turbines produce significant low frequency sound levels?
AR-37	09/22/2003	• ELSEVIER – Effects of the wind profile at night on wind turbine sound // GP van den berg: Received 22 January 2003; accepted 22 September 2003
AR-38	04/2011	• Fourth International Meeting on Wind Turbine Noise – Rome Italy 12-14 April 2011: Selection of outcome measures in assessing sleep disturbance from wind turbine noise – Christopher Hanning and Michael Nissenbaum
AR-39	04/2011	• Fourth International Meeting on Wind Turbine Noise – Rome Italy 12-14 April 2011: Detection and Quantification of Amplitude Modulation in Wind Turbine Noise (J.N McCabe)
AR-40	04/2011	• Fourth International Meeting on Wind Turbine Noise – Rome Italy 12-14 April 2011: The assessment of low frequency noise and amplitude modulation of wind turbines (Denis Siponen)
AR-41	04/2011	• Fourth International Meeting on Wind Turbine Noise – Rome Italy 12-14 April 2011: An overview of residential health effects in relation to wind turbine noise (Frits van den Berg)
AR-42	12/20/2010	• Low frequency from large wind turbines // Henrik Moller and Christian Sejer Pedersen (Received 5 July 2010, accepted 20 December 2010)
AR-43	08/2009	• Inter-Noise 2009: Recent Developments in assessment guidelines for sound from wind power projects in Ontairo, Canada, with a comparison to acoustic audit results (August 23-26, 2009 – Brian Howe, Nick McCabe)
AR-44	07/03/2010	• An Analysis of the Epidemiology and Related Evidence on the Health Effects of Wind Turbines on Local Residents (July 3, 2010 – Carl Phillips)
AR-45		• Statement of Opposition to Petitioner's Proposed Rule amendment
AR-46		• R. Scott Bodwell – First Wind pre-filed testimony
AR-47		• Pete Guldberg, Tech Environmental pre-filed – testimony
AR-48		• Mark Roberts et al., Evaluation of the Scientific Literature on the Health Effects Associated with Wind Turbines and Low Frequency Sound, prepared for Wisconsin Public Service Commission, October 20, 2009 ("Exponent Report")
AR-49	05/2010	• The Potential Health Impact of Wind Turbines, Chief Medical Officer of Health of Ontario, May 2010 ("CMOH Report")
AR-50		• Town of Oakfield Wind Energy Review Committee Report, September 4, 2009 ("Oakfield Report")
AR-51	12/2009	• David Colby et al., Wind Turbine Sound and Health Effects, an Expert Panel Review, December 2009 (AWEA/CanWEA Report)
AR-52	2011	• Robert O'Neal et al., Low Frequency Noise and Infrasound from Wind Turbines, Noise Control Engineering Journal, Vol. 59, No. 2, at 135

Administrative Record	Date	Exhibit Summary
		(March-April 2011) ("O'Neal Report")
AR-53	05/31/2011	• Findings and Order of Vermont Public Service Board, Petition of Green Mountain Power Corp. (Docket No. 7628), May 31, 2011 (excerpts)
AR-54	04/2011	• Dick Bowdler, Why Turbine Noise Annoys, presented at Fourth International Meeting on Wind Turbine Noise, Rome, Italy, April 12-14, 2011
AR-55	04/2011	• George F. Hessler, A Note on the Debate about health Effects from Low Frequency Noise (LFN) from Modern Large Wind Turbines, presented at Fourth International Meeting on Wind Turbine Noise, Rome, Italy, April 12-14, 2011
AR-56	04/2011	• Martin van den Berg, Health Based Guidelines for Wind Turbine Noise in the Netherlands, presented at Fourth International Meeting on Wind Turbine Noise, Rome, Italy, April 12-14, 2011
AR-57	08/09/2010	• Wisconsin Wind Siting Council, Final Recommendation to the Public Service Commission, August 9, 2010
AR-58	08/2010	• Kenneth Kaliski and Eddie Duncan, Calculating Annualized Sound Levels from a Wind Farm, presented at Acoustical Society of America/NOISE-CON 2010, Baltimore, Maryland, April 19 – 23, 2010
AR-59	12/2008	• Kenneth Kaliski and Eddie Duncan, Propagation Modeling Parameters for Wind Power Projects, Sound and Vibration, December 2008
AR-60	06/2009	• Andrew Bullmore et al., Wind Farm Noise Predictions and Comparison with Measurements, presented at Third International Meeting on Wind Turbine Noise, Aalborg, Denmark, June 17-19, 2009
AR-61	2009	• Dick Bowdler et al., Prediction and Assessment of Wind Turbine Noise, Acoustics Bulletin, March/April 2009
AR-62	07/07/2011	• Charles F. Wallace, Jr. Testimony and exhibits
AR-63	07/07/2011	• Robert McCunney testimony and exhibits
AR-64	07/07/2011	• Robert O'Neal testimony
AR-65	07/07/2011	• Kenneth Kaliski testimony and exhibits
AR-66	07/07/2011	• Dora Mills testimony and exhibits
AR-67	07/07/2011	• Cheryl Lindgren testimony
AR-68	07/07/2011	• Art Lindgren testimony
AR-69	07/07/2011	• Steve Bennett testimony and exhibits
AR-70	07/07/2011	• Wendy Todd testimony
AR-71	07/07/2011	• Greg Perkins testimony
AR-72	07/07/2011	• Francis Pullaro testimony
AR-73	07/07/2011	• Jeremy Payne testimony and exhibits
AR-74	07/07/2011	• Scott Cuddy testimony
AR-75	07/07/2011	• Paul Williamson testimony and exhibits
AR-76	07/07/2011	• Dave Bennett testimony
AR-77	07/07/2011	• John Conney testimony

Administrative Record	Date	Exhibit Summary
AR-78	07/07/2011	• Leola Ballweber testimony and exhibits
AR-79	07/07/2011	• Robert Rand testimony and exhibits
AR-80	07/07/2011	• Karen Bessey Pease, Lexington Township
AR-81	07/07/2011	• Mike DiCenso testimony, Lincoln
AR-82	07/07/2011	• Sally Wylie testimony, Seal Cove
AR-83	07/07/2011	• Dora Mills testimony
AR-84	07/10/2011	• Cindy Sousa, Frankfort
AR-85	07/11/2011	• Robert Rand, Brunswick (Institute of Noise Control Eng.)
AR-86	07/12/2011	• Dora Mills testimony revised final
AR-87	07/13/2011	• Jennifer Abbott Perkins, Holden
AR-88	07/14/2011	• Karen Pease, Lexington Twp.
AR-89	07/14/2011	• Stephen E. Ambrose, Windham o July 8, 2011 ltr to J. Cassida o July 12, 2011 ltr to J. Cassida
AR-90	07/14/2011	• Chris Stieber
AR-91	07/18/2011	• Susan S. Davis testimony and exhibits, Friends of Maine's Mountains
AR-92	07/18/2011	• Alan Michka, Lexington Township
AR-93	07/18/2011	• Art Lindgren, Vinalhaven
AR-94	07/18/2011	• Cheryl Lindgren, Vinalhaven
AR-95	07/18/2011	• Alice Barnett, w/attachments, Carthage
AR-96	07/18/2011	• Jessa Barnard, JD Maine Medical Association
AR-97	07/18/2011	• Esther Leveille
AR-98	07/18/2011	• Chris O'Neil, testimony
AR-99	07/18/2011	• Monique Aniel testimony and exhibits
AR-100	07/18/2011	• R Brown – SSF-36v@ Health Survey (Dr. Nissenbaum)
AR-101	07/18/2011	• Glen Bridges, Freedom
AR-102	07/18/2011	• R Brown – RSE Sound Level Study (June 21, 2007)
AR-103	07/18/2011	• R Brown – M. Nissenbaum rebuttal testimony
AR-104	07/18/2011	• R Brown Exhibit A – proposed noise rule amendment (07/18/11)
AR-105	07/18/2011	• R Brown Exhibit B – ANS Part 4: Noise Assessment and Prediction of Long-term Community Response
AR-106	07/18/2011	• R Brown Exhibit C – Sound Level vs distance from Mars Hill Wind Turbines (graph)
AR-107	07/18/2011	• R Brown Exhibit D – World Health Organization Basic Documents (December 2006)
AR-108	07/18/2011	• R Brown Exhibit E – Excerpt from transcript State of Vermont Public service Board Doc 7628
AR-109	07/18/2011	• R Brown Exhibit F – Fourth International Meeting on Wind Turbine Noise: The Audibility of Low Frequency Wind Turbine Noise (April 2011)

Administrative Record	Date	Exhibit Summary
AR-110	07/18/2011	• R Brown Exhibit G – Mars Hill Windfarm Post-Development Sound Level Study Peer Review (November 2007)
AR-111	07/18/2011	• R Brown Exhibit H – Fourth International Meeting on Wind Turbine Noise: Coherence Issues in Wind Turbine Noise Assessment (April 2011)
AR-112	07/18/2011	• S. Jones, Windependence
AR-113	07/18/2011	• Todd Presson, Patriot Renewables
AR-114	07/18/2011	• Philip Conkling, Island Institute
AR-115	07/18/2011	• Charles Wallace, Resource Systems Engineering (RSE)
AR-116	07/18/2011	• RSE – Exhibit 8: Utility Grade Wind Turbine Sound Levels
AR-117	07/18/2011	• RES – Exhibit 9: Assessment and Rating of Noise from Wind Farms
AR-118	07/18/2011	• RES – Exhibit 10: Papers from Fourth International Meeting on Wind Turbine Noise held in Rome
AR-119	07/18/2011	• RES – Exhibit 11 Links to Noise Regulations
AR-120	07/18/2011	• RES – Exhibit 12 Reference List - Sources and Technical Publications (RSE)
AR-120.1	07/18/2011	• RES – Exhibit 13 Primer on Sound Basics
AR-121	07/18/2011	• Matt Kearns, FirstWind
AR-122	07/18/2011	• Matt Kearns Exhibit A: Employment Impacts of Wind Power Development in Maine 2003-2010
AR-123	07/18/2011	• Matt Kearns Exhibit B: Operations Compliance Sound Level Study (July 27, 2009)
AR-124	07/18/2011	• Matt Kearns Exhibit C: Operations Compliance Sound Level Study – Second Quarter (10-27-2009)
AR-125	07/18/2011	• Matt Kearns Exhibit D: Operations Compliance Sound Level Study – Third Quarter (January 18, 2010)
AR-126	07/18/2011	• Matt Kearns Exhibit E: Operations Compliance Sound Level Study – Fourth Quarter (March 10, 2011)
AR-127	07/18/2011	• Opposition to Petition: Post-Hearing Submission
AR-128	07/18/2011	• Opposition Exhibit A: Perception and annoyance due to wind turbine noise – a dose-response relationship (Eja Pedersen)
AR-129	07/18/2011	• Opposition Exhibit B: Wind turbine noise, annoyance and self-reported health and well-being in different living environments (Eja Pedersen and Kerstin Waye)
AR-130	07/18/2011	• Opposition Exhibit C: Project WINDFARMperception – Visual and acoustic impact of wind turbine farms on residents
AR-131	07/18/2011	• Opposition Exhibit D: Health aspects associated with wind turbine noise results from three field studies
AR-132	07/18/2011	• Opposition Exhibit E: Towns with wind power ordinances in Maine
AR-133	07/18/2011	• Opposition Exhibit F: Evergreen Wind Power DEP Permit L-24572-24-/a-N // L-24572-TF-B-N, Oakfield
AR-134	07/18/2011	• Opposition Exhibit G: Environmental Review Tribunal (February 25,

Administrative Record	Date	Exhibit Summary
		2011)
AR-135	07/18/2011	• Opposition Exhibit H: Queen's Bench for Saskatchewan – Judgement Citation: 2010SKQWB 374 (October 7, 2010)
AR-136	07/18/2011	• Opposition Exhibit I: Journal of Low Frequency Noise, Vibration and Active Control – Volume 27, Number 4 (2008)
AR-137	07/18/2011	• James Sholler, Chair Oakfield Wind Energy Review Committee
AR-138	07/18/2011	• Patrick Strauch, Maine Forest Products Council
AR-139	07/18/2011	• Mike Smith, Pisgah Mountain LLC
AR-140	07/18/2011	• Friends of Maine's Mountains, Post-haring comments
AR-141	07/18/2011	• Kenneth Kaliski, supplemental testimony on behalf of Patriot Renewables LLC and Highland Wind LLC
AR-142	07/18/2011	• Sean Mahoney, Vice President Conservation Law Foundation
AR-143	07/18/2011	• Tracking Progress Toward Meeting Maine's Wind Energy Goals: Governor's Office of Energy Independence and Security (April 2011)
AR-144	07/18/2011	• Mars Hill L-21635-26-A-N
AR-145	07/18/2011	• Mars Hill: Sound Level Study – Compilation of Ambient & Quarterly Operations Sound Testing
AR-146	07/18/2011	• Mars Hill: DEP Letter to Dave Cowan, First Wind
AR-147	07/18/2011	• Mars Hill: First Quarter Monitoring o Sound Level Study (ambient & operations sound level) o Pre-development sound level study (peer review) o Post-development sound level study (W. Brown peer review)
AR-148	07/18/2011	• Mars Hill: Second Quarter Monitoring o Sound Level Study (ambient & operations sound level) o Additional information in response to peer review o Post-development sound level study (W. Brown peer review)
AR-149	07/18/2011	• Mars Hill: Third Quarter Monitoring o Sound Level Study (ambient & operations sound level) o Post-development sound level study (W. Brown peer review)
AR-150	07/18/2011	• Mars Hill: Fourth Quarter Monitoring o Sound Level Study (ambient & operations sound level) o WTs Prominent Hourly LAeq vs Time (all quarters) o Appendix III: Wind Turbine Power Production, wind speed and direction (May 2008) o Appendix IV: time history graphs for 4th quarterly shutdown o Appendix V: hourly sound level measurements of wind farm operation (May 2008) o Appendix VI: one-third Octave band sound level measurements (May 2008) o Appendix VII: complete time history plots for 4th quarterly measurements including shutdowns (May 2008)

Administrative Record	Date	Exhibit Summary
		○ Post-development sound level study (W. Brown peer review)
AR-151	07/18/2011	• Pisgah Mt: DEP Permit (L-25245-ES-B-N and L-25245-NI-A-N
AR-152	07/18/2011	• Pisgah Mt: Evaluation of Sound Level Assessment Report 1-18-11
AR-153	07/18/2011	• Pisgah Mt: Appendix I – Sound Basics
AR-154	07/18/2011	• Pisgah Mt: Appendix II – RSE Summary Review Clifton's Noise Ordinance for wind energy facilities
AR-155	07/18/2011	• Pisgah Mt: Appendix III – Pre-Development Ambient Sound Levels
AR-156	07/18/2011	• Pisgah Mt: Appendix IV – Sound Prediction Model Assumptions
AR-157	07/18/2011	• Pisgah Mt: Appendix V – GE 2.5 xl Wind Turbine
AR-158	007/18/2011	• Pisgah Mt: Appendix VI – Vestas V90-1.8 MG General Specifications & IEC Report by DELTA
AR-159	07/18/2011	• Pisgah Mt: Appendix VII – Pisgah Wind Project Wind Trubine Sound Compliance Assessment Plan
AR-160	07/18/2011	• Rollins – DEP Permit (L-2442-24-A-N / L-22402-TH-B-N / L-22402-IW-C-N)
AR-161	07/18/2011	• Rollins – Draft Wind Turbine Neuro-Acoustical Issues (2-13-09)
AR-162	07/18/2011	• Rollins – wind project sound level assessment (W Brown peer review)
AR-163	07/18/2011	• Rollins – Wind Turbine Sound Assessment update (W Brown)
AR-164	07/18/2011	• Rollins – Wind Turbine Sound Compliance Assessment Plan
AR-165	07/18/2011	• Rollins – place holder for final email link information
AR-166	07/18/2011	• Record Hill: Excerpts DEP License Record (paper form only) ○ Notes taken at public information meeting B Callahan ○ NRPA application / Site Location application ○ B. Callahan memo re: noise (12/09/08) ○ W Brown memo re: scope of services (12/23/08) ○ B. Callahan memo re: additional noise info from W. Brown (12/19/08) ○ J Ryan memo re: clarification for W. Brown (12/29/08) ○ W Brown memo re: noise assessment review (01/05/09) ○ S. Thurston memo re: decommissioning, scenic beauty & character, noise (01/11/09) ○ B. Callahan notes phone call re: submission written comments hiring r. James to review noise study (01/12/09) ○ J Ryan memo record wind hill sound assessment report (01/27/09) ○ B. Callahan memo re: S Thurston concern about wind turbine syndrome (02/03/09) ○ B. Callahan memo re: Record Hill Wind Issues (02/09/09) ○ J. Cassida notes from public meeting (02/18/09) ○ B. Callahan notes from public meeting (02/18/09) ▪ Written Comments: (S. Thurston, M. Aniel, A. Aniel, G. Gamble, L. Kuras)

Administrative Record	Date	Exhibit Summary
		○ Review of Noise Study by E-Coustic Solutions ○ S. Thurston memo re: noise (02/19/09) ○ B. Callahan memo re: turbine low frequency sound output (02/19/09) ○ L. Hodgkins memo re: wind turbine syndrome (02/25/09) ○ S. Thurston memo re: federal aviation agency determination nighttime noise, CMP transmission upgrades (02/27/09) ○ B. Maddox memo re: applicant's noise assessment (03/06/09) ○ B. Callahan memo re: low frequency noise (03/13/09) ○ B. Maddox memo re: wind turbine sound assessment (03/20/09) ○ B. Maddox memo re: wind turbine sound assessment (03/25/09) ○ Review of noise study submitted by E-Coustic Solutions (04/29/09) ○ Record Hill wind project sound level assessment peer review by W. Brown (03/30/09) ○ S. Thurston memo re: noise (05/06/09) ○ S. Thurston memo re: comprehensive review of wind turbine noise and human health issues (05/11/09) ○ K. Sastamoine memo re: effects of audible noise, shadow flicker, and acoustical vibrations from wind turbines on long term health (05/13/09) ○ S. Thurston memo re: response to noise issues (06/05/09) ○ Application amendment change in turbine specification (06/17/09) ○ M. Aniel memo re: potential health effects (06/18/09) ○ S. Thurston memo re: noise impacts (07/01/09) ○ S. Thurston memo re: noise impacts w/attachments (07/01/09) ○ S. Thurston memo re: potential additional sound studies (07/15/09) ○ S. Thurston memo re: agenda for meeting (07/27/09) ○ B. Callahan memo re: financial capacity (07/30/09) ○ C Wallace memo re: compliance assessment plan (08/03/09) ○ D. Mills memo re: health effects and noise from wind turbines (08/09/09) ○ Operations Compliance Sound Level Study for Stetson Wind Project (08/10/09) ○ W. Brown memo re: final noise review (08/10/09) ○ Order approving Record Hill Wind (08/20/09) ○ Record on Appeal before the BEP (09/09 thru 03/10)
AR-167	07/18/2011	• Place Holder for ═══ Fox Island – Department License Record related to wind noise analysis ○ (paper only – awaiting submission by DEP staff – terry to list information here)
AR-168	07/18/2011	• Place Holder for ═══ Oakfield – Department License Record related to

Administrative Record	Date	Exhibit Summary
		wind noise analysis o (paper only – awaiting submission by DEP staff – terry to list information here)
AR-169	07/18/2011	• Spruce Mountain – Excerpts from DEP License Record (paper form only) o Affidavit – Michael Nissenbaum o Affidavit – Albert Aniel o E-Coustic Solutions comments on draft permit (09-20-10) o Docket No 7250 VT Public Service Board Order: 04/16/09 – technical hearings December 08 o DEP internal emails o Excerpts simple guidelines for siting wind turbines to prevent health risks 2.1 o Response to comments Friends of Spruce Mt. Exhibit #3 (09/30/10) o DEP Permit "Spruce Mountain Wind LLC (10/5/10) o DEP summary and response to questions from March 25, 2010 meeting o Application Excerpt – Section 5 Noise o Prediction and Reduction of Noise from a 2.3 MW Wind Turbine o NOISE-CON 2008 (July 28-30 2008) o 11th International Meeting on Low Frequency Noise and Vibration and its Control Maastriht the Netherlands (2004) o Echoes Vol 19, Number 3 Summer 2009 o Accuracy of Model Predictions and the Effects of Atmopsheric Stability on Wind Turbine Noise at Maple Ridge (04/10/08) o Low Frequency Noise. What we know, what we do not know, and what we would like to know G. Leventhall (2009) o Technical Assistance Bulletins (May 2000) o Perception and annoyance due to wind turbine noise – a dose – response relationship (2004 Eja Pedersen) o Wind turbines – low level noise sources interfering with restoration? (Eja Pedersen & Kerstin Waye) o Wind turbine noise, annoyance and self-reported health and well-being in different living environment o Third international meeting on wind turbine noise (Denmark June 2009) o Project Windfarm prerception (final report) o Inter-noise 2009 – perception and environmental impact of wind turbine noise (08/2009) o Record Hill Appeal – points made in TC w/Clients (05/10/10) o Summary of recent research on adverse health effects of wind turbines (10-20-09) o Guidelines for Community Noise (WHO, Geneva (April 1999)

Administrative Record	Date	Exhibit Summary
		○ Society For Wind Vigilance: Wind Turbine Noise, Sleep and Health (Dr. Christopher Hanning April 2010) ○ Appeal by Friends of Spruce Mountain and Other Aggrieved Parties ○ Licensee written response to the merits of the appeal ○ Board order In The Matter Of: Spruce Mountain Wind (02/08/2011)
AR-170	07/18/2011	• First Wind Energy – Stetson I Wind Power Project – LURC license record ○ T. Clapp memo re: Thid Quarter Operations Sound Level Study w/attachments ○ T. Clapp memo re: Final Ambient Sound Report for Stetson Summit ○ Operations Compliance Sound Level Study (07/27/09) ○ T. Clapp memo re: Operations Compliance Sound Level Study - Second Quarter Report ○ J Bagnato Ltr re: Operational Commitments for Stetson I and II Wind Porjects ○ Operations Compliance Sound Level Study - Fourth Quarter Summary (03/10/2011) ○ Operations Sound Testing Stetson II Wind Project (03/2011) ○ W. Brown – Stetson II Operations Sound Testing Peer Review (06/15/2011)

Administrative Record	Date	Exhibit Summary

Written Public Comment received after July 18, 2011 and by deadline of: August 29, 2011 *(draft proposed language – Subsection I Sound Level Standards for Wind Energy Development)*		
AR-171	07/18/2011	• Charlie Yeo, Town of Eastbrook
AR-172	07/18/2011	• Francis Pullaro, Exe. Dir. RENEW
AR-173	07/20/2011	• Karen Bessey Pease, Lexington Twp
AR-174	08/2011	• Mike DiCenso, Lincoln
AR-175	08/06/2011	• Gary Kuhn
AR-176	08/07/2011	• Mary Ann John, Estabrook
AR-177	08/07/2011	• Steve Thurston
AR-178	08/07/2011	• Brad Blake, Cape Elizabeth
AR-179	08/07/2011	• Monique Aniel, MD
AR-180	08/07/2011	• Alice Barnett, Carthage
AR-181	08/07/2011	• Dr. Gary Steinberg, Lincoln
AR-182	08/07/2011	• Greg Perkins, Holden
AR-183	08/07/2011	• Abigail Kuhn
AR-184	08/07/2011	• Dan McKay, Dixfield
AR-185	08/07/2011	• Susan Davis, Kingfield (Friends of Maine's Mountains)
AR-186	08/07/2011	• Lynn Williams
AR-187	08/08/2011	• Sally Wylie, Vinalhaven
AR-188	08/08/2011	• Tom Olds, Brooks
AR-189	08/08/2011	• Robert Rand, Rand Acoustics, Brunswick
AR-190	08/08/2011	• Gary Campbell, Lakeville
AR-191	08/08/2011	• Greg & Patrice Drumond, Claybrook Mountain Lodge, Highland plt.
AR-192	08/08/2011	• Jody Spear, Brooksville
AR-193	08/08/2011	• Stephen Ambrose, Acoustics Env. Sound & Industrial Noise, Windham
AR-194	08/08/2011	• Alan Michka, Lexington
AR-195	08/08/2011	• Randall Fairman
AR-196	08/10/2011	• Frank Heller, Katahdin Energy Works, Brunswick
AR-197	08/10/2011	• Anne Morin, Rumford
AR-198	08/11/2011	• Marrylyn Sawyer, Wayne
AR-199	08/08/2011	• Margaret Murillo, Lexington Twp
AR-200	08/12/2011	• Victor Botting
AR-201	08/12/2011	• Kevin and Marie
AR-202	08/10/2011	• Diarmuid Keaney, Applied Acoustics
AR-203	08/11/2011	• C. Cushing, Oakfield
AR-204	08/10/2011	• Robert Sousa
AR-205	08/10/2011	• Gary Bonne, Presque Isle
AR-206	08/11/2011	• Errol Swett
AR-207	08/12/2011	• Mary Ann Hayes, Exe. Dir. Maine Rural Partners

Administrative Record	Date	Exhibit Summary
AR-208	08/12/2011	• Penelope Gray, Harraseeket Inn
AR-209	08/13/2011	• Karen Pease
AR-210	08/12/2011	• Bob O'Halloran, Winthrop
AR-211	08/13/2011	• Erin-Kate Sousa
AR-212	08/13/2011	• Keith Cook, Ed.D. Waterville
AR-213	08/14/2011	• Vtridgerunner
AR-214	08/14/2011	• George Appell
AR-215	08/14/2011	• Maxine Lano
AR-216	08/14/2011	• Nick Miller, Bar Harbor – Acton, MA
AR-217	08/14/2011	• Mike DiCenso
AR-218	08/16/2011	• Jim Cummings, Exe. Dir. Acoustic Ecology Institute
AR-219	08/16/2011	• Robert Goldman, So. Portland
AR-220	08/16/2011	• Paul Alexandre John, Estbrook
AR-221	08/16/2011	• Noah John
AR-222	08/16/2011	• Diane Winn and Marc Payne
AR-223	08/17/2011	• Alice Barnett
AR-224	08/20/2011	• Cheryl Lindgren, Belgrade
AR-225	08/21/2011	• Alan Farago, Vinalhaven
AR-226	08/22/2011	• Norman Kalloch, Carrying Place Town Township
AR-227	08/22/2011	• Audrey Kalloch, Carrying Place Town Township
AR-228	08/21/2011	• Gordon Johnson, Lincoln
AR-229	08/21/2011	• Maureen Simpson, Lexington Twp.
AR-230	08/22/2011	• Anthony Soychak, Rockwood
AR-231	08/23/2011	• Sally McGuire
AR-232	08/24/2011	• Mahala APatrick
AR-233	08/23/2011	• Rand N. Stowell, Weld
AR-234	08/25/2011	• Ed Schwabe, Swan's Island Electric Cooperative
AR-235	08/25/2011	• Paul Woodin, Exe. Dir Community Renewable Energy Assoc.
AR-236	08/25/2011	• Catherine Raymaker, Ellsworth
AR-237	08/25/2011	• Kay Mann, Brunswick
AR-238	08/25/2011	• Dirk Faegre, Camden
AR-239	08/25/2011	• Darrin Russell, Flagstaff, Arizona
AR-240	08/25/2011	• Jack Kenworthy, Eolian Renewable Energy, NH
AR-241	08/25/2011	• Andy McGlinn, Crown Farms, Presque Isle
AR-242	08/25/2011	• Tom Olds, Brooks
AR-243	08/26/2011	• Richard Doughty, Weld
AR-244	08/26/2011	• Dorie Klein, Camden
AR-245	08/26/2011	• Harrison Roper, Houlton/Danforth
AR-246	08/27/2011	• Heidi Emery, Highland Plantation

Administrative Record	Date	Exhibit Summary
AR-247	08/27/2011	• Dr. Gary Steinberg, Lincoln
AR-248	08/27/2011	• Alice Barnett, Carthage
AR-249	08/27/2011	• Steve Bennett
AR-250	08/28/2011	• Nora West, New Portland
AR-251	08/28/2011	• Alan Michka, Lexington Twp.
AR-252	08/28/2011	• Albert Aniel
AR-253	08/28/2011	• Monique Aniel
AR-254	08/28/2011	• MaryAnn John, Eastbrook
AR-255	08/28/2011	• Amy Volk, State Representative, District 127
AR-256	08/28/2011	• Bradbury Blake, Cape Elizabeth
AR-257	08/28/2011	• Penelope Gray, Carthage
AR-258	08/28/2011	• M. Kay Michka, Lexington Twp.
AR-259	08/29/2011	• Nancy O'Toole
AR-260	08/29/2011	• Christine Dube, Roxbury
AR-261	08/29/2011	• Alison Olds, Brooks
AR-262	08/29/2011	• Denise Hall, Woodstock
AR-263	08/29/2011	• Peter Buotte, Rumford
AR-264	08/29/2011	• Mike DiCenso, Lincoln
AR-265	08/29/2011	• Rufus Brown on behalf of Petitioner Friends of Maine's Mountains o Transmittal Letter o Comments on reposted rule
AR-266	08/29/2011	• Rufus Brown on behalf of Petitioner Friends of Maine's Mountains o Fox Island Petition for Review of Final Agency Action
AR-267	08/29/2011	• David Boulter
AR-268	08/29/2011	• Sara May
AR-269	08/29/2011	• Jeff Gifford, House Representative District #12
AR-270	08/29/2011	• Juliet Browne on behalf of First Wind
AR-271	08/29/2011	• Juliet Browne on behalf of First Wind o R. Scott Bodwell comments
AR-272	08/29/2011	• Gordon R. Smith on behalf of Patriot Renewables o Kenneth Kaliski comments
AR-273	08/26/2011	• James Cleveland, GZA
AR-274	08/26/2011	• Bernie Madden, Millinocket
AR-275	08/26/2011	• Richard Sullivan, East Andover Me
AR-276	08/26/2011	• Jennifer Perkins, Holden
AR-277	08/27/2011	• Gar Roper, Freeport
AR-278	08/28/2011	• Karl Aromaa, Rumford
AR-279	08/28/2011	• Dan McKay, Dixfield
AR-280	08/28/2011	• Rita Aromaa, Rumford
AR-281	08/28/2011	• John Gates, Cumberland

Administrative Record	Date	Exhibit Summary
AR-282	08/28/2011	• Donald Smith, Lincoln
AR-283	08/28/2011	• Marjorie Mitchell, Lincoln
AR-284	08/29/2011	• David Bridges
AR-285	08/29/2011	• Jeremy Payne, MREA
AR-286	08/29/2011	• Steve Thurston
AR-287	08/29/2011	• Paul Williamson
AR-288	08/29/2011	• Philip Conkling
AR-289	08/29/2011	• Philip FW Ahrens
AR-290	08/29/2011	• Rose Staton, Highland Plantation
AR-291	08/29/2011	• Tina Jones, Resource Systems Engineering
AR-292	08/29/2011	• Francis Pullaro, RENEW
AR-293	08/29/2011	• Carol Schiller, Portland
AR-294	08/29/2011	• Sue Jones, windependence
AR-295	08/29/2011	• Cathy Mattson, Roxbury
AR-296	08/29/2011	• Colleen Martineau – Kersey, Sastemoine, Fakler