STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Petition of BNE Energy Inc. for a Declaratory Ruling for the Location, Construction and Operation of a 3.2 MW Wind Renewable Generating Project on New Haven Road in Prospect, Connecticut ("Wind Prospect")

Petition No. 980

February 16, 2011

PRE-FILED TESTIMONY OF THOMAS WHOLLEY

Q1. Please state your name and profession.

A. Thomas Wholley and I am the Director of Air Quality Services and Noise Services for Vanasse Hangen Brustlin, inc. ("VHB"). VHB's Connecticut office is located at 54 Tuttle Place in Middletown, Connecticut.

Q2. Please summarize your professional background and experience.

A. I have a B.S. from Lowell Technological Institute. I have over 37 years of experience in transportation and land development air quality and noise evaluations. My experience includes noise evaluation for local, state, and federal environmental documents. Prior to working at VHB, I also worked for 13 years at the United States Environmental Protection Agency (EPA) where I was responsible for the implementation of federal laws including the Clean Air Act and the Noise Control Act. I began working for the State of Massachusetts Highway department where I was responsible for implementing the highway air quality and noise program. Wind turbines are turbine engines fueled by wind, rather than coal, natural gas or oil. I have worked on the air quality and noise permitting of numerous turbine engines in Connecticut, Massachusetts, Rhode Island, New York, New Hampshire, and Maine for facilities, such as computer data centers. My resume is attached hereto as Exhibit 1, which details my qualifications and experience.

Q3. What is your involvement with BNE Energy Inc.'s Wind Prospect project?

A. I was responsible for the preparation of the noise evaluation report, which is included in BNE's petition at Exhibit N.

Q4. Please summarize the findings of the noise evaluation?

A. The noise evaluation determined existing conditions using noise monitoring, calculated future sound levels from the proposed wind turbines, and compared the results to the Connecticut Department of Environmental Protection ("DEP") noise regulations. VHB collected baseline noise data on the property at 178 New Haven Road in Prospect (the "Property") in order to establish existing noise conditions on the Property and the surrounding area. VHB then utilized BNE's wind data, the manufacture's reference sound level information from GE concerning the

proposed 1.6 MW turbines, and the principles of acoustical propagation of sound over distance to calculate the worst case analysis of build sound levels. As can be seen from the noise evaluation report, the daytime and nighttime sound levels at the residential receptor locations will not exceed DEP noise impact criteria. In actuality, the sound levels from the proposed project will be even lower then the predicted worst case scenario much of the time.

The statements above are true and accurate to the best of my knowledge.

2/15/2011
Date

Thomas E Wholley
Thomas Wholley

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EXHIBIT 1

Thomas F. Wholley

Director of Air Quality and Noise Services

Mr. Wholley has over 37 years of experience in all aspects of transportation and land development air quality and noise evaluations. This experience includes providing strategic assistance, conducting mobile source analyses, and development and implementation of regulatory requirements based upon his employment at the Vanasse Hangen Brustlin, Inc. (VHB), the U.S. Environmental Protection Agency (EPA), and the Massachusetts Highway Department (MassHighway). Mr. Wholley managed MassHighway's noise program.

Mr. Wholley has been involved with the development and implementation of State Implementation Plans (SIP) including the regulatory processing of SIPs, SIP revisions, and redesignations; coordinating regulatory actions with the public and with State and Federal agencies; and preparing Federal Register Notices and tracking them through the Federal Rulemaking process. Specific activities include the following:

Noise Modeling and Policy

Mr. Wholley is responsible for the preparation and review of noise analyses related to highway, rail, and land development projects for Environmental Impact Statements (EISs), state and local environmental documents, and special studies. He has extensive experience in the Federal Highway Administration's Traffic Noise Model (TNM) and monitoring procedures. He is also familiar with the Federal Transit Administration's transit noise analysis and evaluation procedures for rail projects. He is a member of the Transportation Research Board's Committee on Transportation Related Noise and Vibration (A1F04).

While at the Environmental Protection Agency, Mr. Wholley was responsible for the review of all New England projects under the National Environmental Policy Act (NEPA), including land development, highway and transit projects. In addition, he assisted the public, state, and local government agencies on the implementation of noise regulations. He was responsible for reviewing and approving the noise modeling procedures including study areas, receptor locations, and noise abatement procedures.

Mr. Wholley is the Technical Task Manager for MassHighway's On-Call noise contract. Among the activities included in this assignment are noise measurements, acoustical studies, noise barrier design, noise public meetings, and assisting MassHighway in the development and implementation of Type I and Type II noise policies.

Air Quality Modeling and Policy

Mr. Wholley is responsible for the preparation and review of air quality and noise modeling related to mobile source emissions for EISs, SIPs, and special studies. While working at the EPA, Mr. Wholley was responsible for implementing the mobile source modeling aspects of the Clean Air Act Amendments and Noise Control Act for New England. In addition, he often advised other EPA Regional offices on mobile source issues including conducting workshops on modeling policies and procedures.

Mr. Wholley is a Senior Air and Noise Quality Engineer experienced in all aspects of mobile source emissions and noise analyses. Prior to joining VHB, he was the Senior Environmental Engineer for the Environmental Protection Agency (EPA) Region 1 where he was responsible for implementing EPA's air quality and noise mobile source policies and coordinating mobile source issues with the public, and local, State, and Federal agencies. He developed the modeling procedure CAL3QHC for evaluating carbon monoxide impacts at intersections. This procedure is still required by the EPA as the national guideline modeling procedure.

Mr. Wholley developed the mobile source modeling procedure, CAL3QHC, which is required by the EPA to be used in evaluating carbon monoxide (CO) impacts at congested locations, typically intersections. At VHB, he led the development of graphical AutoCAD version of CAL3QHC greatly improving the task of modeling intersections with complex geometry, facilitating the development of input files, helping identify output modeling errors, enhancing the identification and evaluation of mitigation measures, and providing for a graphical display of the modeled results.

Mr. Wholley has assisted the Departments of Transportation in Connecticut, Delaware, Massachusetts, and Rhode Island in preparing mobile source analyses for their SIPs and Transportation Conformity submissions. These analyses included 1990 Base Year Emission Inventories, Adjusted Base Year Emission Inventories, 1993 Periodic Emission Inventories, 1996 Rate of Progress Plans, Future Emission Inventories, SIP strategy analyses, Conformity submissions for Transportation Plans, Programs, and Projects, Inspection and Maintenance Programs, and National Environmental Policy Act (NEPA) submissions.

Project Experience

Mr. Wholley has been responsible for the preparation of air quality and noise analyses of transportation projects, including highway, rail, and aircraft projects, for Major Investment Studies, EISs, Environmental Assessments, and various state and local environmental documents.

He has been the Project or Task Manager for numerous transportation projects. His duties have included evaluating all relevant traffic, air quality, and noise data for the study area; preparing a modeling protocol that defines the modeling approach, modeling assumptions, and review criteria; coordinating with EPA and State Environmental Agencies; preparing traffic data for air quality and noise analyses, preparing input files for EPA's MOBILE 5 and MOBILE 6 emission factor models, running EPA's CAL3QHC model to predict 1 and 8-hour CO concentrations for the future year (No-Build and Build) alternatives, developing mitigation measures to reduce high CO values, preparing input files for FHWA's Traffic Noise Model (TNM) noise model, conducting noise monitoring, evaluating noise impacts, development of noise mitigation, conducting noise barrier design, and the preparation of appropriate technical documentation for environmental documents. Mr. Wholley was responsible for the following projects where air quality and noise analyses were prepared:

Environmental Assessments of Environmental Impact Statements (Noise and Air Quality)

- I-93 Interchange and Transportation Center Project in Woburn, Massachusetts.
- Restoration of Transit Service for Fall River and New Bedford, Massachusetts.
- Spaulding Turnpike in Portsmouth, New Hampshire.
- I-93 Widening for 17 miles in Salem, New Hampshire.
- Route 7 in Milford, Connecticut
- I-84 Widening for 14 miles in Waterbury, Connecticut.
- Evaluation of Intelligent Transportation Systems on I-95 in Bridgeport, Connecticut
- Route 99 Extension in Woonsocket, Rhode Island.
- Route 100 By-Pass in Wilmington, Vermont.
- Restoration of Transit Service from Boston to Portland, Maine.
- Extension of Transit Service from Portland to Brunswick, Maine
- I-66 Widening in Northern Virginia.

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FHWA Noise Services – Development and Implementation of Noise Mitigation

Mr. Wholley is the Project Manager for **On-Call Noise Services for MassHighway**. VHB has prepared highway noise analyses for several Type II (Addressing noise issues along existing highways) locations to determine if these areas meet MassHighway's and FHWA's noise guidelines. This work has included conducting noise monitoring, noise analyses (TNM), noise barrier design, and public meetings to involve the citizens in the design process. VHB has prepared special noise reports to assist MassHighway in responding to highway noise complaints from the public. VHB is currently preparing a reference document that will provide a layperson's discussion of noise principles, a description of MassHighway's Type I and II noise policy, a list of common noise questions and answers, a key map for existing noise barrier locations, and an updated Type II list of the locations in the *Massachusetts Type II Noise Study*.

I-81 – Corridor Improvement Study

Project Manager for **Air Quality Services**. VHB prepared a corridor mesoscale analysis the calculated the regional emissions of the Ozone to respond to the Transportation Conformity requirements. The mesoscale analysis evaluated the change on regional emissions based upon changes in VMT and vehicle operational characteristics and the changes in Rail services. Mr. Wholley also assisted in the preparation of the noise analysis, including the development of traffic data for the noise modeling and development the rail parameters to calculate rail sound levels.

CAAA – Transportation Conformity and State Implementation Plan Submissions

Mr. Wholley is the Project Manager for **On-Call Transportation and Air Quality Services for Delaware's Department of Transportation**. VHB has prepared CAAA and SIP submissions including, the 1990 emission inventory, the adjusted 1990 emission inventory, the future projected emission inventories, and the development of emission reduction strategies. VHB has assisted DelDOT in the preparation of traffic and air quality data evaluating Transportation Improvement Programs and Plans. VHB has provided coordination between DelDOT and DNREC and EPA on SIP issues. VHB has assisted in the development of the transportation portion of the SIP and in the development and review of Delaware's conformity procedures.

Mr. Wholley is the Project Manager for **On-Call Transportation and Air Quality Services for Rhode Island's Department of Transportation**. VHB has assisted RIDOT in the development of a statewide Travel Demand Model; providing air quality analysis of transportation control measures (TCMs), congestion management air quality (CMAQ), and SIP related proposals, and training RIDOT in state-of-the-art air quality modeling procedures needed for conformity analyses. VHB has assisted in the development of the transportation portion of the SIP; assisting RIDOT in CO microscale modeling for NEPA compliance; assisting in the development of air quality protocols, and meeting with RIDOT personnel to train them on the application of these procedures.

In addition to public sector projects, Mr. Wholley conducts **air quality and noise analyses for private development projects**. Projects have included numerous land development projects in Massachusetts, the reuse of the Pease Air Force base in New Hampshire, the development of the Providence Place Mall in Rhode Island, and the development of the Patriot Place in Massachusetts. Mr. Wholley focuses on developing solutions, which address improving transportation efficiency while also increasing air quality benefits from these projects. While at EPA, he directed consultants in the evaluation and preparation of EISs including for the Central Artery/Third Harbor Tunnel project in Massachusetts.

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Activities

Mr. Wholley's background and experience enables him to facilitate coordination between DOTs and state air agencies on CAAA and SIP issues. He has provided **training to state agencies on traffic demand modeling for air quality, emission factors, and air quality and noise modeling needed for SIP, NEPA, and Transportation Conformity analyses.**

Mr. Wholley is currently a member of the American Society of Civil Engineers' (ASCE) National Transportation Policy Committee. Recently, he served on the Transportation and Development Institute (T&DI) Board of Governors. Mr. Wholley was Chair of the ASCE Executive Committee for Urban Transport Institute. He has also Co-Chair for the Committee on Energy and Environment. In 1991, he helped organize the first ASCE specialty conference on Transportation Planning and Air Quality, which was held in Santa Barbara, California. In 1993, he was Chairman of the second specialty conference on Transportation Planning and Air Quality that was held in Boston, Massachusetts. He was Co-Chair of ASCE's third Transportation Planning and Air Quality conference, which was held in Lake Tahoe, California. Mr. Wholley is also involved with the Transportation Research Board and has recently lectured at the World Bank on international air quality issues. Additionally, Mr. Wholley has conducted numerous training workshops on mobile source modeling and policy issues for State agencies throughout the Northeast.

Mr. Wholley is experienced in providing **technical assistance to EPA's mobile source enforcement efforts** including activities related to Inspection and Maintenance programs, Anti- Tampering/Anti-Fuel Switching programs, and vehicle importation requirements. Mr. Wholley has spoken to many organizations on air quality policy and technical issues, including the NEPA process, the Clean Air Act, and transportation planning requirements.

Air/Noise Assessments - Massachusetts Highway Department

Prior to joining US EPA Mr. Wholley was with MassHighway. He was responsible for preparing and processing the air quality and noise analyses for all Massachusetts highway environmental documents and he was responsible for processing the highway projects with the Massachusetts Environmental Policy Act (MEPA).

Education	BSCE, University of Massachusetts at Lowell
Affiliations	ASCE's National Transportation Policy Committee Transportation and Development Institute Transportation Research Board Air Quality (ADC20) and Noise Committees (ADC40) Sperry Board of Award
Honors	1986 and 1992 - Environmental Protection Agency (EPA) Regional Bronze Medal 1985 - EPA Special Achievement Award 1984, 1986-1991 - EPA Sustained Superior Performance Award