BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY PREVAILING WIND PARK, LLC FOR A PERMIT OF A WIND ENERGY FACILITY IN BON HOMME COUNTY, CHARLES MIX COUNTY AND HUTCHINSON COUNTY, SOUTH DAKOTA, FOR THE PREVAILING WIND	**STAFF'S RESPONSE TO INTERVENORS' FIRST DATA REQUEST** **EL18-026**

1-1) Identify each instance in which David Hessler has been hired by a wind turbine company to perform sound tests on a wind project. In doing so, provide the name and location of the project and a brief explanation as to why he was hired.

Response

Kristen Edwards: Objection this question is overly vague, specifically as it relates to what is meant by a "wind turbine company." Subject to and without waiving its objection, Mr. Hessler provides the following response:

The projects specifically involving field sound testing of operational wind turbines that I have personally carried out are listed below. This list represents all such projects to the best of my recollection, but there may have been others. It should be noted that many, if not most, wind projects are not tested after becoming operational; consequently, opportunities to carry out such testing are somewhat of a rarity.

Glacier Hills Wind Park, Columbia County, WI
Extensive 17 day monitoring survey of project sound levels at 11 of the nearest residences, including two complaint locations, to evaluate compliance with State and local noise conditions. The project consisted of 90 Vestas V90 wind turbines spread out over a roughly 36 square mile area. Testing involved temporarily shutting down turbines to verify background sound levels and the use of additional off-site monitors to create a record of background levels vs. time over the entire survey period.

Wethersfield Windpark, Town of Wethersfield, NY
18 day monitoring survey of project sound levels at 8 of the nearest residences to turbines, including all complaint locations, to evaluate compliance with local noise ordinance requirements. Testing involved the use of additional off-site monitors to create a record of background levels vs. time over the entire survey period.

Hopkins Ridge Wind Farm, Columbia County, WA
One month long monitoring survey of project sound levels on behalf of the Columbia County Planning Department to evaluate the project's sound emissions at a complaint location for compliance with applicable noise standards. Project set up involved numerous monitoring locations and frequency analysis at the house, close to the nearest turbines and at remote, off-site locations to record simultaneous background levels.

Bliss Windpark, Town of Eagle, NY
15 day monitoring survey of project sound levels at 14 of the nearest residences to turbines, including all complaint locations, and other points of interest to evaluate compliance with local noise ordinance requirements. Testing involved the use of additional off-site monitors to create a record of background levels vs. time over the entire survey period.

Prairie Star Wind Farm, Grand Meadow, MN
20 day monitoring survey of Vestas V82 sound levels at numerous scientifically laid out regression positions to measure the actual sound emissions of this model turbine at typical setback distances through a wide variety of wind and weather conditions for comparison to model predictions.

Sheffield Wind, Town of Sheffield, VT
Four 2 week long monitoring surveys of project sound levels, one during each season, at the nearest residences to a group of 12 mountaintop Clipper C93 turbines, including all complaint locations, to evaluate compliance with the unique noise requirements imposed by the Vermont Public Service Board that limited interior sound levels, rather than exterior levels. The complex test procedure involved exterior monitoring at the test points and at remote background locations combined with outside to inside transmission loss testing of the houses to derive the interior sound levels.

Cohocton and Dutch Hill Windparks, Town of Cohocton, NY
Extensive monitoring survey of project sound levels at 9 of the nearest residences to turbines, including all complaint locations, to evaluate compliance with local noise ordinance requirements. Testing involved the use of additional off-site monitors to create a record of background levels vs. time over the entire survey period.

Cohocton and Dutch Hill Windparks, Town of Cohocton, NY
Further diagnostic testing was subsequently carried out at this site to identify nacelle noise abatement options for the Clipper C93 turbine to minimize mechanical noise. Testing involved measurements inside the nacelle and at progressive far field distances from the test unit.

Twin Ridges Wind Farm, Somerset County, PA
18 day monitoring survey of project sound levels at 7 of the nearest residences to turbines, including all complaint locations, to evaluate compliance with the noise requirements contained in a local development agreement with the towns. Testing involved the use of additional off-site

monitors to create a record of background levels vs. time over the entire survey period. On and off testing (temporarily shutting down certain units) was also carried out to verify background sound levels during a variety of wind and weather conditions.

Shirley Wind Farm, Brown County, WI
Highly specialized testing funded by the Wisconsin Public Service Commission (PSC) was carried out at this site to investigate the cause of complaints from some residents in the project area who associated symptoms of nausea and vertigo with the turbines; to the extent several chose to leave their houses. A collaborative study was organized involving four different acoustical consulting firms to evaluate ultra-low frequency sound levels at the three complaint locations using several different techniques. While the blade passing tone signature of the turbines at around 1 Hz could be detected with specialized instrumentation its extremely miniscule magnitude did little to suggest a link to the complaints. The impetus for the study was my recommendation to test the site, which was expressed during oral testimony before the Wisconsin PSC in conjunction with the proposed Highland Wind Farm project, which planned to use the same Nordex 100 turbines.

Blue Mountain Renewables Jamaica Wind Farm, St. Elizabeth's Parish, Jamaica
11 day sound monitoring survey of the newly operational project using Vestas V100-3.3MW turbines at the nearest residences to evaluate compliance with Jamaican National noise standards (50 dBA at night at homes and 45 dBA at schools). Testing involved the use of additional off-site monitors to create a record of background levels vs. time over the entire survey period.

Barton Chapel Wind Farm, Jack County, TX
18 day monitoring survey of project sound levels at several of the nearest ranches/residences to the Gamesa G87 turbines where concerns about noise had been expressed to the project. The testing indicated that the noise issue was associated with some special nacelle cooling fans that are only used at sites with high ambient temperatures. Beyond the testing at the ranches, additional controlled on/off tests were conducted on an isolated unit to determine its sound power level in accordance with IEC 61400-11.

Patton Wind Farm, Town of Patton, PA
12 day monitoring survey of project sound levels at 6 of the nearest residences to turbines, including 2 complaint locations, to evaluate compliance with local developer agreement noise limit (45 dBA). Testing involved the use of additional off-site monitors to create a record of background levels vs. time over the entire survey period.

Bent Tree Wind Farm, Freeborn County, MN
Extensive 15 day monitoring survey of project sound levels at 7 of the nearest residences to turbines, including 2 complaint locations, to evaluate compliance with the State and local noise standards (L50 of 50 dBA at night). Testing involved the use of 3 additional off-site monitors to create a record of background levels vs. time over the entire survey period.

Cedar Ridge Wind Farm, Towns of Eden and Empire, WI
14 day pre-construction and post-construction monitoring sound surveys of the project were carried out at the same time of year at 8 of the nearest residences to turbines to evaluate any differential in sound levels and to determine compliance with a local regulatory limit of 50 dBA. Testing involved the use of 4 additional off-site monitors to create a record of background levels vs. time over the entire survey period. In accordance with Wisconsin procedures short-term manned samples were also taken at several times of day.

1-2) Provide an estimate of the amount of money David Hessler has received from wind companies.

Response
Kristen Edwards: Objection this question is vague. Subject to and without waiving that objection, Mr. Hessler is paid by his employer, Hessler Associates, Inc.

Dated this 5th day October 2018.

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