

Vermonters for a Clean Environment

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June 19, 2013

Vermont Public Service Board
c/o Susan Hudson, Clerk
112 State Street Third Floor
Montpelier, VT 05620-2701

Re: Docket # 7156, Vermont Wind, First Wind in Sheffield

Dear Vermont Public Service Board,

Vermonters for a Clean Environment (VCE) is working with neighbors of the Sheffield, Georgia Mountain and Lowell wind projects to understand the noise issues that citizens around all three big wind projects are experiencing. We have also been working with Public Service Department (PSD or Department) staff, meeting regularly over the past two years, to share information about the noise problems, and develop an understanding of the technically-complex sound issues related to these large machines.

We write today in response to the filing made today by the PSD in Docket # 7156 (Vermont Wind), First Wind's Sheffield wind turbine project which contains a cover letter by PSD Commissioner Christopher Recchia, and a Memorandum to PSD attorney Aaron Kisicki from Rich Letty and Martin Brien of KM Chng Environmental, Inc. (the "report").

Background

The report filed today was done in part because of our regular meetings with the Department, during which then-Commissioner Elizabeth Miller (who left in December to become the Governor's Chief of Staff) acknowledged that even if the Sheffield project's sound monitoring reports filed with the PSB indicate the project is in compliance, if people are complaining and being harmed, that is not okay, and further investigation is warranted.

Steve and Luann Therrien live $\frac{3}{4}$ miles to the west of the nearest wind turbine and about two miles from the furthest one. They did not intervene in the PSB review of the Sheffield project, and in fact were not notified of First Wind's filing even though their land adjoins the wind project parcel. They did not oppose the project. They have two children, now about 1 and 3 years old. They have lived next to the interstate highway for 17 years and the highway noise is not an issue for them.

The Therrien family began filing complaints about the wind turbine noise with the Department in April, 2012, about six months after the turbines began operating. Luann first spoke in public about what her family is experiencing in a TV interview with New

England Cable News in mid-April, 2012. A 19 second clip can be seen here: <https://vimeo.com/40723372>.

Then and continuing to the present, the Therriens are experiencing among other things sleep disruption, dizziness, and nausea often resulting in dry heaves, to such an extent that their doctors have put them on medication and advised them not to work. Steve Therrien had to quit his job working around machinery because of his inability to concentrate. Luann Therrien testified to two Senate committees in the recent legislative session about what they are experiencing, and especially about their concern for the development of their two small children.

- Luann Therrien's testimony on January 31, 2013 to the Senate Natural Resources and Energy Committee can be read here: <http://vce.org/LuannTherrien.pdf>.
- Her testimony on April 24, 2013 to the Senate Health and Welfare Committee can be read here http://vce.org/LUANNTHERRIEN_042413.pdf and seen here <https://vimeo.com/64765558>.

The Department's sound monitoring, conducted in December, 2012 was intended to directly investigate the situation the Therriens have found themselves in through no fault of their own, via the gathering of data by an independent sound monitoring company. In its cover letter to the PSB, and in the KM Chng report, the extent of the Therrien family's situation is not disclosed or discussed. The Department did not disclose, either in the report cover letter or in the report itself, the numerous complaints that the Therriens have been making to the Department about their increasingly desperate situation. In our opinion, this is more than a minor oversight, and prevents the Board and others from getting an accurate or complete understanding of the issues being investigated and the context of the report.

In order to respond to requests from citizens, VCE's staff has had to become conversant about the complexities of wind turbine noise and sound monitoring. We have been working with several sound experts who can answer our questions and help us understand the information being presented to the PSB in the various cases before them. We are also in close contact with the Therriens, and in particular we were in regular contact with the Therriens during the week that the PSD's sound monitoring was being conducted.

VCE does not know how the PSD chose the sound expert firm, but after we learned of their choice we inquired about their expertise. We learned that Rich Letty's area of expertise is traffic noise. We expressed our concern to the PSD staff, but they chose to continue using Mr. Letty and his firm.

The Three-Day Monitoring Period

Our concerns increased when Luann Therrien informed us that PSD attorney Aaron Kisicki had told her that the sound monitoring experts would be arriving on Monday, Dec. 17, but they never showed up. On Tuesday, Dec. 18, Luann was told by Aaron that the person

coming to Sheffield to do the monitoring at their home had not been prepared for the weather or road conditions and had to go rent a four wheel drive vehicle. When the person doing the sound monitoring arrived on Wednesday, Dec. 19 to set up the sound monitoring equipment at the Therriens, Luann was not pleased to learn that earlier in the day, the sound monitoring person contacted Brad Drake, the site manager for First Wind. Steve Therrien was told that Brad had “rescued” the sound monitoring person, but no further explanation was offered.

When VCE learned that First Wind knew that sound monitoring was being done, we contacted the PSD and expressed our concern that this would not be a fair test, because First Wind would be able to make adjustments to their operations that would impact the test results. The value of independent testing was compromised by the company hired by the PSD when they contacted First Wind. Nevertheless, the PSD chose to go ahead with the sound monitoring.

The wind conditions for sound monitoring were perfect to capture high noise levels on the 17th and 18th, the days that the sound monitoring person was supposed to show up, but didn't. The winds calmed down during the three-day test period, but Luann noted in an email on the 19th that on the 21st the wind was “still supposed to be ese and 21 mph” and on the 20th she wrote, “the noise tomorrow should be hell with what the forecast says.” The full email texts are attached. The Therriens have become sensitized to the noise from the turbines, and the resulting sleep disruption and health effects, and know the weather conditions that cause them maximum harm.

The wind speed and direction was optimal for very loud turbine noise, Luann wrote at 2 a.m. on the 21st. “Up now at 2 am. Imagine our surprise we are not being rocked out of the house by turbine whoosh and jet sound. First time in a long time that we are hearing mostly normal wind sounds.” Luann’s full emails give a clear indication that First Wind was changing their operations because they were tipped off that monitoring was going to be happening.

Coincidentally, a story that the [Burlington Free Press](#) reporter had been working on for a month about wind turbine noise ran on Dec. 22, and provided an opportunity for First Wind to comment on the allegation that they had reduced the output of the wind turbines during the sound monitoring. An excerpt is below. According to the article,

[John] Lamontange, the First Wind spokesman, said the company would not alter the operation of the turbines to make them sound quieter for the test. “Of course, we don’t make any adjustments when testing is going on,” he said.

Evaluation of the report

After receiving the report today, VCE staff reviewed the information with an accredited sound expert who has testified before numerous regulatory boards and commissions. He did not know the background of the allegations that First Wind may have reduced the turbine’s output during the monitoring period.

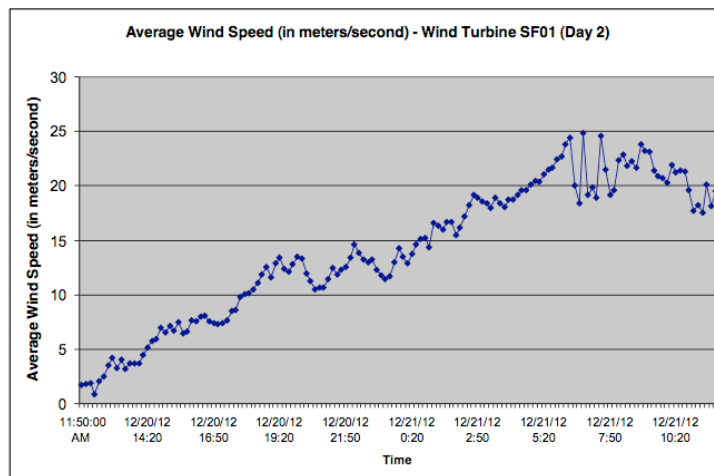
His review, however, indicated some obvious problems with the report. He explained:

This report shows more than a passing indication that they severed power during the tests, from looking at the graphs.

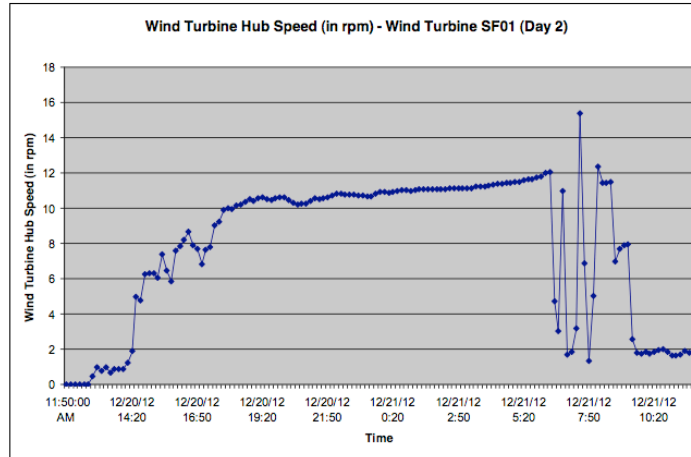
If you look at Day 2, they have wind speeds over 15. They should be at full power between midnight and 4 am. The Wind Turbine Hub speed is essentially constant. The RPM was being held down when they definitely had enough wind to drive it higher. Power generation is extremely low. At 2 a.m. they should be at full power, but they're only generating 500 kw. The only way they can do that is to feather the blades so it's not getting any power, or they're doing something with the generator, disconnect something, to get down to 500 kw at full wind, so Day 2 suggests monkeying is occurring. The turbine is either defective or it's being manipulated.

These graphs do not look right. There is no credible explanation for why these multi-million-dollar state-of-the-art turbines are putting out 1/5th of what they should be. At best, under steady climbing wind speeds, they are getting 450, 500 kw. They should be up over 2 MW on midnight of Day Two.

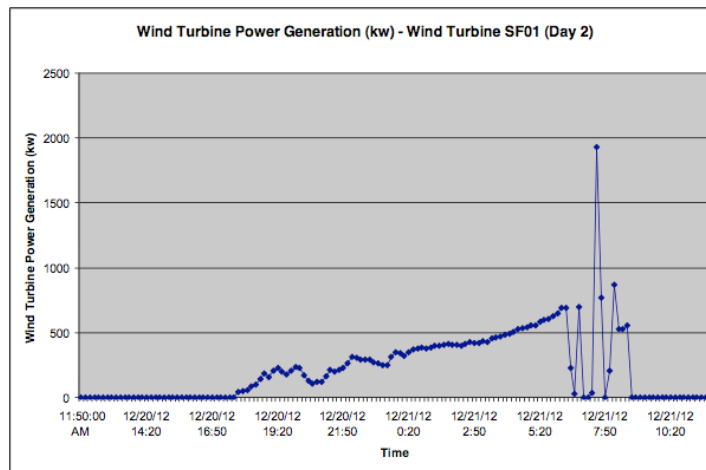
The graphs he is referring to are the graphs included in the report (which contains no page or figure numbers), documenting the conditions and power output during the period of study. They are reproduced below:



10-Minute Average Wind Speed (in m/s) at the Wind Turbines (Day 2)



Wind Turbine Hub Speed (Day 2)



Wind Turbine Power Generation (Day 2)

The opinion of the sound expert is consistent with the Therriens' experience on the night of Friday, December 21, 2012.¹

While Commissioner Recchia's cover letter indicates there are some technical issues with the data collection, the Department has by all appearances failed to do even the most basic analysis of the data to confirm that the results were not, in a word, rigged – even though they were warned of this being a possibility. The report is instead presented as something that the Board and others can learn from for cases in the future. By stating, "The problems identified in the Noise Report also serves a useful reference point for developing effective and enforceable noise monitoring CPG conditions for future commercial wind facilities," Commissioner Recchia ignores the very real and serious issues being experienced by the Therrien family that the report was originally commissioned to investigate.

¹ VCE recognizes we are filing a public comment, which is not sworn testimony. We are prepared to present a qualified sound expert to testify on the record to the opinions expressed above.

VCE finds it incomprehensible that the Department did not pick up on or point out the low power output at high winds, indicating that the turbines were manipulated to reduce the noise levels during the test period. This report, which cost the Department \$25,000, took six full months from the monitoring to release. The PSD staff had ample time to evaluate it for its accuracy and usefulness.

Meanwhile, Steve and Luann Therrien and their children have been seeking relief from their unhealthy circumstances for more than a year. They have reached out to First Wind, who told them that the project is in compliance with the CPG's requirements and they cannot set a precedent by buying them out. They have reached out to the Town of Sheffield, which is receiving \$400,000+ annually as a benefit of the wind project, but have received a similar dismissive response. They have listed their home for sale, something that is enormously painful for them as they expected to raise their children and have been happy living where they do. They need to move, immediately.

There is little the Board can do to remedy the fundamental flaws in the report they have just received. However, we ask that the PSB hold a hearing on the noise levels generated by the Sheffield wind project, and provide the Therriens a chance to speak to you directly about their experiences. Such a hearing would also provide the PSD with a chance to explain the deficiencies in the report submitted to the PSB.

We would also ask the Board to consider requiring that the monitoring undertaken by the PSD be repeated, this time by a firm that has experience relevant to large-scale wind projects, and that can maintain independence from the developer. We also ask that you require First Wind to pay for an attorney and expert witness for the Therriens so that their interests can be represented before the Board.

The evidence indicates that someone has tried to alter "science" to meet their needs. I encourage the Board to take strong action to make it clear that this is not acceptable in Vermont.

Sincerely,

A handwritten signature in black ink that reads "Annette Smith". The signature is written in a cursive, flowing style.

Annette Smith
Executive Director

Attachments

Attachment: Emails from Therriens to Annette Smith

From: Luann Therrien <lmthherrien@gmail.com>
Date: December 19, 2012 4:33:08 PM EST
To: "Smith ;Annette" <vce@vce.org>

Just checked the 10 day again. They changed tomorrows wind direction but fri is still supposed to be ese and 21 mph

From: Luann Therrien <lmthherrien@gmail.com>
Date: December 20, 2012 12:03:40 PM EST
To: Annette Smith <vce@vce.org>

Yesterday the wind was from the wnw not sure mph no noise from the turbines except Steve thinks he heard a little motor noise.
Today so far it is dead quiet from the turbines. Exactly how it should be every day.
As much as I can't stand the noise tomorrow should be hell with what the forecast says. But we'll see if First Wind does any monkey buisness.

From: Luann Therrien <lmthherrien@gmail.com>
Date: December 21, 2012 2:25:34 AM EST
To: "Smith ;Annett" <vce@vce.org>

Stepped outside before I went to bed. Wind had started to pick up and turbines were starting to make noise 830. Was starting to hear the whoosh.
Steve got up around 10, good wind some noise.
Up now at 2 am. Imagine our surprise we are not being rocked out of the house by turbine whoosh and jet sound. First time in a long time that we are hearing mostly normal wind sounds. Who would have thought I'd be pissed NOT to hear the whoosh whoosh of the blades and jet noise? Just this one night with the monitor in the yard I wanted it to be as loud as it normally is. As loud as it just was from Saturday night til Tuesday night.

On Dec 21, 2012, at 10:37 AM, Luann Therrien wrote:

Was trying to tell Steve just how angry this has made me and I had to stop. I had to stop because the anger got so strong I wanted to hit something and was almost in tears. I'm one of those people that tears mean I've been pushed too far.
There are certain people that are lucky they are not standing in front of me right now.

From: Luann Therrien <lmthherrien@gmail.com>
Date: December 21, 2012 10:53:58 AM EST
To: Annette Smith <vce@vce.org>

To us this proves they know the turbines are too loud or they would not have felt the need to dial them back. If they had nothing to hide they would be at normal range.

Attachment – Free Press article from 12/22/12

<http://www.burlingtonfreepress.com/article/20121223/NEWS07/312230016/Vermont-wind-turbine-debate-moves-to-a-new-chapter-Noise>

Wind debate moves to a new chapter: Noise

Some residents near Sheffield and Lowell turbines say the sound is intolerable, but projects remain within limits

Dec. 22, 2012 | Written by [Terri Hallenbeck](#)

[excerpt]

State officials have heard the complaints, not just about the noise but about the sound monitoring. After former Public Service Commissioner Liz Miller (now Gov. Shumlin's chief of staff) visited the Sheffield project this fall, she directed her department to have more sound testing done.

Miller's successor as commissioner, Chris Recchia, said depending on the results of the testing, the department could seek changes in the noise standards.

"We need to look at the data," he said. "I'm trying to keep an open mind about it."

He said the state is taking into account questions raised by the turbine opponents about whether the tests should measure for infrasound, or low-frequency sound. The Public Service Board specified that the project developers did not have to test for that.

Recchia's boss, Gov. Shumlin, has been clear. He supports wind energy as a way of reducing Vermont's dependence on coal-fired, nuclear and other traditional sources of energy. Shumlin has set a goal that 90 percent of the state's energy come from renewable sources by 2050.

LuAnn Therrien said the state-hired sound tester arrived last week, but she worried whether he'd get an accurate reading. Despite Friday's high winds, she said, the turbines were uncharacteristically quiet. She wondered if that was on purpose.

Lamontange, the First Wind spokesman, said the company would not alter the operation of the turbines to make them sound quieter for the test. "Of course, we don't make any adjustments when testing is going on," he said.

Critics are working on their own testing. Annette Smith, executive director of Vermonters for a Clean Environment, said her group raised \$2,000 to buy sound-monitoring equipment and has somebody learning to use it.

"This is really complicated stuff," she said.