

RESPONSE TO WIND TURBINE NOISE COMPLAINTS

By Ontario's environment ministry

Fourth Report: 2018

April 2021

Key points

- Complaints about wind power projects are part of the process government promised would ensure protection of health and safety. Robust enforcement of the regulations in response to these complaints will fulfill that responsibility, and provide opportunities to act on other issues such as electricity costs.
- In total, almost 6,000 files of complaints about wind turbine noise, vibration and sound pressure have been released to Wind Concerns by the Ministry of Environment, Conservation and Parks.
- 39 percent of complaints in 2018 noted adverse health effects.
- The records show that complaints do not result in real action by the project operators, despite requirements of approvals for the project. These violations of approval terms create opportunities for action on individual turbines, even cancellation of the approval.
- The process to accept and record citizen complaints is inconsistent, and information gathered is incomplete.
- There appears to be no ministry-wide evaluation and review process for citizen complaints about environmental noise produced by wind turbines.
- The report concludes with recommendations on how the complaint handling process could be improved as an enforcement tool.

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INTRODUCTION

This report is the most recent in a series of reports published by Wind Concerns Ontario, assessing the handling of complaints to the government related to excessive noise and other effects from grid-scale wind turbines operating in Ontario.¹

The complaint records, chiefly pollution reports called Incident Reports, were received following a request made under Freedom of Information and Privacy legislation. The request for the 2018 reports was made in January, 2019, and was fulfilled, after an appeal to the Information and Privacy Commissioner, on March 9, 2021.

The specific request was for:

All summaries, reports and memoranda related to complaints made to the Ministry/MECP offices and ‘Spills Line’ regarding noise/vibration associated with wind turbines/wind mills/wind farms received by district/regional offices and the MECP January 1 to December 31, 2018.

THE FULFILLMENT

The Ministry of Environment, Conservation and Parks (MECP) sent a single file containing more than 3,600 pages of documents, which included Incident Reports, Information Reports, and some email correspondence with people filing complaints and wind power facility operators.

Two reports about effects on water wells were also included, as well as some internal corporate correspondence related to wind turbine noise complaints from 2016.

The records received indicated that there had been 595 formal reports recorded by the MECP via its 24-hour Spills Action Centre (a 1-866 call line) and by district offices. This compares to 674 records received for 2017.

In total, Wind Concerns Ontario has records for 5,832 complaints made about noise, vibration and sound pressure for the period 2006–2018, inclusive. Requests for complaints received in 2019 and 2020 remain outstanding.

The majority of complaints were received for K2 Wind, the single Unifor wind turbine in Port Elgin, Niagara Region Wind Farm, and the Grey Highlands Clean Energy Project. Other projects with a significant number of complaints were: Enbridge Underwood, East Durham, and the Windlectric project on Amherst Island.

ROLE OF COMPLAINTS

Renewable energy approval (REA) requirements

A note is necessary here on the approvals granted to the wind power operators as it provides context to the complaint documents, the status of the complaints, responses documented, and comments made by both residents and Provincial/Environmental Officers.

¹ Previous reports were published by Wind Concerns for complaints received 2006-2014, 2015-2016, and 2017.

The REAs that provide the authority for the operation of the wind turbine projects have very specific requirements for project operators to address complaints received about these power generation facilities.

The REAs require that the project operator identify and resolve the causes of **each** complaint.² This requirement applies to **all** situations where the operation of the project creates an “**adverse effect**” as defined by the Environmental Protection Act.³ The REA also requires that the project operators report to the environment ministry on actions taken in response to complaints within eight business days of receipt of the complaint.

Ongoing failures to satisfy these requirements can give the government reason to cancel the REA for the project. On this basis, the complaint handling requirements give the Ontario environment ministry a powerful enforcement tool to manage the impact of these projects on the people who live among wind turbines. To be effective, the Incident Reports should provide comprehensive documentation of the actions that have been taken by both the project operator and the ministry staff in response to these complaints.

Legal status of complaint documents

It is also important to clarify the status of the reports provided by the government. The complaint documents released in response to WCO’s request under the Freedom of Information Act include notes prepared by the Environmental Officers while carrying out their enforcement duties for the Government of Ontario. Each Incident Report contains the name of the Officer preparing it, and/or the name of the person taking the information from callers to the Spills Action Centre.

The Ontario Environmental Officers are considered “Public Officers” under the Criminal Code of Canada Regulation of Public Officers 1 (1) (e), because they are charged with enforcing laws and regulations, along with other public employees such as police. Their notes and decisions on compliance or non-compliance can be used in decisions by the Investigations and Enforcement Branch to conduct further investigation and/or begin prosecution.⁴

Ontario’s complaint tracking process

Organizations operating in a corporate environment typically use customer complaints as an important tool to measure service delivery and improve corporate practices. Similarly, government agencies charged with protection of citizens, particularly in the area of public health, regard complaints or reports of adverse effects as a means of tracking the effectiveness of programs and as a way to monitor protection. In a recent peer-reviewed paper based on earlier documents released to Wind Concerns Ontario is this statement: “[C]omplaints may be seen as part of an effective public health surveillance system. According to the Centers for Disease Control “The purpose of evaluating

² Phrasing is common across all REAs – For Amherst Island Wind approval http://amherstislandwindproject.com/site_main/wp-content/uploads/2016/12/NUMBER-7123-9W9NH2.pdf; Sections U & V.

³ Environmental Protection Act, Section 1 (1), see <https://www.ontario.ca/laws/statute/90e19#BK0>

⁴ Ontario Ministry of Environment, Conservation and Parks. “If the EO believes there is serious non-compliance, the matter may be referred to the ministry’s Investigations and Enforcement Branch (IEB) for investigation and potential prosecution.” <https://www.ontario.ca/page/what-expect-when-environmental-officer-inspects-your-facility#section-0> Accessed February 7, 2020.

public health surveillance systems is to ensure that problems of public health importance are being monitored efficiently and effectively.’”⁵

Despite the value of the information that they contain, there seems to be **no organized program for monitoring reports of noise and adverse effect** to the Spills Action Centre or District offices of the environment ministry; reports may be received, and Incidents Report numbers issued, which signals the fact they may be entered into the “internal system” but what happens to them after that is not known.

The available evidence does not indicate that citizen complaints about wind turbine project operations or even reports of health effects carried much weight with the government in 2018 or indeed since the passing of the Green Energy and Green Economy Act. Documents from the second half of 2018 covered the initial period when the MECP came under the management of the new PC government. There are few indications that the approach to complaints about wind turbine operations changed in the first six months of the PC government.

Across the ministry, there is significant inconsistency in responses to the complaints about noise and other adverse effects connected to the operation of wind power facility, from the type of form used, how well they are filled out, and what is done with them.

For example, in the 2018 documents, the Owen Sound District Office provided Incident Report numbers for each individual complaint, when a family sent an email listing multiple events of excessive noise and health effects. The Windsor Office, however, for a family doing the same thing (on the advice of their lawyer), created “Information Reports” and gave a single tracking number for an entire month’s worth of events. The reporting is dramatically inconsistent, and not representative of what is going on.

Certain fields in the forms were not routinely filled out, as for example the “status” section or the field for whether there was any health or environmental consequence noted in the complaint.

An email from the Manager of the Hamilton District Office to staff requesting all complaints from 2015 to mid-2017 indicated that his review of complaint documents confirms the problems in the process:

... it's a disaster as consistency of the clients, sites etc. is all over the place. ... I know it seems like a lot and... [you are] ... likely cursing me right now!! Unfortunately, these wind FOI's are getting a lot of attention since the release of the FOI materials it's ramping up.⁶

The manager requested that certain fields be completed in his request, specifically the complaint status, and the status of any response such as abatement or monitoring.

The forms used for Incident Reports throughout 2018 show that the MECP continues to define its “Client” as the company or companies that own and operate the wind power facility. The individual

⁵ U.S. Centers for Disease Control 2001, Updated guidelines for evaluating public health surveillance systems. Cited in Krogh C, Wilson EJ, Harrington E. 2019. Wind Turbine Incident/Complaint Reports in Ontario, Canada: A Review—why are they important? <https://doi.org/10.4236/oalib.1105200>

⁶ Email from Stephen Burt to MOECC Hamilton office staff, sent June 2, 2017. Obtained via separate Freedom of Information request by Ontario resident in Niagara Region Wind Farm.

reporting the problem was designated as the “Caller.” This classification is suggestive of the focus of the ministry’s actions relative to wind turbine complaints.

Under the Liberal government, the contents of the Incident Reports included comments that indicated that, despite the requirements for complaint resolution set out in the approval, there was no support at the senior levels of the government for aggressive enforcement of these requirements. Despite hundreds of complaints of noise pollution each year, the focus within the Ministry appeared to be on facilitating the operation of the wind power facility, rather than enforcing the legislation fundamental to the ministry’s mandate. The question going forward is whether or not the direction to the public servants in the ministry will change under the PC government.

WHAT HAPPENS TO COMPLAINTS?

As already noted, there does not appear to be any comprehensive process in the MECP to seek resolution of the problems causing the complaints with the project operator regarding the operations of wind turbines or to receive, report, evaluate and act on the information that has been provided in these documents. The following section outlines observations on this process based on information logged in the 2018 complaints.

Information Provided by Project Operator

The approvals for wind turbine projects include specific requirements for the project operator to inform the ministry on the response to each complaint within specific timelines. This information should be included, as a matter of policy, in the Incident Report. In most cases, this information was not seen in the 2018 reports.

In addition, approvals require the project operator to investigate the cause of the complaint and to implement changes to prevent recurrence. The results of some investigations were included in the Incident Reports but generally, the investigations dealt with common potential causes of complaints that may or may not have been related to the specific complaint. There is no indication that ministry staff pushed the project operators to continue investigations until a cause was identified and resolution was achieved.

Field Response Rate

In the documents provided for 2018, there were only seven Incident Reports out of 595 that noted a field response by ministry staff. That represents 1.1 percent. It may be there were responses by ministry staff and indeed several files refer to visits by Provincial Officers (e.g., the complaints about the Amaranth transformer station), but these actions, if they occurred, are not consistently reported. This situation is possibly traceable to earlier mandates that there is no budget for them, especially on weekends and in off-hours.

This reported absence of field follow-up, including obtaining details about the complaint through conversations with the person filing the complaint, are important inputs in supporting an enforcement strategy in that it either confirms or conflicts with the information provided by the project operator.

Relationship to Noise Audits

In 2018, it was a common practice within the MECP to defer any field action if a noise audit is taking place, or planned, for wind power projects where there have been complaints. This was seen

multiple times in the documents provided, particularly for complaints made about K2 Wind and the single Unifor wind turbine. This meant people complaining were essentially told, your complaint is being filed but no action will be taken for months while the company measures noise. The wait was lengthened if the test results proved inconclusive and further testing was required.

This response conflicts with the Compliance Protocol for Wind Turbine Noise. The protocol confirms that the project must operate within the REA requirements during the audit process:

Throughout the review processes, the Director and staff of the Ministry's district office where the facility is located will work together to ensure that wind facilities operate in accordance with the Ministry's requirements.⁷

“Ensuring that wind projects operate in accordance with requirements” should include ongoing follow-up to confirm resolution of complaints received, particularly those that are not related to exceedences of the 40 dBA audible noise limit.

Actions taken

In the main, the records indicate that the staff simply accepted the complaint, created an Incident Report (often initiated by the Spills Action Centre staff), perhaps linked it to a Master Incident Report, then filed it. On some occasions, staff noted that Action was “Recommended” or “To Be Assigned” but these were in the minority.

In a few cases, the wind power operators were delinquent in copying complaints made directly to them with the ministry, as is required in their Renewable Energy Approvals or Certificate of Approvals. The Provincial Officer then reminded the operator of that requirement; no further action took place.

Focus on Audible Noise

The focus of any response to complaints about excessive noise, vibration and sound pressure is on audible noise, which again points to the need for review of the response process and regulations.

Clearly, with 39 percent of the documents provided mentioning adverse health effects, and another 19 percent containing information pointing to the possible presence of Infrasound/low-frequency noise, the focus on audible noise is inadequate to protect health.

The widespread nature of similar complaints from people living inside wind power project areas confirm that the minimum standards in the legislation are not sufficient to prevent residents from experiencing adverse effects. The complaints also confirm the findings in research over the past ten years suggesting that the current setbacks are not sufficient to protect residents from adverse effects. Five studies are highlighted below:

- **HGC Report, 2010** – study of low frequency noise/infrasound commissioned by the ministry concluded that a “non-trivial percentage” of people will be distressed by audible noise emissions from wind turbines.⁸

⁷ Ministry of Environment and Climate Change, Compliance protocol for wind turbine noise, E5, April 2017.

⁸ HGC Engineering, Low Frequency Noise and Infrasound Associated with Wind Turbine Generator Systems A Literature Review, MOE RFP #OSS-o78696, December 10, 2010, Pg.39

- **Health Canada, 2014** – found that problems with wind turbine noise began with exposure to 35 dBA sounds rather than the 40 dBA level which forms the basis of the Ontario regulation. Their data suggested that setbacks of at least 1,000 metres are required.⁹
- **Council of Canadian Academies, 2015** – concluded that dBA measures of noise output do not provide an assessment of the full impact of wind turbines on neighbours and other tools for measuring noise need to be used.¹⁰
- **Polish Institute of Public Health, 2017** – found that setbacks of 500 to 750 metres are required to protect against audible noise without consideration to tonal characteristics. When the tonal and other characteristics of wind turbine sound are considered, along with low frequency and infrasound, setbacks of 1.5-3.0 km are needed.¹¹
- **World Health Organization, 2018** – Guidelines for the European Region recommends the use of a 45 Lden (day, evening, night) limits for wind turbines. The Ontario 40 dBA limit would result in an Lden rating of 46.2 Lden¹² meaning that the Ontario standard does not meet recommendations for Europe.

The ministry maintains that it is following current science on wind turbine noise emissions but clearly, if it were, there would be changes made, based on suggestions in the research. The view promoted by the wind power lobby and adopted by the environment ministry continues to be, if you cannot hear it, it cannot hurt you.

The 2010 Chief Medical Officer of Health statement held that there was no damage to hearing from wind turbine noise, and that there are no “direct” health effects. That statement has not been updated in more than 10 years and in public health terms, is an embarrassment to the current government. Research shows that adverse health effects can result from an indirect pathway. The former head of Public Health Ontario, who had been a critical reviewer of the 2010 statement and co-author of a 2014 update that was never published, told Wind Concerns Ontario in an email that in his opinion, it was time for an update.¹³

A new paper published by Hansen and Hansen in 2020 provides a comprehensive overview of the **current science** on wind turbine noise.¹⁴ This paper confirms the 2010 CMOH statement should be updated and that changes are required to Ontario’s regulatory regime.

⁹ Health Canada, Health Canada Wind Turbine Noise and Health Study Results Overview, 2014, page 19. Copy provided to Wind Concerns Ontario as a stakeholder; can be provided on request.

¹⁰ Council of Canadian Academies, 2015, p. xi. Available at: <https://cca-reports.ca/reports/understanding-the-evidence-wind-turbine-noise/>

¹¹ National Institute of Health, Poland. 2016. Position of the National Institute of Public Health-National Institute of Hygiene on wind farms. Available at: . [Position of the National Institute of Public Health – National Institute of Hygiene on wind farms – PZH](#)

¹² World Health Organization, Regional Office for Europe 2018, Environmental Noise Guidelines for European Region.

¹³ Dr Ray Copes, email to WCO president Jane Wilson, Feb.10, 2021. Dr. Copes is now with the Dalla Lana School of Public Health, University of Toronto.

¹⁴ Hansen, C., Hansen, K., Recent Advances in Wind Turbines Noise Research, Acoustics, 2020, 2, 171-206. <https://doi.org/10.3390/acoustics2010013>.

When the investigations by project operator into causes for the complaints focus solely on audible noise emissions, it is unlikely that there will be a focus on vibrations and pulsing sensations. These can signal noise emissions in the low frequency noise or infrasound frequency ranges. In 2018 records, there were indications in the Incident Reports of low frequency noise or infrasound as potential triggers for complaints.

The 1500-metre mystery

The process for receiving complaints incorporates the assumption that it is impossible to perceive noise emissions or any sound created by wind turbines beyond 1,500 metres. There is no scientific basis for this claim based on measurement of actual noise. Rather it is based on computer noise modeling which has been shown to be inaccurate (see Hansen and Hansen article referenced above).

Complaints are made regularly from people living beyond 1,500 metres, but their complaints are not accepted and in the main, not recorded. For this reason, the real number of complaints about wind turbine noise in Ontario is probably higher than represented by the current reporting process.

A recent survey of setback regulations conducted by the European Union notes that in many countries today, setbacks can be much greater than Ontario's 550 metres. The investigations by the Polish Health Institute in particular suggested set-backs for 1.5 to 3 kilometres to protect people against the effects of wind turbine noise. Moreover, setbacks are between residential zones, and wind turbine industrial zones, not from the centre of a house to the base of the turbine, as Ontario uses.¹⁵ This suggests that noise emissions can be perceived at greater distances than assumed by the Ontario regulations. The ministry's policy to limit investigations only to people living less than 1,500 metres from a turbine result in under-reporting, and limits the effectiveness of the complaint process as a regulatory tool.

LIVED EXPERIENCES: "a polluted acoustic environment"

Frankly, year after year, the comments made by individuals and families calling the Spills Action Centre or emailing District Offices make for very tough reading. Especially in the cases where people have been living with the noise emissions and health effects for years (the most common being sleep disturbance which then leads to other, serious health problems), the comments indicate complete desperation and frustration. A selection of excerpts from Incident Report comments follows.

Melancthon Wind Project - A family living near the Amaranth transformer inside the Melancthon power project filed many reports.

Another night with very little sleep. The last time we looked at the clock it was just after 2 a.m. We were awake a number of times after that and wide awake at 5-6 a.m. how do we get any rest? (File closed.)

And,

Another night of interrupted sleep. We ache all over and can hardly function we are so tired. Please tell us what to do. Please respond" IR 2230-B52QVW

¹⁵ European Commission. 2018. Wind potentials for EU and neighbouring countries, p.52.

And,

I write to you again asking for your help. We were awake many times again last night. This is an ongoing problem [redacted] and yet your Ministry says there are no problems. Please meet with us and tell us how to live here. We do not want to leave our home but it looks like we are going to have to leave. Please help us Minister Phillips. IR 8524-B6ZNWN

In total, the family filed 100 reports of excessive noise and vibration, many with adverse health effects, but were continually refused any action based on a letter from 2013 from the Assistant Deputy Minister. In her original letter she said that ministry staff had met with the family several times between 2011 and 2013, and had concluded the following:

The ministry has undertaken a comprehensive response to your concerns. We have completed our outreach and investigation into concerns you identified and we are formally closing the file. The ministry has done all it is prepared to do and no further steps will be taken.¹⁶

In 2018, the Incident Report notes prepared by the Provincial Officer managing the file repeated the “no further steps will be taken” phrase and noted that the current Minister had reviewed the situation and that there would be no change from that 2013 statement.

Nevertheless, the complaints had continued, with dozens made each year, and no help offered to the family. So, even in 2018, after years of complaints, the family received no help from government. At the same time, the complaint records provide no indication that the ministry applied any pressure to the project operator to resolve the complaints as required by the approval for the project.

St. Columban Wind - A family living inside the St. Columban project spoke about sensations, other than audible noise. Notes including multiple complaints of sleep disturbance and other health effects; the family can hear a “hum” 4 out of 7 nights. The Provincial Officer noted “minor environmental impact.”

Not the noise we can hear but the noise we can feel. IR 4047-B2JLJB

K2 Wind - K2, with 149 complaints in 2018, also showed a pattern of sleep disturbance and intrusive noise at all hours of the day.

...do the right thing, turn them off! ...I hold you liable for XXXXXXXXXXXX....try living in our home with your loved ones, see how you feel! MIR 7003-9XAJ63:

And, at 4:30 p.m.

Can hear the whine. Intermittent. Will have to vacate. [Returned home] whining at 2215. IR 0807-9XKRVJ, MIR 0807-9XKRVJ

Amherst Island Wind - The Windlectric power project on Amherst Island is one of the newer projects; complaints started coming in early in its operation.

¹⁶ Letter from Nancy Matthews, ADM Operations Divisions, Ministry of the Environment, May 27, 2013.

I could hear the turbine making very loud whooshing sounds, louder than usual. So much so that I likened it to an airplane about to take off.

And,

...all of last night...I was awakened several times last night as the noise was again louder than usual. IR 7647-B44GSP.

A noise monitoring company was hired to monitor emissions following this complaint.

Yet another Amherst Island resident commented on the possible effect from multiple turbines:

This loud annoying thumping is audible in the house and elsewhere on the property. ... We're also concerned that turbine [redacted] is aligned with three other turbines...it appears that, together, the four turbines reinforce each others' air turbulence and resulting thumping sounds. IR 7170-B4PQUN

Niagara Region Wind - The Niagara Region Wind Farm is another relatively recent wind power project. Complaint records provided to us for 2017 were clearly incomplete as one resident told us she had filed more complaints herself, than the total documents released for Niagara. For 2018, 83 records were provided in response to our request. This is also likely incomplete; one Master Incident Report contained 83 separate individual Incident Reports. (MIR 1661-AFPJX6)

Callers to the Spills Action Centre reported excessive noise (many rated the noise as 9 or 10 on a scale of 1 to 10) and other characteristics from the noise emissions.

0032 h [redacted] noise complaint Niagara Region Wind Farm first noticed at midnight and ongoing. Noise heard in the house described as a low 'woowing both heard and felt – a low frequency pitch entering the home and be heard through the walls' Rated as a 10/10 inside due to the annoyance and disturbance.

And,

Caller reported a whooshing sound...there are sounds of a bowling alley and batting air... Her ears are aching and she can feel pressure in her chest.

And,

...bedroom felt pressurized as well as her chest. She woke up in the morning with pressure in her left eye.

There was no field response recorded for any of these complaints, and no notation of "health/environmental consequences."

Grey Highlands Clean Energy Project - In Grey Highlands one particular family (MIR 8856-AJSKNP) made many calls at three and four a.m. to complain about the noise and sleep disturbance. They noted adverse health effects in practically every call; they also repeat their statement that the problems occur when the winds are from a certain direction. The operator responded with a template letter claiming the predicted modeling does not show the possibility of problems from turbines in their location. Some comments as recorded by the Spills Action Centre:

July 2, 2018, incident at 3 a.m. – called in regards to infrasound (cannot rate it out of ten) complaint that it is “constant pressure.” IR 8664-B2AHKA

July 26, 2018, incident at 1:20 a.m. – reporting infrasound complaint...reports he is being impacted inside his residence...Caller reports intensity at 11/10. Caller states there is a south-west wind. Caller is requesting action be taken by MECP to address concerns. IR 1831-B32EPL

July 28, 2018, Incident at 3 a.m. – Caller is reporting infrasound coming from the turbines..[redacted] There is a SW wind currently. The sound is causing [redacted] The caller rates the noise a 10/10 and it is still ongoing. IR 6812-B34FMB

August 3, 2018, Incident at 6 p.m. – An infrasound complaint resulting in pressure and [redacted]. ... ongoing since 6 p.m. yesterday. The wind is from the SW. Noise is rated 10/10. This is the 65th time they have reported a complaint to the MECP. IR 8838-B3AEUJ

It should be noted that in 2016, the Municipality of Grey Highlands contracted for an acoustic technician to conduct an assessment of wind turbine noise emissions in the area due to citizen complaints. That testing confirmed that some noise frequencies are amplified inside homes.

The more mature wind power projects continue to cause complaints though with the passing of years and no action, complaints have declined—not because the problems have gone away, but because people don’t see the point. Or, they have moved away. A study completed last year based on a survey of Ontario residents living inside wind power plants noted that of the respondent families, 41 percent had already vacated their homes after experiencing negative effects, and a further 46 percent were considering leaving their homes.¹⁷

Enbridge Underwood Wind - The Underwood project has been operating for 12 years and has resulted in more than 550 complaints of excessive noise. In the 2018 documents, the comments, some of which were redacted, indicate a continuing situation of adverse effect.

The caller lives in the middle of the project. The caller states that noise is a pulsing whoosh coming from 4 turbines adjacent to her property. The noise is 7/10... IR 6854-AYW38V

Caller reports she can hear a pulsing roar...caller rates the noise an 8/10 IR 3132-AV769B

Caller described noise as a pulsing whoosh whoosh...caller ranked level at 7/10. IR 7533-AXLM8Z

In 12 years of operation, the Underwood project has yet to demonstrate that it is in compliance with the 40dBA audible noise standard.

Unifor Wind Turbine - Surely the most puzzling situation in terms of enforcement is the single wind turbine owned by Unifor in Port Elgin which is responsible for 649 noise complaints in total since the turbine started in 2013, and 147 complaints in 2018. The problems there have been

¹⁷ Krogh, CM, McMurtry, RY, Dumbrille, A, Hughes, D and Gillis, L. 2020. Preliminary results: exploring why some families living in proximity to wind turbine facilities contemplate vacating their homes. Open Access Library Journal.

documented by the media including CTV News and TVOntario, and some families have been forced to move— on doctors’ advice —due to the noise.

The turbine continues to operate.

Some excerpts from complaints in 2018:

So so loud this morning...the cyclic whooshing from this wind turbine. It is very hard to concentrate on anything...so much for the abatement plan. IR 7148-AYZJW2

Caller stated it [turbine noise] was very loud and it sounded like an airport at his home. The caller also made an inquiry why he has not received any complaint numbers from Unifor for March or April. IR 8680-AYSH9X

All Friday afternoon and after!!!! [redacted] the whooshing and pressure and thumping and noise of the wind turbine [redacted]. This continues to be horrendous. Haven’t we had enough torture? IR 3801-AZMK4L

We can’t go on like this. IR 4463-AYDRPR

Bow Lake Wind - One complaint came not from a resident, but someone in the acoustics field who had been hired to work in the Bow Lake project area to monitor bats. The comments are critical because the wind power industry often asserts that complaints are because people don’t like the look of turbines, or they are upset at not receiving financial compensation. The individual filing these complaints has no such motivations. His/her comments are typical of the physical complaints expressed by residents in other areas of Ontario.

The acoustic pollution from the WT became more intrusive as the evening wore on...thinking it was fatigue which was making it hard for me to concentrate I stretched out to sleep but found myself unable to doze off. The sound annoyance was too insistent and persistent pulsing. ... The noise seemed to permeate my SUV in which I can normally sleep comfortably...I would give it an 8 out of 10 on toxic noise environment.

I have become sensitized to the noise pollution beating me about the head and ears for hours at a time. I feel great anxiety about returning to my bat monitoring work. I feel the WT were generating unacceptably intrusive and potentially dangerous noise emissions spilling into the natural environment.

And,

The noise from the WT was again disruptive of sleep and there was a distinct and penetrating whine from one or more of the array on the opposite shore of Lake Negick. The environment was rendered so toxic I terminated the monitoring session at 4:12 and left pre-dawn. ...I am facing onerous working conditions for several months unless there is a satisfactory amelioration of this polluted acoustic environment. IR 7300-B8MJ9L

ADVERSE HEALTH IMPACTS

A reading of the excerpted comments from Incident Reports indicates that people are experiencing adverse health effects, as well as loss of enjoyment of their property. The reader should understand that mentions of the words “pressure,” “pulsing” and “hum” can indicate the presence of low-frequency noise or infrasound, which is linked to adverse effects, as is exposure long-term to any kind of environmental noise.

Analysis of the 2018 noise complaint records we were provided indicate the scope of the health issues being reported to the ministry.

- 39% of the records had specific mention of health issues
- 11% indicated Sleep Disturbance
- 19% contained mention of noise emissions and health effects suggestive of exposure to infrasound/low-frequency noise

And, although the trend now is for the Provincial Officers to make very few notes and little comment, in 15 percent of the records, the officer had made a specific note about “health impact.”

Symptoms mentioned included:

- Headache
- Feeling fatigued/ exhausted/ “brain fog”
- Feeling of “pressure” in chest, head and ears
- Debilitating headaches
- Frequent waking from sleep
- Anxiety

The MECP has responsibility for any adverse health effects caused by wind turbine noise pollution as any responsibility for health/public health was wrested from the Ministry of Health by the Green Energy Act. Local public health units are powerless to do anything, despite receiving calls.

The lack of action on adverse health effects is not due to a lack of information, as more than a third of the records contained description of some health impacts, and any calls received in the middle of the night could reasonably be assumed to indicate sleep disturbance.

The inaction on reported health issues is deeply worrying. The Environmental Protection Act gives specific powers to the Ministry to issue stop orders to address noise emissions from wind turbines as a “contaminant” of the environment when they are linked to health concerns:

...when the Director is of the opinion, based upon reasonable and probable ground ... that it is necessary or advisable for the protection or conservation of the natural environment, the prevention or control of an immediate danger to human life, **the health of any persons** or to property, the Director may issue a stop order or a control order directed to the person responsible.¹⁸

¹⁸ Ontario, Environmental Protection Act, Section 8 (1), <https://www.ontario.ca/laws/statute/90e19#BK10>

The issuance of a REA for a project does not prevent the Ministry from issuing a stop order if there is a related activity presents a danger to health:

Despite the issue of a program approval or order, when the Director is of the opinion, based upon reasonable and probable grounds, that it is necessary or advisable for the protection or conservation of the natural environment, the prevention or control of an immediate danger to human life, the health of any persons or to property, the Director may issue a stop order or a control order directed to the person responsible.¹⁹

Health comments redacted

Some of the records for the complaints were redacted; the comments recorded for complaints about K2 Wind were heavily redacted. Because of Wind Concerns Ontario's supportive relationship with our members and community group members, we were able to obtain copies of the emails sent to the Owen Sound District Office, and could fill in the comments redacted during the Freedom of Information process. In some cases, the Incident Reports were completely redacted, with no comments about details from the complainant visible.

Here, for one period between July and September are the contents of some emails sent to the District Office. The highlighted content represents remarks that were redacted.

July 26: woke up around midnight. Could not get back to sleep. Restless night. Could not get up in a.m. Lethargic due to being unable to get a good night's sleep. 11:55 hrs. Ears ring. Did earlier too. In back room. Had to close door.

Aug 16: ~0525 hrs. Big pounding ear pain.-briefly and it was gone. 0658 hrs. Look to N. See one going. Hazy. IR 8812-B5WPQS

September 22: 0920 hrs. Out on deck. Cyclical whomping. Came back in. These incidences cause me much physical and mental distress. As you should all be aware, Sleep Deprivation causes a multitude of problems for a human being. ... You are harming us in many ways. In parts of rural Ontario where turbines are situated too close to residences, you are making us prisoners in our own homes. Or you are causing us to get out of here. I hate this. Stop those turbines.

I ask again that action be taken immediately to respond to and resolve this situation so there is not a repeat of this event as is required by the wind power operator's Renewable Energy Approval and provincial regulation.

It is apparent that the most serious adverse health effects, the ones that could serve as evidence to support enforcement orders under Section 12 of the Environmental Protection Act, have been removed from the documents released. Redaction is necessary to protect citizen privacy, but in this case, the content of the original emails filed by residents suggest that the redacted information could point to violations of Renewable Energy Approvals. This is very serious: if the redactions were requested by the project operator as a "third party" for example, that suggests awareness of the importance of these comments in a legal context. It would be appropriate for the government to

¹⁹ Ibid, Section 12.

follow up and determine the reasons why this information was redacted, and why such significant health effects are not being acted on.

SUPPORT FOR MECP RESPONSES

It is noted that the Environmental Officers responding to calls made to the Spills Action Centre seem to record far more details of complaints than do District Office staff.

As already stated, there was no field response noted on the majority of records. There may have been some response, but this section of the report was not routinely completed. This is a key process gap as the information collected by the Environmental Officers is important to confirm or contradict the information provided by the project operator. At the same time, these additional comments would form the basis of enforcement actions.

Amherst Island Wind - As a new project, the Windlectric power plant on Amherst Island received some attention for resident noise complaints, and noise measurement was planned by the MECP staff. However, in a situation that seems typical of the entire approach, the local officers did not have access to equipment to complete the measurements. In an email dated November 14, the Kingston Office air monitoring technician requested equipment from the ministry in Toronto, but the actual measurement did not take place until December 11. On January 21, 2019, the senior Environmental Officer for Kingston sent an email to technical staff, asking if “I can get a brief memo regarding the two houses that you set up at in December? What you observed, recorded?”²⁰ In other words, two months elapsed between the decision to initiate noise monitoring, for homes where complaints had been recorded as early as August, and still there was no information.

K2 Wind - At the Owen Sound District Office there was a response to a resident that must have given the people hope after filing complaints about turbines in K2 Wind, who included a recording of what they were experiencing:

We have received your recording and, while the recording does not give us an idea about the volume of the noise, it helps give an idea of the types of noise you are hearing. The swishing sound seems fairly typical of wind farm noise that we have heard before, however, the “wooning” sound is also evident. This is similar to the observations that we made that caused us to require the company to conduct a tonal assessment. Additionally, the detailed acoustic audits that we have required the company to conduct will assess the overall levels of noise coming from the wind farm. Thank you for submitting this, it is helpful. IR 5682-B2YN6H/MIR 0807-9XKRVJ

Hope was dashed however, when the company commissioned an audit for submission to the ministry that claimed that the noise did not have a tonal quality and any tones present were not audible. On this basis, the turbines were judged to be compliant.

Grey Highlands Clean Energy Project - Responding to a complaint about Grey Highlands, an officer with the Owen Sound office repeated the claim that “the ministry is committed to ensuring

²⁰ FOI request A-2019-00285, pp. 438-478.

that its rules regarding wind facilities continue to reflect current science as is the case with all other environmental standards set by the ministry.... The HGC consultant's report found there is no direct health risk from wind turbine sound." The officer also referred to the Health Canada study published in 2014, which would be in direct contravention of the authors' declaration that the conclusions of the work should not be used for policy decisions. His reference also ignores that fact that the Health Canada conclusions did detail significant health impacts beginning with exposures to audible noise as low as 35 dBA.

"Non-compliance with limits will be dealt with through a variety of compliance and enforcement tools," the Owen Sound officer said, a statement that is not borne out by actual action. This is not fully consistent with the REA for the project which also requires resolution of complaints about Adverse Effects.

PROJECT OPERATOR RESPONSE

In the 2017 records, it was seen that the operator of a wind power project that received a Provincial Order to begin abatement simply went to court immediately and got a stay on that decision, which then launched another two years of acoustic testing. The company's response was very interesting and uncooperative, for one dealing with a regulator with a complaint about operations.

In 2018, the operator for the Grey Highlands Clean Energy Project (more than 200 complaint records over three years) responded with a template letter that again, seemed to have a combative tone. Multiple times, particularly for MIR 8856-AJSKNP the company wrote that they determined whether it was even possible for there to be a problem behind any complaint, based on their predictive noise modeling:

...we have assessed which turbines to be deemed 'relevant' for the provision of supplementary data. Our assessment concluded that the noise complaint from the receptor at [redacted] does not have predicted sound immissions greater than 30 dBA from any individual turbines at either project.

And

The distance between the noise complaint and the closest turbine at either of the two facilities is in excess of [redacted] and the receptor does not have predicted sound immissions greater than 30 dBA for any individual turbine.

So again, multiple complaints simply resulted in a carefully worded letter response and the provision of statistics that avoided the core issue (the combined noise output from multiple turbines that interact with each other) and relied on predictive noise modeling to dismiss the issue.

This response misses the key difference between the planning phase for wind turbine projects and enforcement after construction which is based on the actual noise levels experienced by recipients. Once the project is developed, the results of computer noise models are no longer relevant as the REA makes the project operator responsible for developing a plan for action to resolve the complaints. The complaint records provide no evidence that ministry staff followed up with the project operator's failure to implement an action plan.

Included in the 2018 noise records was a series of documents that appeared to be internal forms for use by Suncor staff in 2016 to document noise complaints received for the company's Adelaide project. On the standard form was the direction to ask the person whether they belonged to a "larger stakeholder group." The presence of this form among the documents released to Wind Concerns indicates that it was accepted by ministry staff without push-back. This constitutes profiling and could intimidate people calling—as is their right—to lodge a complaint about wind turbine noise. The MECP was contacted, and responded within days that Suncor had been approached and would be reviewing use of the form.

GOVERNMENT POLICY

In a follow-up to her 2018 Annual Report, the Environment Commissioner, made this recommendation about environmental assessments:

To assess the effectiveness of environmental assessments, the Ministry of the Environment and Climate Change should ensure that it:

- receives and analyzes information about the actual impact of all assessed projects in the project stages that follow the environmental assessment;
- compares project impact information with the impacts described in the environmental assessment and follows up on any significant discrepancies.²¹

This recommendation should apply to wind power projects and relevant legislation; there is ample room for the Ministry of the Environment, Conservation and Parks to look back at wind power developers' projections for noise and other effects such as harm to wildlife and, as the Environment Commissioner said, follow up on discrepancies between the proposals and the actuality. Interestingly, this was also a recommendation of the Chief Medical Officer of Health in her 2010 statement, as she recommended that actual noise measurements be done to ensure safety for residents living near wind power projects.

With wind power operators citing predictive modeling in response to complaints about their operations, this is an important concept in acting to effect change. Other forms of pollution are treated differently from wind power: offences are reported, investigated and acted upon by the environment ministry. The people of Ontario expect the same with environmental noise pollution.

SUMMARY OF FINDINGS

The information provided in the 2018 complaint records suggests that the complaint handling process that the PC government inherited when they took office is not functioning in a manner that supports the responsibilities of the MECP to enforce the terms of the approvals for wind turbine projects.

- The process for complaint handling is inconsistent and not effective.
- There seems to be no impetus to respond to complaints with field visits.

²¹ Environmental Assessments-Follow-up report, 2018. P.99.

- The Incident Report form still identifies the “Client” as the wind power operator, and
- the majority of fields on the form are routinely not completed.

RECOMMENDATIONS

General Recommendations

The level of complaints being reported by the ministry for 2018 demonstrates that the operators of wind turbine projects continue to operate in violation of the complaint handling requirements of their approvals. The approvals plus the definition of “Adverse Effects” in the Environmental Protection Act²² and the complaint process set out in Section F, Appendix 1A of the Compliance Protocol for Wind Turbine Noise²³ provides a series of requirements for project operators to respond to each complaint received.

These violations should be sufficient grounds for enforcement action by the Ministry, including an order to shut turbines down.

The following general steps should be taken to improve the effectiveness of complaint resolution process:

- Review the reporting process and establish a system in which complaints move to higher level management for review, evaluation and analysis routinely. This should include regular summary reports on complaints received and complaints resolved for the review by senior management of the ministry with regular updates to the Minister.
- A comprehensive, ministry-wide response to complaints received is needed so that the power of the complaints can be properly leveraged.
- Part of this review should be steps to ensure consistency among how each individual District Offices are responding to and documenting complaints.
- The ministry should review and revise the assumption that wind turbine noise emissions and sound cannot be perceived beyond 1,500 metres. The refusal to collect Incident Reports from people living farther has compromised the accuracy of complaint gathering, and means the ministry is not dealing with the complete picture.
- The ministry should still respond to complaints even through the project is the subject of testing related to the compliance audit. This audit is only focused on one type of noise emission and even proving compliance with the REA’s 40 dBA standard will not resolve all complaints as many relate to other types of noise emissions.
- Authority for gathering wind turbine noise complaints, or at a minimum, notification of adverse health effects, should be with local public health units.

²² Ontario e-laws, Environmental Protection Act, Section 1, Interpretation – Adverse Effect, up to March 24, 2021.

²³ Ontario.ca, Ministry of Environment and Climate Change, Compliance protocol for wind turbine noise, April 2017.

Revisions to the Incident Report Form

In addition to the general recommendations outlined above, the 2018 records indicate that a full review of the report form and related processes is necessary.

The structure of the current Incident Reports used to track complaints about problems related to wind turbine projects does not appear to be aligned with the enforcement activities mandated by the approvals. This is made worse by the less than precise completion of the existing form with some District Offices not appearing to use the process.

A specific incident report should be developed for wind turbine complaints and aligned with the complaint handling requirements of the approval documents to support enforcement activities. Actions taken by the project operator to address complaints should be documented in full to show either compliance or non-compliance with the terms of the approval for the project.

Suggested changes are highlighted in the following section.

Correctly Identify MECP’s Client – Forms in use in December 2018 reflect the new name for the ministry but continue to refer to the project operator as the ministry’s “Client”.

In the 2018 election, the PC Government ran on a platform of being a government “For The People”. Referring to the caller making the complaint as the ministry’s Client is more than semantics; it sends a clear message as to who is the primary customer of the Ministry.

If this change has not already been implemented, the heading of the section referring to the Caller should be changed to Client and the sections currently referring to the Client should be changed to Project Operator, reflecting their position in the process as the entity that the ministry is charged with regulating.

Activities by Project Operator- The approval documents and the Compliance Protocol set out key actions required by the project operator and specific timelines for their delivery. It is suggested that the following sections be added to the Incident Report to capture the actions (or inaction) by the Project operator.

Date Complaint Made:		Time Complaint Made:	
Date of Incident:		Time of Incident:	
Duration of Incident:		Wind Speed/Direction:	
ID of Equipment Involved:		Output of Equipment :	
Name/Location of Individual Making Complaint			
Name(s) of Personnel Responsible for Handling			
Date of Initial Contact with Individual Filing Complaint:			
Date(s) of Follow up Contacts to discuss plans for Resolution			
Date of Follow up Contact with to confirm changes resolved complaint:			

If this information is not provided by the project operator, this lack of response should be noted as it documents a violation of the terms of the approval.

Subsequent information from the project operator about their discussions with the client as per the complaint handling process in the Compliance Protocol should also be logged on the incident report:

Advice Received from Project Operator:

Date of Incident		Time of Incident:	
Date of Initial Report:		Time of Initial Report:	
Date of Follow up Report		Date change implemented:	
Results of Noise Testing by Project Operator at Site:			
Confirmation that Solution has corrected problem:			

Description of Measures Taken by Project Operator - While the two preceding sections provide basic information regarding action on the complaint by the project operator, the revised form should document any specific steps that were taken to address the cause and prevent similar future occurrence as this information could be central to any legal challenges to enforcement.

- These sections should be based on specific written communication from the project operator.
- If there is no action to address cause, the form should specifically document this situation.

Response from the operator indicates that they have reviewed the operations logs and found the equipment was operating normally should trigger follow-up by the District Office as this response does not meet the requirements of the approval documents which require actions to address cause and prevent similar future occurrences.

If no additional details are forthcoming, the situation should be documented and the response should be treated as a violation of the approval document.

Making the project operator aware that their responses are being documented in the incident record could provide some incentive to be more proactive in voluntarily solving the problems.

MECP Action on Complaint: Similarly, the Incident Report should be modified to record the specific actions by MECP including steps to follow up on actions reported by the project operator and to confirm that any changes have resolved the complaint:

PO Responsible for Complaint			
Date of First Contact with Client:		Date of Field Investigation:	
Confirmation of Turbines Involved with Client.		Confirm the List of Turbines Involved with Project Operator.	
Is the transformer station located close to the client?			

Date(s) of Follow up Contacts with Client:		Date(s) of Follow up Field Investigations:	
Date(s) of Follow up Contact with Project Operator			

Specific Details of Incident – Some of the 2018 incident reports captured important information provided that will support enforcement. Some of this was provided by the Client while other information was obtained in response to questions from Provincial Officers. Other reports provide very little information that could be used to support enforcement actions.

It is suggested that a series of questions be added to the complaint response process with the responses to these questions included in the record of the incident.

1. **Turbines Involved** - The first step would be to obtain input from the Client, either by telephone interview or from the site visit on the number of turbines/turbine clusters that are affecting the Client. This inventory needs to extend beyond identifying the closest turbine with an inventory of all turbines/turbine clusters being developed with the turbines grouped by direction from the recipient. The specific turbines linked to the incident should be identified with this determination including both down wind and cross wind situations. The inventory should extend out at least 1.5 km or further if the Client links more distant turbines to the problem.

This inventory needs to be reconciled with the advice from the project operator with operational details obtained on any additional turbines identified by the Client as linked to the incident. The goal of this process is to develop a common understanding between the Client and the project operator on which turbine(s) are linked to the specific incident. This turbine(s) will become the focus of the changes required to resolve the complaint.

2. **Identify Adverse Effects** – Next, the specific conditions being reported by the Client should be linked to the list of “Adverse Effects” defined in the Environmental Protection Act through discussions with the Client. The Incident Report should include a list of all effects that apply to the specific incident.
3. **Repeated Problem?** - Then the conditions reported in this incident should be assessed in the context of other experiences/complaints. Has this situation has occurred previously? Does the client experience other problems when winds are from different directions? It should be noted if the situation is repetitive with links to other incident reports where the same issues are reported.
4. **Type of Emissions** - Further details on the complaint should be obtained that will provide direction to the follow up investigations, i.e., Is the complaint about audible noise, vibrations or pulsing sensations felt in body? Are the problems worse inside or outside of the client home? Has the client experienced any situations that would suggest a problem with stray voltage?
5. **Health Effects** - The final questions should detail any health impacts that the client links to the noise, i.e., Has the client experienced sleep disturbance linked to the noise emissions from the wind turbine? Is the client reporting any other adverse health effects? Are the same conditions experienced when client is away from project site? Has any medical attention been sought for these symptoms?

The responses to these questions can be used to point to investigations of potential causes of the problems and to evaluate proposed solutions recommended by the project operator.

In the ideal situation, this type of detailed follow-up and documentation of responses from the project operator would promote more voluntary compliance with the approval requirements to resolve complaints. Given the choice of shutting down some problem turbines or risk cancellation of the approval for the overall project for non-compliance, it would be logical for the project operator to limit the impact on the overall project.

If voluntary compliance does not take place, the comprehensive incident report form should provide strong support for the ministry to issue enforcement orders and/or cancellation of the approval. The incident report form will record in a single document all of the various attempts by the MECP work with the project operator to resolve the problems and the responses of the operator to these initiatives.

WIND CONCERNS ONTARIO

Ottawa, 2021

contact@windconcernsontario.ca

APPENDIX 1: Complaints by Project

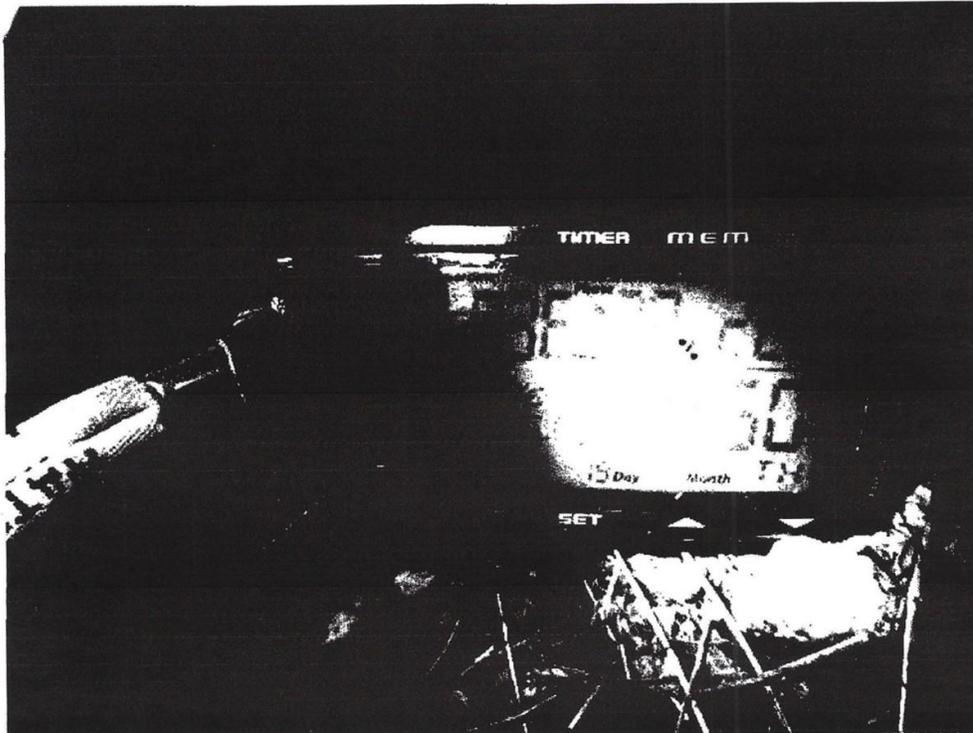
Data on the number of complaint records given to Wind Concerns Ontario in response to a series of four Freedom of Information requests is below. Apparently, more than 5,800 complaints have been made about the operations of wind turbine projects between 2006 and 2018. (Requests for data 2019–2020 are outstanding. The fact the government does not have rapid access to these records to fulfill FOI requests indicates citizen complaints seem not to be subject to any high-level evaluation.)

Communications from WCO’s member community groups indicate that the complaint number provided in response to FOI requests are substantially understated. When there is no follow-up to complaints, people just give up. This does not mean that the problems have been resolved.

Site Name	Start Year	2006 - 2014	2015 - 2016	2017	2018	Total
Melancthon Wind (All Phases)	2008	873	62	0	26	961
K2 Wind	2015	1	413	178	149	741
Unifor (CAW)	2013	236	92	174	147	649
Enbridge Underwood	2009	442	73	14	27	556
Talbot Wind Farm	2010	388	7	2	6	403
East Durham	2015		293	6	27	326
Thames Valley Ph 1&2	2010	239	16		0	255
Capstone - Grey Highlands	2014		3	121	79	203
Comber Wind	2010	127		2	9	138
Frogmore-Cultus-Clear Creek	2008	131	4		0	135
HAF Wind	2014	71	57	2	0	130
Niagara Wind	2016	0	24	20	83	127
Harrow Wind	2010	117	6		0	123
Plateau Wind	2012	119	1		0	120
Ripley Wind	2007	99			0	99
Conestogo Wind	2010	69	10		0	79
Grand Valley Wind	2012	24	38		8	70
Kent Breeze Wind	2011	55	2		0	57
Snowy Ridge	2016		7	46	1	54
Dufferin Wind	2014	3	50		0	53
Grand Bend Wind	2016		13	37	2	52
St. Columban Wind	2017	1	30	11	5	47
South Kent Wind	2014	35	5		0	40
Settler's Landing	2017			35	2	37

Adelaide Wind	2014		34	2	0	36
McLean's Mtn. Wind	2010	27	6	3	0	36
Ernestown Wind Park	2014	1	33		0	34
Summerhaven Wind	2010	19	8	3	1	31
Wolfe Island Wind	2009	22		1		23
Proof Line Wind	2009	20				20
Grand Renewable	2014		19		1	20
Bluewater Wind	2011	8	8	2		18
Jericho Wind	2014	3	15			18
Armow	2011		15			15
Amherst Island	2018				15	15
Cedar Point	2011		10	4		14
Goshen Wind	2015		8	2		10
Port Alma Wind	2008	9				9
Erieau-Blenheim Wind	2013	8				8
Erie Shores (Port Burwell)	2006	5			2	7
Raleigh Wind Energy	2011	6				6
Kruger-Chatham Wind	2011	5				5
Port Ryerse Wind	2016		5			5
Marsh Line	2010			4	1	5
North Kent Wind	2018		3		2	5
Bornish Wind	2011	1	3			4
Ganaraska Wind	2016		4			4
Zephyr Wind Farm	2012	4				4
Port Dover/Nanticoke	2013	3				3
South Branch Wind	2014	3				3
Springwood Wind	2014		3			3
Sumac Ridge	2013			3		3
Bow Lake	2010			1	2	3
Gesner Wind	2013	2				2
Oxley Wind Farm	2014	2				2
Prince I & II Wind	2006	2				2
Napier Wind	2015		1			1
Wainfleet Wind	2014		1			1
Otter Creek	-			1		1
Total		3,180	1,382	674	595	5,831

APPENDIX 2 NOTES FROM BAT ACOUSTICS MONITORING PROFESSIONAL



The noise from the WT was again disruptive of sleep and there was a distinct and penetrating whine from one or more of the array on the opposite shore of Lake Negick. The environment was rendered so toxic I terminated the monitoring session at 4:12 and left pre-dawn.

Can you provide a time frame for the noise audit and expected outcomes? The bat monitoring season extends well into the fall so I am facing onerous working conditions for several months unless there is a satisfactory amelioration of this polluted acoustic environment.

Sincerely,



s.21

On 2018-07-10, at 9:02 AM, Fry, Kira (MOECC) wrote:

Good morning,

Measurements are completed for sounds frequencies normally heard by the human ear. The audible range spans from 20Hz to 20,000Hz. Meters are required to measure within this range. Infrasound is under 20Hz and low frequency sound is between 20 to 200Hz, so yes the audible noise limits would include low frequency sound.

Kind Regards,

Time of report: Started writing at noon June 19th but have had drowsiness and focus/concentration issues.
 Wind speed (in metres per second): 0 MPS Calm at ground level.
 Details: When I arrived at my Bat Monitoring station proximal to the "American Camp" on Trim Lake Road the Wind Turbine visible above the pond was turning and I video logged it twice at dusk 9 and 9:30 prior to initiating acoustic monitoring for bats at 10:08.
 The acoustic pollution from the WT became more intrusive as the evening wore on, I was distracted by it as I tried to read. Thinking it was fatigue which was making it hard for me to concentrate I stretched out to sleep but found myself unable to doze off. The sound annoyance was too insistent and persistent pulsing, I gave up trying to sleep but was feeling quite distraught finding I could not focus my attention on reading. The noise seemed to permeate my SUV in which I can normally sleep comfortably even parked next to an idling semi-trailer. I would give it an 8 out of 10 on toxic noise environment.
 By the time the low battery warning light lit up the Bat Detector I was anxious to pack up and leave though this meant negotiating the seriously challenging logging roads in the dark. The drive was almost nauseating due to the potholes and washouts requiring quick responses I no longer possessed so the journey became slower and slower, 23 km has never seemed so long and risky.
 It was my understanding that the Environmental Review Tribunal had, in its decision on Case 13-145/13-146, mandated mitigation measures which included turbine cut-in-speed of 6m/s or higher during periods of bat activity to protect the endangered bats *Lasiurus cinereus* & *Myotis lucifugus* (Hoary Bats and Little Brown Myotis recorded and identified that very evening) present in the WF footprint.
 Since this does not seem to be the case and I have become sensitized to the noise pollution beating me about the head and ears for hours at a time I feel great anxiety about returning to my bat monitoring work. I feel the WT were generating unacceptably intrusive and potentially dangerous noise emissions spilling into the natural environment.
 This WF should be shut down during season and hours of bat activity for the safety of bats and researchers and for the poor people who might be camping here or vacationing at the American Camp!

s.21



Please see attached ministry response.

Close File

Incident Description Continuation:

Incident Update:

Was there an MOE field response? No

Were there samples collected / analyzed at any time? No

Known or Suspected Health / Environmental Consequence at the Time of Incident

Health / Environmental Consequence: 0 - No Impact

Has a Water Body been impacted?

Receiving Environment:

Incident Event: