Jenna Leifso

From: Deborah Walpole <debwalpole@gmail.com>
Sent: Tuesday, 27 September 2022 2:40 pm
To: MinisterEnergy@ontario.ca
Cc: david.piccini@pc.ola.org; Thompson, Lisa; rick.byers@pc.ola.org; David.Donovan@ontario.ca; Philip.Welford3@ontario.ca; Jenna Leifso; engagement@ieso.ca
Subject: Approval of Enbridge as a Qualified Applicant for LT-RFP
Attachments: Case Studies - Wind Turbines and Health.doc

Follow Up Flag: Follow up
Flag Status: Flagged

September 27, 2022

Honourable Todd Smith

Minister of Energy

10th Flr, 77 Grenville St

Toronto, ON M7A 2C1

By email - MinisterEnergy@ontario.ca

Dear Minister Smith:

Re: Approval of Enbridge as a Qualified Applicant for LT-RFP

Central Bruce-Grey Wind Concerns is a community group formed when wind turbine projects were proposed in our community, and has been dealing with the impact of these projects on residents of our communities since they began operation.

Enbridge developed a 115-turbine project in our community; we have seen firsthand their support for adjustments to the noise modeling studies so that project would meet noise audit limits and then their failure, once the project was operational, to respond to community concerns about the project.

Our experiences with Enbridge suggest that this is not the type of company the IESO would want to include as a bidder on future RFPs. However, Enbridge is on the August list of companies that qualified as bidders on the next RFP.

The problems created by Enbridge's Underwood project are well known to the Ministry of Environment, Conservation and Parks which administers approvals and monitors compliance with Ontario regulations. In terms of formal complaints filed for environmental noise, the Enbridge project ranked third in Ontario over several years.

When the company did not respond proactively, we worked with Lisa Thompson, our local MPP who facilitated a series of meetings between affected residents and representatives of Enbridge. Through those meetings, Enbridge was given a first-hand understanding of the problems. No serious solutions were proposed. Instead a series of audible noise tests

were initiated in January 2011 to prove that the turbines met the audible noise standard of 40 dBA. All of the reports coming from this testing failed to prove that the project was operating within the prescribed 40 dBA noise limit. However, rather than taking enforcement action, the MECP ordered more tests which continue to this day.

These results are not surprising to local residents who have been involved with this project since the initial hearings that lead to the approval. At 15 non-participating homes, the noise levels from the computer model showed noise emissions to be above standard. This was addressed through adjustments to the manufacturer's turbine noise emission specifications by 1 to 8 dBA at turbines affecting these locations in crosswind and downwind conditions. These adjustments did not align with the protocol in effect at the time of the approval. Modelled noise levels used also wind shear values that were well below the actual wind shear experienced in this area. Modeled noise levels experienced at 156 non-participating receptors would have been above the audible noise standard if the correct wind shear value was used.

Essentially Enbridge proposed a design for the project that it knew would exceed the standard audible noise limit of 40 dBA at a substantial portion of the residents living among the turbines. While the project received the necessary approvals, Enbridge was responsible for recommending the design of the project and specific turbine locations. Now that the impact of this faulty design is evident, Enbridge needs to be held accountable for the situation through enforcement actions.

Our local MPPs, Lisa Thompson and Bill Walker appeared at a meeting of the Multi-Municipal Wind Turbine Working Group on November 14, 2019 and indicated that the government was committed to follow up on the problems being experienced by residents. Unfortunately, after that meeting, COVID happened and understandably became the government's priority in 2020 and 2021. By copy of this letter, we are asking Lisa Thompson and, Bill Walker's replacement, Rick Byers, to support our request for action on this matter.

Resident complaints about the noise emissions from the Enbridge project are consistent with the assessment that the basic design of the project is faulty. Initially Central Bruce-Grey Wind Concerns documented the experiences and how their lives were impacted by both the elevated levels of audible noise as well as low frequency noise and infrasound. As indicated in the attached report, the Adverse Effects linked to the project included many references to health effects. One resident received medical advice that she should move out of her house. Subsequent testing in this vacant house indicated the presence of infrasound with frequencies aligned with the blade pass frequency of the wind turbines. All of this information has been shared with Enbridge with no response except for more tests for audible noise. No steps were taken to identify and address the cause of the Adverse Effects being reported.

With this track record, we are shocked that Enbridge would be recognized by the IESO as a qualified bidder for future IESO contracts. Their inability to ensure that the Underwood project complies with the audible noise standard and their failure to address complaints about a range of Adverse Effects, suggests that they are also not in compliance with their current IESO contract which requires compliance with applicable laws and regulations.

Rather than allowing Enbridge to bid on future government contracts, we ask that you follow up with the MECP to determine the current status of noise enforcement measures and further, track and resolve long standing complaints. If they are not responsive on these matters, we would ask that the IESO take steps to terminate the current IESO contract for non-compliance with key terms.

If you need further information on this situation, please contact the undersigned.

Yours truly,

For Central Bruce-Grey Wind Concerns:

Deborah Walpole

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cc.

Hon. David Piccini, Minister of Environment, Conservation and Parks david.piccini@pc.ola.org

Hon. Lisa Thompson, MPP Huron-Bruce, lisa.thompsonco@pc.ola.org

Hon. Rick Byers, MPP Bruce-Grey-Owen Sound, Rick.Byers@ontario.ca

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"HEALTH IMPACT IN TWO LOCAL WIND PROJECTS"

CASE STUDIES COMPILED BY:

CATHARINE CRAWFORD
M.Ed., OACCPP certified

On behalf of
H.A.R.M. (Health Affected Resident Meetings)
and
Central Bruce Grey Wind Concerns

Introduction

The following case studies related to two wind projects both of which are in the Municipality of Kincardine and are owned by Enbridge Ontario Wind Power. The Underwood Project comprises 110 turbines, and the project south of Tiverton, known as the Cruikshank's Project, has 5 turbines. Both projects came on line in 2008.

In the fall of 2010, due to the communication of health complaints from the community to us, Central Bruce-Grey Wind Concerns began to facilitate Health Affected Resident Meetings (HARM), offering information and resources to those in the Enbridge Underwood and Cruikshank's and Projects. Catharine Crawford and Patti Hutton co-facilitate this group. The goal is to help people feel less isolated and to understand their right to complain. We have never advertised, but through word of mouth have a list of 21 families who are suffering the health effects of living in a wind project. The number of affected individuals known to us increases weekly but not all residents choose to attend meetings.

Resident's names have been changed for this summary, as these residents did not wish to come forward. Permission has been sought in order to share their health impact experience. It is important to note that sharing personal health information about the effects of wind turbines upon oneself and one's family is not easy for anyone to do publically, particularly when your government, the wind company and the media, maybe along with your doctor and your neighbours, are telling you there is no scientific evidence for what you are experiencing--- that it can't be true that wind turbines hurt people. We hope more residents will be able to speak out in their own voice; however we understand why people are hesitant to do so.

This document prepared as part of a November 7, 2012 submission to Kincardine Council includes case studies that describe the health distress of 20 households in the above-named wind projects. The first 10 of these were included with a presentation to the Kincardine Municipal Council on March 16, 2011 and presented to the Grey-Bruce Health Board on September 21, 2012. After the Health Board meeting, Dr. Hazel Lynn, the Grey-Bruce Medical Officer of Health, publicly confirmed that the concerns raised by the H.A.R.M. residents are "absolutely legitimate".

In most of the cases discussed, the setback distances from nearest turbines range from 450-1500 m but some residents are reporting problems up to 3.5 km from the nearest turbines. Most people are living in close proximity to multiple turbines.

Resident Family #1
Closest Turbine: 1170 m
Other Turbines: 4 more within 1.6 km.
Debbie and Russell have a farm in Kincardine Township. Debbie writes about their situation: "The closest turbine to our residence is about 1 km away. When the first wind projects were being proposed in the community, the MOE and proponents stated that a

350m setback would be adequate to protect neighbouring homes from adverse effects. Therefore, we were not expecting any problems from noise or shadow flicker.

“When the turbines began operating, we discovered that they were not ‘whisper quiet’. The sound varied from a jet-over-the-house sound, to a gentle whoosh, to a deep beating sound and on some days, to no sound at all. We could not hear them in the house with the doors and windows closed.

“ I began to notice pressure in my ears after being outside for any extended period of time, and found myself going inside quite a bit, or wearing earplugs, for relief.
“After the first winter, we began to notice headaches, which have increased in frequency. In the last 6 months, I have noticed a high-pitched ringing tone in my ears. We find the symptoms are more severe in winter than in the summer.

“This winter, we have been coping with the health impacts by leaving our farm to spend time in town or neighbouring communities. We have purchased a trailer and rented a site at a nearby campground in order to get away from the wind turbines on a regular basis during the warmer weather. However, this can only be considered a temporary solution.”

Debbie continues: “I have spoken with other residents who are experiencing similar problems, but they are not willing to discuss them publicly. I have also spoken with people who have wind turbines on their property and are suffering ill effects, but they cannot come forward due to provisions in their lease agreements.

“The government simply cannot keep ramming these industrial installations into rural areas until they address the existing problems. The 350m setback and the new 550m setback are based on computer noise modelling. However, computer models do not trump real world observations and everywhere that large industrial wind turbines have been built, similar health problems have been reported”. (Specific distances for other turbines – 1300m, 1610m, 1630m, 1632m)

Resident Family # 2

Closest Turbine: 522 m
Other Turbines: 3 more within 1.0 km.; 10 more 1.0 km to 2.0 km.; 19 more 2.0 km to 3.0 km

Donna lives with her husband in the Enbridge Project. She reports that since the turbines came on line it takes her 2-3 hours to get to sleep, and the sound of the turbines “comes through her pillow”. Whether the winds are calm or high, her sleep is disrupted 50 % of the time. Donna describes the noise as a “roaring freight train” going through her home. She also has a tightness in her chest and heart racing, which comes on when she is at home, and not when she is at work. She has developed high blood pressure. She is tired at work due to not sleeping well and reports that her home is no longer a place where she can relax. Her spouse has sleep disruption as well, and notes that it is noisier in different parts of their home, including where they sleep. Both Donna

and her husband have noted since the turbines started that there are electrical problems in their home (electrical pollution due to the transmission lines and substations required for the project). Three times they have touched metal door knobs and been thrown backward and landed on the floor due to an electrical charge. They have witnessed bolts of electricity when turning on light switches. This never happened before.

When asked why they have not complained as yet to Enbridge and to the MOE, Donna replies that she fears nothing will be done, and that complaining would be very difficult emotionally. She is very angered by these changes in her health, and reports none of these adverse health effects were present prior to the turbines.

Donna reports that when something is mechanically wrong with the turbines near her home, just like a light switch, the trucks seem to be dispatched to the area to stop the clanking and clunking. She wishes if only the wind company could demonstrate as much concern about the humans living near them as it is concerned about the quick resolution of the mechanical malfunctioning of the turbines themselves. (Specific turbine distances for other turbines – 2@800m, 950m, 2@1100m, 2@1500m, 1550m, 1750m, 1800m, 2@1850m, 1900m, 2050m, 2100m, 2200m, 2400m, 2@2500m, 2@2600m, 3@2700m, 2@2750m, 2@2800m, 4@2900m plus 1.2km from substation)

Resident Family # 3

Closest Turbine: 500 m

Other Turbines: 3 more within 1.0 km.; 8 more 1.0 km to 2.0 km.; 9 more 2.0 km to 3.0 km

Kim and Mark report that the noise level in their two-story home is very high and that sleeping is a problem. They also report that their home "vibrates". Kim has developed headaches, dizziness and light-headedness, and is going for her second MRI related to these symptoms. Their quiet country property, complete with night-time sounds of crickets, distant coyotes, and the chirping of many birds is now completely changed by indoor and outdoor noise, sleep deprivation, flicker, and disturbing health symptoms which did not exist before. (Specific turbine distances for other turbines - 800m, 950m, 1000m, 1300m, 1350m, 2@1600m, 1700m, 1800m, 1800m, 1900m, 2@2100m, 2150m, 2200m, 2300m, 2700m, 2@2750m, 2950m.)

Resident Family # 4

Closest Turbine: 616m

Other Turbines: 8 more between 1.0 km & 2.0 km.; 10 more between 2.0 km & 3.0 km

In this household, Jim is much more affected than his spouse, Ida. Jim developed sleeping problems right away. When he wondered out loud to his physician about the possible link to turbines, the doctor replied to Jim, "That is nonsense. Take these pills for sleep and anxiety". His sleeping problems were temporarily solved, but after a month or two, the pills no longer worked. Jim often sits up all night and cannot sleep. He has taken several dizzy spells at home and is prone to falling, feels dizzy when driving his car, and

has experienced a seizure. He has headaches, heart palpitations, and blood pressure problems. Ida reports he has become forgetful and disorganized. When Jim goes away on vacation, he sleeps like he did before the turbines. When he returns home, his health problems resume.

Jim complained to Enbridge, and sound testing was completed at his home over several weeks by the same company which did the initial sound assessment for Enbridge in 2007 (Valcoustics). Both sound measurements taken in 2009 and 2010 proved that Enbridge was out of compliance with MOE (Ministry of the Environment) regulations[1], but nothing as yet has been done. (Specific turbine distances for other turbines – 1100m, 2@1400m, 1500m, 1550m, 1700m, 1900m, 2000m, 2050m, 2150m, 2200m, 2250m, 2300m, 2350m, 2400m, 2450m& 2@2700m)

Resident Family # 5

Closest Turbine: 610m.
Other Turbines: 4 IWT's within 1km.

Jessie reports that since the Cruikshank's turbines started up she is tired all the time, and never feels rested and relaxed. Her husband Dave, who never before had headaches, now has them frequently. Their teenage son and daughter are constantly tired and have headaches which go away when they leave home for periods of time. Jessie says that certain parts of their home are very noisy, and that she cannot enjoy her property, including gardening and other recreational pursuits on her land. Her rights to health, well-being, and pleasure in her property have been taken away. (Specific turbine distances for other turbines – 655 m, 720 m, 860 m & 890 m)

Resident Family # 6

Closest Turbine: 560m
Other Turbines: 10 more within 2.0 km.

This 3-person dairy farming family noticed health impact one month after the project started in Fall 2008. Each member of the family developed headaches and ear aches. Their physician said wind turbines could not be the problem. For nearly 2 ½ years they have been living with noise in the home, which disturbs their sleep. When Jack, the father in this home goes away on farming business he feels better. When he gets within the wind project boundaries on his way home, he begins to feel unwell again.

Jack reports that his dairy cattle began to have decreased milk production after the turbines began. The cows were hesitant to drink from their troughs and were agitated and kicking more in the milking parlour. The cats disappeared from the parlour too. Dairy production was down 20%, and so was their income.

Since involving the resources of an expert in electrical pollution, and the installation of mitigating devices, the cattle are no longer hesitant to drink from their troughs, the cats are back, and milk production is up to normal. These devices of course do not mitigate

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[1] Results of this report and a review of the findings can be made available if requested.

noise and sound problems related to the turbines. These farmers report that with the loud sound of the turbines on the land, they can no longer hear the sounds of nature which used to give time-tested cues as to when to plant crops. The farmland has become industrialized. It has been changed, and important ecological cues erased.

Jack's wife Denise reports that she felt her body began to "vibrate" with the onset of the turbines. She has developed ringing in the ears, loss of concentration, and heart palpitations. Two to three times a night she has to get out of bed due to sleep disruption, and she is restless during the day. Some mornings she wakes up having had a good sleep and notices that the turbines were not running. Switching to grounded telephones in the house has assisted with electrical pollution, and Denise reports that her heart palpitations have decreased. However, she still has tinnitus, a sense of vibration in her body, lack of sleep, and poor concentration.

Their son who assists with the family farm began to get "sharp, spiking headaches" when the project started, and also suffers from tinnitus, nausea, and exhaustion. When he goes to town, the symptoms of nausea and tinnitus go away. (Specific distances for other turbines – 1150m, 1300m, 1400m, 1450m, 1500m, 1550m, 1700 m, 1750m, 1800m, & 1900m)

Resident Family # 7

Closest Turbine: 495m

Other Turbines: 3 more within 1.0 km.; 10 more 1.0 km to 2.0 km.; 17 more 2.0 km to 3.0 km

Rilla and Jake noticed a change in their health within one month of the turbines spinning. They had a noise increase in and outside of their home. Jake has headaches, especially when the turbine noise is louder in the home. Jake is also now experiencing nausea and vomiting on a regular basis. He has taken to spending more time in the cellar, rather than the main floor, as his headaches ease up when he goes underground. Rilla has had headaches since the start of the project, which go away when she leaves for work. She has also developed nausea and lowered appetite and is "up half the night tossing, turning, and walking around due to noise".

Jake recalls a mechanical failure of a turbine near his property 3-4 months into them coming on line. There was a very loud explosion, and smoke began to pour out of the engine. Several parts fell away off the engine, but the blades remained on. Jake reports that the cranes and trucks arrived nearly instantaneously out of nowhere to fix the turbine, replace parts, and get it running again. To his knowledge, it was never reported to the public. While this is not a health related incident, it does demonstrate how quickly the wind company can take action when it chooses to.
(Specific distances for other turbines – 650m, 850m, 2@1250m, 3@1500m, 2@1600m, 1800m, 1850m, 1900m, 2100m, 2150m, 2250m, 2400m, 2600m, 2@2700m, 2@2750m, 3@2800m, 3@2900m, & 3000m)

Resident Family # 8

Closest Turbine: 714m

Other Turbines: 4 more within 1.0 km, 4 more 1.0 km to 2.0 km.; 9 more 2.0 km to 3.0 km

Kirk and Anne have lived in their Bruce Township home for nearly 20 years. Within a day of the start of the turbines, Kirk noticed the noise in his home. He has to have the television volume up much higher than average to mask the sound of the "whoosh, whoosh, whoosh". He has developed ringing in his ears, chest tension, nausea and vomiting. When outside in certain areas of his property, he gets an unusual vibration across his chest. His spouse Anne, who was a vibrant, healthy person who fell asleep easily, now cannot sleep. She is sleep-deprived continually, and has encountered "hassles" at work due to her fatigue and stress. She has also developed tinnitus, nausea and vomiting. Neither Anne nor Kirk had these medical symptoms prior to the turbine installation. When they are each away from home, the symptoms of chest tension and nausea recede. Similarly, symptoms return when they come back to their house.

The distressing physical symptoms Anne is experiencing have created an untenable existence for her. She must keep her job. Driving to work has become fraught with danger due to her excessive fatigue. Something must change.

When asked why they have not yet complained to Enbridge or the MOE, Kirk replies that he believes it would "go nowhere with Enbridge… Enbridge is out for profit". When it comes to the MOE, Kirk reports a lack of trust for a government body that has handed out the regulations for wind projects. "What good will it do"?, he asks. (Specific distances for other turbines – 2@800m, 850m, 1000m, 1500m, 1600m, 1950m, 2000m, 2150m, 2350m, 2450m, 2500m, 2550m, 2600m, 2700m, 2850m, 2950m)

Resident Family # 9

Closest Turbine: 2280 m

Other Turbines: 4 more within 3.5 km.

Mary in the Cruikshank's Project reports that "the continuous rumbling sound of the turbines disturbs my days and particularly my nights". She suffers from insomnia, headaches and ringing and pain in her ears. She likens the noise in her home to the "continuous sound of a generator", which was not there prior to the erection of the turbines. When the MOE came to her home and discovered the turbines were 1- 1.5 km from her home she was told the turbines "were too far away from her and there was nothing they could do". She has requested that the MOE come to do noise testing and to date no one has come. (Specific distances for other turbines – 2600m, 2735m, 3080m, 3325m)

Resident Family # 10

Closest Turbine: 453m

Other Turbines: 5 more within 1.0 km.; 7 more 1.0 km to 2.0 km.; 9 more 2.0 km to 3.0 km

Louise began to notice her sleep deprivation some months after the turbines started.

She also developed headaches, unusual sensations in her ears, pressure in her head, restlessness at night, unexplained nausea, motion – sensitivity, and an overall feeling that "something was not right" with her health. Louise, a typically highly organized and effective person noticed a change in her cognitive functioning: Over time, she could no longer prioritize her day or multi-task. She could barely carry on. She quit her job, a very significant part of her life that much more than a mere job.

She became nauseated around the turbines and dizzy intermittently. Louise began to develop tinnitus, like a high-pitched tone in her ears, intermittently. She lost body weight due to vomiting from migraine and nausea. Her headaches became constant and she began receiving treatment at headache and pain clinics.

Dr Nina Pierpont, Scientist, Physician and Author in Malone, NY has diagnosed her, by an in-person examination, with Wind Turbine Syndrome. Louise's Specialists and GP have told her she must leave her home. When she retreats away to the cottage she can eat, she can sleep, and the pressure is relieved from her ears.

Louise has lost her career and the safety of her home. She cannot live there and she cannot work. The disruption of the wind factory on her life is of massive proportions. Her health, well-being and livelihood have been harmed beyond the scope of your and my imagination. When Louise reported to Enbridge that she had made health complaint reports to the MOE, and asked the Enbridge Operations Manager what he was going to do about it, he replied, "Absolutely nothing. We have been given a license by the government and we are going to continue". (Specific distances for other turbines - 650m, 2@850m, 900m, 1000m, 1050m, 1250m, 1300m, 1550m, 1800m, 1900m, 2000m, 2300m, 2450m, 2600m, 2650m, 2@2700m, 2@2900m, 2950m)

Resident Family # 11

Closest Turbine: 658m

Other Turbines: 3 more within 1.0 km.; 2 more 1.0 km to 2.0 km.; 5 more 2.0 km to 3.0 km

Lisa and John have lived on their rural property for decades and raised their children here. Lisa and John first noticed pain in their ears and began to toss and turn at night, creating significant sleep disturbance. Lisa, who spends more time than John at their residence, began to feel a vibration in her body, which is largely continuous during the times she is at home, day or night. Both adults experienced coughing and choking while trying to sleep, and this symptom abated when the breakers were switched off at night. During months when their windows are open, John and Lisa have audible noise in their home, which is louder or quieter depending on environmental conditions, but is always constant. Outside their home when the turbines are facing certain directions, the noise is akin to sitting at an airport and this has removed their ability to enjoy their property.

They have also observed the evidence of electrical pollution at their home. They have experienced static electricity when touching their vehicle in the driveway and Lisa has become very physically disturbed and agitated by the use of the wi-fi router and flat

screen televisions in their home. If these appliances are unplugged, Lisa is able to sleep at night. Dark curtains are used to assist with flicker in their bedroom, and windows are only opened selectively. When Lisa and John go away, the first symptoms to improve are sleep disruption and vibration. The pain in Lisa's ear takes one week to dissipate upon going on vacation. Lisa's fatigue since the turbines came online is affecting her ability to feel rested, work and attend to the needs of the household. Enbridge, the MOE, and Hydro One have been called and a meeting was held in their home with Enbridge. To date, no changes or solutions have been offered by any stakeholder. (Specific distances for other turbines -, 660m, 950m, 1000m, 1650m, 2000m, 2050m, 2250m, 2500m, 2600m & 3000m.)

Resident Family # 12

Closest Turbine: 537m

Other Turbines: 3 more within 1.0 km.; 8 more 1.0 km to 2.0 km.; 9 more 2.0 km to 3.0 km

Marjorie and Len experienced immediate impact from the Enbridge turbines which surround their home. First they noted noise in and outside the house, as well as flicker. Next, they experienced a physical sensation of vibration in their bodies, and in certain rooms, including their bed and bedroom. They have noted that their light bulbs wiggle loose in their receptacles. The vibration is not continuous, but intermittent and frequent. They report that the vibration is contributing to sleep loss. Other health symptoms which have developed for Marjorie and Len since the turbines began to spin include tinnitus, migraine, and blood pressure problems. These physical symptoms have generated a significant increase of stress in their lives which they must now cope with daily. Len's most disturbing impact is tinnitus and irritability. When he gets away for a week at a time, his tinnitus gets better in 3 days. His ability to do projects in his workshop on the property is dramatically affected by noise and flicker. Marjorie and her daughter get migraine and headaches, and all family members report a feeling of unease and a wish to escape or "take flight from" a sense of lack of safety and wellbeing in their home. Marjorie, who works in the school system reports that she has 4 to 5 migraine per week during her time off in the summer, and one per week during the school year.

The noise in their home sounds like aircraft are flying overhead or like living next to a 400 series highway. Wind direction, speed and atmospheric conditions are factors affecting their experience in the home. Overcast conditions and the summer season seem to be the worst. When the turbine engines change direction there is significant mechanical clunking and banging which can be heard loudly. There is also a tonal whine which is audible in the home. Len and Marjorie have also noted a disruption in the use of their electrical and digital equipment.

Marjorie and Len have found that the aggravation, loss of enjoyment of their property, and their continuing health impact has greatly reduced their quality of life. They must use heavy drapes to block flicker, turn the radio up loud to drown out sound, sit on only one side of the house outdoors, and use air conditioning in the summer rather than open their windows. They are constantly working to limit their exposure to the impact of

the noise, flicker and vibration. The turbines have created a social impact for this couple due to the divided opinions, ignorance and lack of awareness in the community about the true impact of industrial wind on people's lives. Both the MOE and Enbridge have been repeatedly reported to by both Len and Marjorie, with no mitigating action to date. (Specific distances for other turbines - 600m, 1000m, 1000m, 1300m, 2@1400m, 1500m, 2@1800m, 1850m, 2@2100m, 2150m, 2250m, 2300m, 2400m, 2700m, 2800m & 3000m)

Resident Family # 13

Closest Turbine: 907m

Other Turbines: 4 more between 1.0 km & 2.0 km.; 10 more between 2.0 km & 3.0 km

Mike, a single individual who owns a small property in the Enbridge Project reports that an audible noise, "thump, thump, thump" can be heard at night when he is trying to sleep. He is able to get only 5 hours of sleep per night due to noise disturbance. Over the course of the turbines coming into operation he has also developed headaches and tinnitus, stomach upset, decreased ability to tolerate chronic back pain, and a general state of unrest. He cannot have his windows open in summer months due to noise. Mike is retired and gets away from the turbines to other parts of the province to practice his photography. He has noted that his symptoms improve or disappear when he leaves his home for several days. Mike has attempted to list his property for sale but removed the listing due to the poor response and low offers on his home. (Specific distances for other turbines - 1550m, 1650m, 1900m, 1900m, 2150m, 2200m, 2200m, 2300m, 2300m, 2500m, 2500m, 2800m, 2800m & 2800m)

Resident Family # 14

Closest Turbine: 571m

Other Turbines: 6 more within 1.0 km.; 7 more 1.0 km to 2.0 km.; 12 more 2.0 km to 3.0 km

Christine and Joe and their 3 children under the age of 7 live on a hobby farm in the wind project. They have been noticing changes in their health for 4 years. Both adults are affected and 1 of their 3 children has demonstrated health impact to date. This child is always tired, irritable and complains on a regular basis, "my head hurts, my tummy hurts". Joe is very sleep disturbed and has resorted to sleep medication.

Christine has experienced pronounced health disturbance since the turbines began to spin, to the point of stating she always feels unwell and sick in her home. For Christine, her home is a nightmare and a health hazard. Her symptoms, which did not exist before, include headaches, dizziness, pressure in the ears, nausea, chest pain, a pulsing in her head which is timed to the turning of the turbine blades, sleep disruption, and tingling in her head and face. Christine also reports a loss of libido, increased confusion and forgetfulness and irritability. She report a feeling of mental instability as she is unable to escape these very challenging symptoms, despite making efforts to improve her health over the last 3 to 4 years. She has tried heavy curtains, sleeping pills, anti-depressants, sleeping with fans to create white noise, and has undergone medical testing, with no

results. Christine has lost touch with the healthy person she used to be. When she travels abroad or leaves her home to visit family, her condition improves dramatically. After one hour at work, she reports her headaches go away.

Christine and Joe also report that when a relative came to visit for a week in their home, the relative had to be taken to hospital due to signs of a stroke. This visiting relative was not diagnosed with a stroke but vertigo, which did not remit for 2-3 months. As well, this individual developed blurred vision in one eye for an extended period.

Christine has experienced stroke-like symptoms, including the sagging of one eye. On one occasion, she went to work even though she was not feeling well. Christine began to feel dizzy and a co-worker observed that one of her eyes was sagging. She experienced numbness and tingling. She immediately went to her local emergency ward. She was told by medical staff that her blood had congealed to such a degree that without urgent treatment she would have had a stroke. An ER physician suggested it may have been due to a virus, but Christine and Joe very much doubt this to be the case.

Christine and Joe would like to be relocated as they cannot afford to leave their home. To date they have not reported their health disturbances to Enbridge nor the MOE. (Specific distances for other turbines – 2@650m, 3@800m, 950, 1200m, 1350m, 1450m, 1500m, 1600m, 1650m, 1800m, 2@2100m, 2300m, 2350m, 2400, 2450m, 2@2600m, 2@2700m, 2750m & 2850m.)

Resident Family # 15

Closest Turbine: 1013m.
Other Turbines: 4 more between 1.0 km & 2.0 km.; 2 more between 2.0 km & 3.0 km
Curtis and Jane experience pronounced nuisance stress from the Enbridge wind project. They report disturbance from flicker, red light emissions at night, and electrical interference with electronics in their home. Curtis and Jane, who are retirees, feel a high degree of annoyance with the visual disturbance of the turbines and the audible noise ("whumph, whumph, whump") outside their home. Curtis has also experienced a high level of distraction and lack of focus while driving in the wind project, and had one serious accident in the first six months. Curtis also notes that the lack of support, understanding, acknowledgement and solutions from all levels and government and from medical professionals is upsetting to him on a socio-political level. The above impacts have generated a lack of enjoyment of their property, visual and auditory disruption, as well as frustration, irritation, aggression and powerlessness. When Curtis and Jane spend their winters away, the nuisance and frustration disappear and their sense of well-being rises exponentially.

Curtis has reported his disturbances to both the MOE and Enbridge. The MOE official who came to his home told Curtis that the MOE do not have the equipment to test his home, that it was a waste of time to attempt to do so, and that Curtis should complain to his MPP.

Resident Family # 16

Closest Turbine: 3504m.

Other Turbines: 4 more between 3.0 km & 4.0 km

Sharon and Ken live over 3 km from the closest turbine and both experience vibration in their home and disturbance from red light emissions at night. Sharon states that some rooms in her home are never used due to the distraction of the red flicking lights coming in their many windows. Sharon and Ken have for years visited the grave of a loved one at a local cemetery in the wind project. Since the turbines came online, their cemetery visits are now disrupted by audible noise, as though there is a fluttering bird in flight right beside their ears, and they cannot stay longer than 10 minutes. Sharon reports that if she stays at the cemetery longer than 10 minutes she gets a headache that lasts the whole day. Sharon and Ken have not reported their impact to Enbridge nor the MOE. (Specific distances for other turbines – 3800m, 3@3900m)

Resident Family # 17

Closest Turbine: 1580m

Other Turbines: 3 more 1.0 km to 2.0 km.; 5 more 2.0 km to 3.0 km

This small farm family, comprising two adults and two children, has sustained health impact since the start of the installation. They no longer live in their home. Their symptoms worsen in the winter and in high winds. Kim and Shawn noted from the beginning a vibration outside the home in their gardens, and also in their ears. When the turbines were not running, the vibration ceased. Kim, who has a medical history of migraine, reports that for the three years prior to the turbines her migraine was in remission and they began to return and increase when the turbines came into operation.

This family experienced sleep disturbance through increased nightmares and waking for the children, vibration of their walls and beds, and also visual disruption from the flashing lights at night. Shawn reports difficulty getting to sleep, but once asleep would awaken within a short time with a sensation that the house was shaking. Kim and Shawn report that this shaking, vibrating sensation is also like a hum or a low-voltage electrical wave going through their bodies at all times. At particular times, for example using bathroom taps and toilets in their home, they experience the sense of electrical shock. On occasion they report seeing sparks when using electrical fixtures and TV remotes. Kim and Shawn have attempted to move their bed and sleep in other areas of the house to improve their ability to sleep, and they still experience insomnia and vibration.

Kim and Shawn tried to sell their property in order to escape the impact of the wind turbines on their lives. They lowered the asking price several times and it would not sell. The bank took ownership of their property and it is still for sale. They no longer own a home. They are living in a rental property in town. Their children cannot run and play as they once did. They had to give up their chickens, ducks and pet dogs, and are no longer able to harvest and eat their own meat, eggs and vegetables. For Kim and Shawn's family, the turbine installation completely took away their health and well-being. When

asked if they ever contacted Enbridge or the MOE, they answer, “Why would we even try? Enbridge ignored everyone else who live even closer to turbines than we do, so why would they care about us”? (Specific distances for other turbines – 1680m, 1700m, 1800m, 2050m, 2250m, 2550m, 2800m, & 3000m.)

Resident Family # 18

Closest Turbine: 1848m.

Other Turbines: 8 more between 1.0 km & 2.0 km.

Gordon and Susan have two residences, one within the Enbridge Project boundary and another in town. Susan's experience has been largely nuisance disturbance to date. For Gordon, their home in town has become a refuge from the disturbing symptoms of vertigo, sleep deprivation, poor quality sleep and some instances of blurred vision. Prior of startup of the turbines, Gordon had experienced a small number of serious bouts of vertigo, all of which had been triggered by strenuous work activity. After turbine start-up, with no physical activity to point to as a trigger events, he has been afflicted with recurring bouts which, while milder than before, kept him bedridden for one or two days.

When going on vacation, Gordon's sleep patterns return to normal. Similarly, after a decision to sleep only at the house in town, sleep patterns quickly returned to normal. For Susan and Gordon, Gordon's inability to experience health and rest at their recently and extensively renovated farmhouse in the country, has caused disruption, commuting, expense and stress on their relationship. As well, the flashing red lights are distressing and take away the former enjoyment of their country home. (Specific distances for other turbines – 2150m, 2200m, 2300m, 2400m, 2700m, 2800m, 2900m, 3000m.)

Resident Family # 19

Closest Turbine: 1109m

Other Turbines: 9 more 1.0 km to 2.0 km.; 13 more 2.0 km to 3.0 km

Liz and Gerry have lived and farmed on their rural property for over 30 years. The industrialization of their rural neighbourhood has been devastating for them. Outside their home, the “whoosh, whoosh, whoosh” from the turbines interfere with their restful enjoyment of their gardens, and inhibit their use of their property and ability to socialize outdoors. In winter, they notice a roaring sound outside of the house. Shadow flicker in the home and reflections of the turbines themselves in the windows are daily disruptions for them. As well, the red flashing lights have caused this family to require blinds, when the privacy of a country home never required this before. Ice throw from neighbouring turbines raised a concern for Liz who likes to walk with her dog on her property. When she contacted Enbridge about this concern, Enbridge advised her not to walk on her own property closer than 200 m from her fence line. The injustice of the planning, management and oversight of this installation, as well as the lack of action and solutions on behalf of the wind company and government is very disturbing to Liz as a long term member of this rural community. (Specific distances for other turbines – 1200m, 1400m, 1450m, 1500m, 1850m, 3@1900m, 1950m, 2050m, 2@2200m,

3@2300m, 2500m, 3@2700m, 2900m, 2950m & 3000m.

Resident Family # 20

Closest Turbine: 488m.

Other Turbines: 5 more within 1.0 km.; 12 more 1.0 km to 2.0 km.; 13 more 2.0 km to 3.0 km

Joyce and Dan are cash crop farmers on a large agricultural property in the Enbridge Project. In 2009 when the transmission lines for the wind farm were tied in to the existing power lines, they each began to notice disturbance in their health. They began to feel unwell and restless while at home, and then developed ringing in the ears and sleep deprivation. Near water and electrical lines in the home, symptoms of burning, vibrating, and uneasiness increase. They laid extra mats on the floors in these areas and wore thick-soled shoes indoors. They arranged for electrical pollution testing from a local consultant before and after the transmission lines were tied in, and significant increases were noted by the consultant, and test results shared with Joyce and Dan. Electrical filters and a "Ronk Blocker" were installed on their property to remove dirty electricity, and they shut the power off in their home, and regularly slept in their camper trailer. Joyce and Dan also report that even when they go away for several months or weeks at a time, they have developed a chronic sensitivity to electrical charge. CFL lightbulbs and fluorescent in-store lighting make them feel very agitated and uneasy. Only one thing at a time in their trailer can be plugged in, otherwise they are overloaded with electrical charge and feel sick. The turbine transmission lines have made them very sensitive to electrical pollution, and the problem appears to deepen over time.

Without the aforementioned self-help strategies and devices, which are costly, as well as going away for the winter, they report they would not have been able to live in their home and stay on their property these last several years. Sadly, after three and a half years of health challenges which were only worsening, and after asking for help from Enbridge and Hydro One with no mitigation or assistance, Joyce and Dan have sold and left behind the land they farmed for 48 years. They have chosen to move into town to protect their health.

(Specific distances for other turbines - 700m, 870m, 890m, 900m, 1000m, 1100m, 1150m, 1200m, 2@1400m, 2@1600m, 1650m, 1700m, 1800m, 1900m, 2000m, 2200m, 2300m, 2400m, 2600m, 3@2700m, 2750m, 2800m, 2900m, & 3@ 3000m)