

**Analysis of  
Proposed Content for the Renewable Energy Approval Regulation under the  
Environmental Protection Act**

**Version 2**

**June 21, 2009**

## General Observations

**On the Ministry Of Environment web site John Gerretsen, Minister of the Environment implies the new regulations “meet human health and environment standards.” <http://www.ene.gov.on.ca/en/news/2009/060901.php>**

**There is no mention of human health and safety in the proposed regulations.**

No	Observations
1	<p>The draft regulations are significantly incomplete, ambiguous and inadequate. It is impossible for the public to comment on such an incomplete document. These inadequacies will open the regulations up to interpretation and exploitation.</p>
2	<p>The definition of receptors is unconstitutional and limits current and future use of a non-participant’s land. The proposed setbacks and noise guidelines for receptors must be based on property lines not buildings. Having wind turbines emitting 105+ dBA less than 150 m from a non-participant property boundary is unacceptable. The combined noise levels of the turbines would be dangerously high to both humans and animals.</p> <p>In addition the proposed setbacks from a non-participant’s boundary are inadequate for safety issues such as runaway turbine disintegration and ice throw. The proposed setbacks and noise guidelines for receptors must be from lot lines as rural properties have ponds, walking trails, livestock, etc... that maximize the use of the property to the outer boundaries putting non-participants at risk. Turbine fire is also a common risk putting non-participant woodlots and homes at risk.</p>
3	<p>Premier Dalton McGuinty promised Ontario families that</p> <p>“The province will be able to use the most up-to-date scientific research and information from other jurisdictions to develop best-in-class standards for wind farm setbacks.”</p> <p>The proposed regulations are not “best-in-class”.</p> <p>The noise limit of 40 dBA is unacceptably high. To subject children and adults to this level of industrial noise pollution day and night is a risk to human health.</p> <p>People will not be able to have windows open forcing them to use air conditioning increasing their carbon emissions.</p> <p>To compare the 40 dBA of a wind turbine to a library may be technically accurate but it is deliberately misleading. Wind turbines generate a broad spectrum of low-intensity noise.</p> <p>In their noise guidance, The World Health Organization recommends 30 dBA as a limit</p>

	<p>for “a good night’s sleep”. However, they also suggest that guidance for noise with predominating low frequencies be less than 30 dBA.</p> <p>The World Health Organization also recommends “less than 35 dBA in classrooms to allow good teaching and learning conditions.”</p>
4	The regulations for low frequency noise and infrasound are missing and hence public comment is impossible.
5	There is neither mandatory vigilance nor long term surveillance protocols for issues related to health.
6	There is no mandatory dispute or issue resolution protocol.
7	There are no criteria specified for the shut-down conditions for land-based wind energy facilities.
8	The approval process for Renewable Energy Approval is incomplete.
9	There is no resolution process established for dealing with existing turbine projects where victims are reporting adverse health effects.
10	There are no mechanisms are in place to deal with electrical pollution or shadow flicker?
11	The regulations must require proponents to use "Best Available Technology" (BAT) ie the use of remote noise monitoring stations that are located at strategic points along the adjacent property lines that can alter operating parameters such as blade angle, rpm, etc. to maintain compliance with the criteria.

## General Questions

1.	Who drafted the regulations and what are their qualifications?
2.	What risks to human health have been identified by MOE?
3	What risks to human health have been addressed by the proposed regulations?
4	What studies were conducted to ensure all risks to health are addressed in the regulations?
5	Are ESRs no longer required? If so, what mechanism is in place to address adverse health concerns?
6	When can the public comment on future regulations that are not yet developed as detailed in the 'Specific Issues' portion of this document?
7	When will the missing criteria be established, before or after a project is operational?

## Specific Issues

No	Section	Page	Description	Issue
1	Part I	2	It is anticipated that the Ministry of Energy and Infrastructure will bring forward a regulation under the <i>Electricity Act, 1998</i> to clarify that “associated or ancillary equipment, systems, and technologies” will include transmission connecting a proposed renewable energy facility to the existing transmission or distribution electricity grid, and roads and other transportation infrastructure (e.g. access roads, ferry dock) required to connect the renewable energy project to existing transportation systems. These associated or ancillary equipment, systems, and technologies will be reviewed as part of the Renewable Energy Approval application.	<p>1. <b>Incomplete Regulations</b> – when will these regulations be developed? Cannot develop new projects until regulations in place.</p> <p>2. <b>Clarification</b> – Is this intended to deal with the issue of stray voltage and dirty electricity?</p>
2	Part I	2	It is anticipated that the Ministry of Energy and Infrastructure will be defining the terms “biomass”, “biogas” and “biofuel” in a proposed regulation under the <i>Electricity Act, 1998</i> . In defining these terms it is expected that the Ministry of Energy and Infrastructure will confirm existing usage of these terms to exclude energy generated from non-organic waste.	<p>1. <b>Incomplete Regulations</b> – when will these regulations be developed? Cannot develop new projects until regulations in place.</p>
3	Part II	3	Renewable Energy Approval application form	<p>1. <b>Incomplete Regulations</b> – No requirement that proponent identify and address of risks to plant life, animal life, human health or safety or the natural environment.</p> <p>2. <b>Clarification</b> – Are ESRs no longer required? If so, what is replacing it?</p>

No	Section	Page	Description	Issue
4	Part II	4	Posting of proposal notice on the Environmental Bill of Rights Registry	<p>1. <b>Issue</b> - No requirement that proponent notify public of proposal. Public would have to monitor the Environmental Bill of Rights Registry on a daily basis.</p> <p>2. <b>Incomplete Regulations</b> – Length of public comment period not defined</p>
5	Part II	4	<p>Should a project be approved, notice of the decision will be given to the municipality where the project is located and to any aboriginal community that was consulted.</p> <p>It is proposed that additional public notification of the decision on the project be made in a suitable manner (e.g. a local newspaper).</p>	<p>1. <b>Incomplete Regulations</b> – Does not specify who is required to place notice to municipality or aboriginal community or public.</p> <p>2. <b>Incomplete Regulations</b> – Does not specify time frame of when notice has to be given.</p>
6	Part II	4	Transition	<p>1. <b>Clarification</b> – Are these projects subject to new setback regulations?</p>

No	Section	Page	Description	Issue
7	Part II	5	<p>A third party must request an appeal within 15 days of the notice of the decision respecting the Renewable Energy Approval being posted on the Environmental Registry.</p> <p>Under the Environmental Protection Act the Environmental Review Tribunal (ERT) has a regulated timeline for making a decision on a third party appeal. Should the timeline for an Environmental Review Tribunal decision not be met, the Director’s decision is deemed to be confirmed.</p> <p>It is proposed that the time period be 9 months from the date that a hearing is requested to the issuance of a decision by the Tribunal.</p>	<p>1. <b>Issue</b> - A third party may not be aware that Renewable Energy Approval being posted on the Environmental Registry. Public would have to monitor the Environmental Bill of Rights Registry on a daily basis. See related Item No 5</p> <p>2. <b>Issue</b> – Unacceptable that if timeline for an Environmental Review Tribunal decision not be met, the Director’s decision is deemed to be confirmed.</p>
8	Part II	5	<p>It is proposed that renewable energy project proponents will be required to provide public notice within no less than a 1.5 km radius of the proposed renewable energy generation facility at a preliminary stage of project planning.</p>	<p>1. <b>Incomplete Regulations</b> – does not specify where the 1.5 km radius is to be measured from?</p> <p>1. <b>Inconsistent Regulation</b> - See item 12. Should be required to provide public notice within no less than a 3.0 km radius of the proposed renewable energy generation facility at a preliminary stage of project planning.</p>

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9	Part II	5	The proponent will be required to provide documentation of all community consultation efforts, and explain how it attempted to address issues raised during the community consultation.	<p>1. <b>Incomplete Regulations</b> - No minimum documentation specified related to this community consultation.</p> <p>There is however minimum documentation specified for Municipal Consultation <b>and</b> Aboriginal Consultation see Part II page 6 and 7.</p> <p>This minimum documentation requirement should apply to the general public as well.</p>



No	Section	Page	Description	Issue
10	Part III	13	Land-based Wind Turbine Facilities - Noise Setbacks	<p>1. <b>Ambiguous Regulation</b> – Unclear if noise limit of 40dBA is the test or if the specified setback distance is the test. Are the setback distances minimum requirements and may be further back to meet the 40dBA limit?</p> <p>2. <b>Ambiguous Regulation</b> – Unclear if the proponent is required to demonstrate project is in compliance with noise limit of 40dBA.</p> <p>Why is a noise study not required for all projects?</p> <p>When does the noise study take place, before or after the project is launched?</p> <p>3. <b>Inadequate Regulation</b> – Point of reception must be border of non participating property. People not structures are receptors and are at risk. Protecting only structures limits human use of land.</p>
11	Part III	13	Proposed setbacks in the noise matrix are consistent with the Ministry of the Environment’s <i>Noise Guidelines for Wind Farms</i> (October 2008)	<p>1. <b>Ambiguous Statement</b> – What does this statement mean?</p>

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12	Part III	13	In order to account for the combined contribution from neighbouring wind farms when determining the setback, it is proposed that the number of turbines considered for determining the appropriate setback include all wind turbines found within the 3 km radius of the Point of Reception, including those turbines by other proponents existing or planned.	<b>Inconsistent Regulation</b> – See item 8. It is proposed that renewable energy project proponents will be required to provide public notice within no less than a 1.5 km radius of the proposed renewable energy generation facility at a preliminary stage of project planning.
13	Part III	13	Setback Matrix	1. <b>Inadequate Regulation</b> – How is this matrix affected with a mix of turbine models with different sound power levels?
14	Part III	13	“Setback” refers to the distance in metres separating the centre of a structure, referred to as a Point of Reception in the Ministry of the Environment’s <i>Noise Guidelines for Wind Farms</i> (October 2008), and the base of the closest wind turbine.	1. <b>Inadequate Regulation</b> – Point of reception must be border of non participating property. Humans not structures are receptors that are at risk. Children and adults must be able to enjoy all of their property without be subjected to over 105 dBA of industrial noise pollution. Protecting only structures limits human use of land.

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15	Part III	14	The noise emission level of a wind turbine must be the guaranteed values of the Sound Power Level corresponding to 95% rated power output. Should a Sound Power Level rating for a turbine fall between categories, it should be rounded up to the nearest whole number.	<p>1. <b>Clarification</b> – Who is responsible for verifying guaranteed values of the Sound Power Level? Is there an independent third party certification using an approved international standard.</p> <p>2. <b>Inadequate Regulation</b> – Why only 95% rated power output. Should be 100% rate power output.</p>
16	Part III	14	It is proposed that if a proposed wind energy generation facility has 26 or more turbines or has turbines with sound power level rating of more than 107 dBA, the proponent shall submit a noise study to the Ministry of the Environment consistent with Ministry of the Environment’s <i>Noise Guidelines for Wind Farms</i> (October 2008).	<p>1. <b>Inadequate Regulation</b> – A once size fits all approach to siting of wind turbines cannot be used. Terrains, siting, and atmospheric conditions can have a significant impact on wind turbine noise. All proposed wind energy generation facilities must be required to submit a noise study to the Ministry of the Environment consistent with Ministry of the Environment’s <i>Noise Guidelines for Wind Farms</i> (October 2008).</p>
16	Part III	14	It is proposed that if the wind turbine project proponent should be interested in obtaining a lower setback than indicated for turbines it would have the option to complete a site-specific noise study consistent with the Ministry of the Environment’s <i>Noise Guidelines for Wind Farms</i> (October 2008) and the noise level limit of 40 dBA at the nearest Point of Reception. Under no circumstances can a site-specific study result in a setback lower than the minimum 550 metres.	<p>1. <b>Inadequate Regulation</b> – wind turbine project proponent should not be allowed to obtain a lower setback than indicated in the matrix.</p>

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16	Part III	14	It is proposed that the proponent will provide a frequency chart from the turbine manufacturer showing all tones generated by the turbine.	<p><b>1. Incomplete Regulation</b> – There is no acceptance criteria specified regarding this frequency chart. What is the intended purpose?</p> <p><b>1. Clarification</b> – Who is responsible for verifying guaranteed values of the frequency chart? Is there an independent third party certification using an approved international standard.</p>
17	Part III	14	<p><b>Small-Scale Wind Turbine Noise Requirements</b>  It is also proposed that wind energy generation facilities with a name plate capacity greater than 3 kW with a sound power level rating less than 102 dBA will be required to submit the following information to allow the Ministry of the Environment to evaluate impacts: make, model, and year of turbine; turbine height; description of setting (e.g. rural, urban); proposed distance to nearest Point of Reception; and acoustic emissions of the wind turbine.</p>	<p><b>1. Clarification</b> – Who is responsible for verifying information provided? Is there an independent third party certification using approved international standards. Point of reception must be border of non participating property. Humans not structures are receptors that are at risk. Children and adults must be able to enjoy all of their property without be subjected to over 105 dBA of industrial noise pollution. Protecting only structures limits human use of land.</p> <p><b>2. Clarification</b> – What is the acceptance criteria?</p>

No	Section	Page	Description	Issue
18	Part III	14	<p><b>Transformer Substation Noise Setbacks</b></p> <p>It is proposed that transformer substations serving the wind turbine project without noise abatement are to be located at least 1000 metres from the nearest Point of Reception, and transformer substations with an acoustic barrier at least 500 metres from the nearest Point of Reception. It is proposed that the acoustic barrier should break the line of sight from the transformer to Points of Reception – a solid barrier with a surface density at least 20 kg/m<sup>2</sup> (kilograms per square metre).</p>	<p><b>1. Inadequate Regulation</b> – Point of reception must be border of non participating property. Humans not structures are receptors that are at risk. Children and adults must be able to enjoy all of their property without be subjected to unsafe levels of industrial noise pollution. Protecting only structures limits human use of land.</p> <p><b>2. Clarification</b> – what scientific evidence was used to determine ‘a solid barrier with a surface density at least 20 kg/m<sup>2</sup> (kilograms per square metre).</p>

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19	Part III	14	It is also proposed that if the wind turbine project proponent should be interested in obtaining a lower setback than indicated for transformer substations it would have the option to complete a site-specific noise study consistent with the Ministry of the Environment's <i>NPC-233 Noise Guideline</i> and the noise level limit of 40 dBA at the Point of Reception.	<p>1. <b>Inadequate Regulation</b> – wind turbine project proponent should not be allowed to obtain a lower setback than indicated for transformer substations. Point of reception must be border of non participating property. Humans not structures are receptors that are at risk. Children and adults must be able to enjoy all of their property without be subjected to unsafe levels of industrial noise pollution. Protecting only structures limits human use of land.</p>
20	Part III	14	<p>Setbacks from Roads, Railways, and Property Lines</p> <p>It is also proposed that wind turbines must be setback a distance equal to or more than the turbine hub height plus blade length from all roads, railways, and property side and rear lot lines.</p>	<p>1. <b>Inadequate Regulation</b> – Setback for non participating property line must be the minimum setbacks specified for points of reception. See setback matrix chart Part III page 13.</p> <p>2. <b>Clarification</b> – No mention of setback from property front lot lines.</p> <p>3. <b>Clarification</b> – What is the distinction between property and lot lines?</p>

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21	Part III	15	It is proposed that land-based wind turbine projects must collect preliminary information about bird and bat habitat, determine and document site sensitivity through field investigation and identify proposed mitigation measures that may be required to address these impacts, as part of the Environmental Impact Assessment on natural heritage (see Part III, section 5).	1. <b>Inadequate Regulation</b> – No minimum acceptance criteria detailed. There is no reference to collection risks to the health of the population.
22	Part III	15	It is proposed that proponents will be required to submit a decommissioning plan, which would address, among other matters, procedures for equipment/building, dismantling and demolition, site restoration and final residue disposal.	1. <b>Inadequate Regulation</b> – Does not address issue of proponent not being in operation when decommissioning is required. ie Change of ownership of the wind turbine facility, bankruptcy etc.  A decommissioning bond bank letter of credit must be posted by the proponent for the value required for each turbine, transmission station, etc.

No	Section	Page	Description	Issue
23	Part III	15	<p>Conditions of Approval</p> <p>It is proposed that proponents would be required to monitor and address any perceptible infrasound (vibration) or low frequency noise as a condition of the Renewable Energy Approval. The Ministry of the Environment intends to develop technical guidance on the monitoring of infrasound and low frequency noise to assist proponents in this.</p>	<p>1. <b>Incomplete Regulation</b> – No minimum acceptance criteria or guidelines for perceptible infrasound (vibration) or low frequency noise. Cannot develop new projects until regulations in place.</p> <p>2. <b>Inadequate Regulation</b> – Appears to assume infrasound is the only cause of vibration.</p> <p>3. <b>Incomplete Regulation</b> – Does not define the term “perceptible”.</p> <p>4. <b>Incomplete Regulation</b> – Does not define the term “monitor and address”.</p>



No	Section	Page	Description	Issue
24	Part III	15	It is anticipated that in appropriate circumstances shut-down conditions for land-based wind energy facilities may also be addressed through conditions of approval.	<p>1. <b>Incomplete Regulation</b> – Definition of the appropriate circumstances for shut-down conditions for land-based wind energy facilities is not detailed. Cannot develop new projects until regulations in place.</p> <p>2. <b>Incomplete Regulation</b> – No mention of a mandatory vigilance protocol where proponents are obligated by law to report and investigate all issues that are reported by participating and non participating residents.</p> <p>Formal vigilance and issue resolution protocols must be established.</p> <p>Long term surveillance must be established (up to 30 years) due to many unanswered questions about long term exposure to infants, children, the unborn whose mothers are exposed, families, workers such and technicians and farmers who work near wind turbines.</p>