

Feedback Form

Long-Term 2 RFP – November 21, 2024

Feedback Provided by:

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Date: December 6, 2024

Following the LT2 RFP November 21, 2024, engagement webinar, the Independent Electricity System Operator (IESO) is seeking feedback from stakeholders on the items discussed. The presentation and recording can be accessed from the [LT RFP engagement web page](#).

To promote transparency, feedback submitted will be posted on the Long-Term RFP engagement page unless otherwise requested by the sender. If you wish to provide confidential feedback, please mark "Yes" below:

- Yes – there is confidential information, do not post**
- No – comfortable to publish to the IESO web page**

Please submit feedback to engagement@ieso.ca by December 6, 2024.

Agricultural Impact Assessment Process

IESO Presentation	Feedback
Do you have any comments for the IESO to consider regarding the timing of the AIA requirement in the LT2 RFP and LT2 Contract	Most municipalities will be looking for the information that will be in the AIA as part of the support for Municipal Support resolutions. While proponents may want to delay preparation of this document until later in the process, experience has shown that most of the discussion related to the approval of the municipal support resolution will likely be related to the use of prime agricultural areas for these projects. Having the information in the AIA to inform that discussion would support the proponent’s case – if the proponent has sincerely addressed the issues created by the use of prime agricultural areas.
OMAFA Presentation	Feedback
Are there any specific aspects outlined in the session that you would like further clarification on?	In the session, I stated that it was my understanding that municipalities could only change agricultural zoning for an energy project if the land was not of sufficient quality to be considered Class 1 to 7 soils. i.e. The current zoning was applied in error. Changing other zoning is not allowed by the direction to municipalities in the latest PPS. Any change of this nature would be overturned on appeal because it did not comply with the PPS. The representative of the Ministry of Municipal Affairs and Housing could not confirm that this was the case. Can you please clarify this situation.
Is there any additional information related to agricultural considerations that would be helpful?	

General Comments/Feedback

Many municipalities have experience with the impact of badly designed energy projects in prime agricultural areas. The existing direction for preparation of an AIA does not cover many important issues related to energy projects. Based on previous experience, municipalities will be looking for following key issues to be covered in the revised AIA for energy projects.

Compliance with PPS

In the AIA, the proponent will need to demonstrate that the proposed project is in line with the municipality's obligations under the Ministry of Municipal Affairs and Housing's Provincial Policy Statement to protect prime agricultural areas.

An AIA is also required for any project from LT 1 proposed for a prime agricultural area that had not received its building permits from the host municipality prior to October 20, 2024.

Review of Alternate Locations -The PPS process starts with a review of alternate locations for the project where there would be less impact on prime agricultural areas. While it is proposed that this statement is needed before a municipality considers a support resolution, some projects may have come before Councils before this was a requirement. Unless rules are changed to disallow old municipal support resolutions that predate this requirement, a statement of alternate sites considered should be included in AIA to ensure that the activities of proponents fully aligns with the spirit of this Ministerial Directive.

There is little evidence that proponents are actually evaluating alternate sites where there is less impact on prime agricultural areas. In Oxford County, one proponent is busy looking for a site and is now on its fourth municipality. This is not being motivated by a search for an alternate site to protect agriculture as all of the townships being considered are largely made up of Class 1,2 and 3 soils.

To meet this requirement for a full review of alternate sites, the assessment must extend beyond a single municipality but potentially cover the whole province.

On-farm Diversified Use -The PPS allows energy generation and storage projects only as an on-farm diversified use. The definition of this is very specific:

"Uses that are secondary to the principal agricultural use of the property and limited in area."¹

Based on this direction, the size of the land area occupied by the wind generation project or the Battery Energy Storage System needs to be clearly defined in the AIA and be truly limited in scope. Otherwise, the project does not qualify as a use of land classed as part of a Prime Agricultural area within the direction of the PPS and the Minister's Directives to the IESO.

This area included in this analysis would include not only the land occupied by the base of a wind turbine but also all of the land used to construct the foundation for each tower, the access roads, the power lines on private property and the transformer station. All of the land across many properties needed for the wind turbine project would be included in a single AIA.

In addition to the space needed for the normal operation of the wind turbines, this should also include the area needed to construct the base and for the cranes involved in assembling the tower and attaching the blades to it. While a portion of this land can be returned to agricultural uses after the tower is constructed, much of that area is required when blades need to be replaced and/or when decommissioning is underway.

¹ Ministry of Municipal Affairs and Housing, Provincial Policy Statement, October 20, 2024, p. 48.

A review of the Nation Rise project, one of the most recent wind projects that has been developed indicates that a total land area of 189 acres was required for the 29 turbines in this project. This averages 6.4 acres per turbine.

This total acreage is typical of a large-scale wind project and exceeds the recommended limit of 2% of property size up to 1 HA (2.5 acres) set out in the guidance published by OMAFRA². Accordingly, it would not be a valid use of prime agricultural land as set out in the PPS.

Estimating the land area required for BESS projects is more straight-forward as their sites have a clear perimeter and the need for access roads is limited. Most of the BESS projects would also exceed the amount of land available for development under the OMAFRA guidance on "limited use".

Defining AIA Study Area

The impact on agriculture extends beyond the narrow footprint of the structures developed as part of the project as noise, safety and visual issues extend beyond the narrow primary study area. The impacts of wind turbines³ include:

- Audible noise extends 500 to 750 metres from the turbine depending on topography, growth cover and other conditions with no allowance for tonal/cyclic qualities. These noise emissions affect the ability of farm operators to live and work within this area.
- Total noise extends 1 kilometer to 3 kilometers when tonal/cyclic qualities and low frequency noise and infrasound are considered. These noise emissions also affect the ability of farm operators to live and work within this area. Low frequency noise emissions also affect pregnancy rates of livestock within this zone.
- Ice Throw from Blades can affect land between 500 meters to 800 meters from a turbine. Ice throw creates a hazard for anyone on the land when the incident occurs.
- Shadow flicker extends from 1.2 km to 2.1 km depending on the height of the turbine. Shadow flicker causes disorientation which is a risk for operators of farm machinery within the affected area.
- Turbine failure – 500 meters to 1.4 kilometers is potential distance that blade fragments have been thrown. Turbine failures represent a risk for anyone who could be hit by this debris. Contamination of soils with small toxic blade fragments is also a concern.

In total, these effects indicate a need for a secondary study area for wind turbines. Within these secondary areas, it is not only residential locations but schools, residential facilities, work locations and livestock operations need to be identified with plans to eliminate the problems that are caused by this development. These concerns can be ameliorated if the land is either owned by the proponent or controlled through lease arrangements.

The secondary study area for a BESS facility is more limited in size. The major concern is the potential for gas emissions to be released from these facilities in emergency situations. A review of municipal responses to emergencies at existing facilities indicate that setbacks from residential and other facilities with people present on a regular basis suggests that the secondary study area should extend 800 metres from the proposed project.

² Ministry of Agriculture, Food and Rural Affairs, Guidelines on Permitted Uses in Ontario's Prime Agricultural Areas, p. 21.

³ Based on study by the Polish Institute of Public Health. Distances are confirmed by complaints filed with the Ontario MECP>

Fire Safety

The development of energy generation and storage projects in agricultural areas create new sets of risk for neighbouring agricultural operations that need to be addressed in the AIA submission. Given the high temperatures and flammable material stored in the nacelle of the turbines, some municipalities require fire suppression equipment be installed in the nacelle as well as fire detection equipment that sends an alarm to the local fire department. Proponents should be asked to commit to these basic requirements in the AIA.

Wind turbines create a need for high angle rescue services that are not normally available in the rural volunteer fire departments that service many of the existing wind turbine projects. New projects should include an explanation on how the operator will obtain these services on a timely basis when they are required.

To protect people using the adjacent agricultural land for production, the following should be considered as requirements for BESS systems built in agricultural areas:

- Ensure battery system incorporates gas monitoring, accessed remotely
- Need fire plan in advance of construction
- Lithium-ion battery energy storage systems should incorporate adequate explosion prevention protection as required in National Fire Protection Association (NFPA) 855 or International Fire Code Chapter 12, where applicable, in coordination with the emergency operations plan. Equipment used should also meet UL Test 9540A.
- New lithium-ion battery energy storage systems should be built in accordance with NFPA 855, the most current standards available for safety.

In addition, BESS projects need to have access to municipal water services to ensure that sufficient water is available. For projects located in agricultural areas, these services are normally available. As the general response is let the fire burn itself out over a period of days, the local fire department needs access to a large quantity of water to cool the portions of the facility that is not affected by the fire. Tanker trucks will not be sufficient to provide this continuous stream of water and normally storage reservoirs are provided on site when municipal water is not available.

Contamination of Wells

Agricultural operations need access to large quantities of clean water to support livestock operations as well as resident's domestic requirements. Construction of the foundations needed for wind turbines have disrupted the aquifers that feeds these wells in some areas creating major issues for the neighbouring farm community. The North Kent project is one example where the vibrations from turbines stirs up sediments that are then reflected in the water available now available from previously normally operating wells. It has been under investigation by the provincial government and no solution has been found. Providing municipal water in the area affected requires a costly expansion of the municipal water system.

To address this risk, proponent needs to include an assessment of the water table and potential impact of the proposed foundations. In some sites proposed for turbines in the North Stormont

project, the water table was only a short distance below the soil surface and construction of the foundations needed turbines would have strong potential for disrupting wells used by neighbouring farms. Prospecting is currently underway for leases an area near the North Kent project and it is likely that similar problems with wells will occur if it proceeds.

For BESS projects in rural areas, there is a need for a plan to ensure that the run off of water used to cool a BESS project in an emergency situation is contained and does not reach neighbouring properties as it will be contaminated by chemicals present in the energy storage facility.

Stray Voltage

Badly designed wind turbine projects can create stray voltage situations which can have disastrous consequences for neighbouring agricultural operations. Livestock stop eating and drinking water when they are getting shocks each time that they touch metal troughs that are charged with electricity. The same issues can also get transmitted into residences.

This matter is not covered in the documentation required by the MECP to support a REA application. To allow a full review of the project design by the municipality (and Hydro One), the AIA should include a complete description of how the electricity generated by the project will be transmitted from each turbine to the transformer station. If above ground transmission is proposed, the location of the poles used in relation to Hydro One's distribution system in the area should be discussed. If underground transmission is proposed, the separation of these lines from other buried communication networks should be documented.

Municipal and Farm Drainage

The AIA should provide an inventory of any municipal or farm drainage projects that could be affected by the construction of the large elements within the project as well as access roads and collector lines for managing the electricity produced. The construction plan needs to ensure that none of this infrastructure is affected by construction, operation and/or decommissioning of the project. Any breaks that do take place need to be repaired immediately.