GUIDE
Provincial approvals for Renewable Energy Projects
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INTRODUCTION
1. Introduction

Ontario’s green initiatives, including the Green Energy Act, 2009 (GEA) and the Renewable Energy Approval (REA), are transforming the energy landscape and strengthening the province’s commitment to conservation. These measures reflect Ontario’s leadership in harvesting the benefits to the economy, public health and the environment that renewable energy projects create. The GEA and REA support energy projects that reduce our use of fossil fuels and provide clean, sustainable power today and in the future. Along with other electricity policies, they are key elements in Ontario’s commitment to phase out coal-fired generation at Ontario Power Generation power plants. Using coal to generate electricity is a leading source of greenhouse gases and other pollutants that pose both short- and long-term risks to the environment and our health.

A key goal of Ontario’s approach to renewable energy project approvals is to provide certainty and clarity in the process and requirements. Ontario has made the approval process more modern and straightforward.

With the updated approach and new rules, Ontario’s renewable energy capacity can grow more quickly. The renewable energy sector can create more jobs because projects are able to move forward faster. At the same time, provincial ministries carefully consider projects’ potential impacts on the environment, human health and safety. The province remains committed to a strong framework of environmental and public health protection that covers renewable energy as well as other types of electricity generation.
Purpose of this guide

The purpose of this guide is to explain the updated approvals process for renewable energy projects to people thinking about undertaking small-scale projects themselves and others with an interest in renewable energy in a non-technical way. Ontario’s new rules for these projects go hand-in-hand with the province’s other renewable energy and conservation initiatives. Information on Ontario’s leadership in sustainable energy is available at the Ministry of Energy and Infrastructure’s website (www.mei.gov.on.ca).

This guide outlines the new and improved process for provincial approvals. The process coordinates approvals across government ministries to encourage renewable energy while ensuring the environment, health and natural resources are protected. This guide looks mainly at the provincial rules for developing renewable energy projects that use wind, solar and bio-energy to generate electricity. As outlined in the waterpower section, all waterpower projects currently do not require an REA, and will continue to follow the requirements of the Environmental Assessment Act and other existing approval processes.

Most renewable energy projects that generate electricity are subject to the approvals described in this guide, however, there are a few exceptions (see list on page 10). Renewable energy technologies that don’t generate electricity, such as geothermal heating/cooling (also known as earth energy systems) or solar thermal water or space heating are not covered here. The Ministry of Energy and Infrastructure’s website (www.mei.gov.on.ca) provides information on these and other similar types of projects.

This guide provides an overview of the approvals process and requirements. Applicants and others interested in approvals are also encouraged to refer to technical guides and related regulations and requirements.

The requirements for other levels of government for a renewable energy project include federal laws and municipal building permits under the provincial Building Code Act, 1992. Conservation authorities, which manage the major watersheds in southern Ontario and parts of northern Ontario, may need to give approval for activities that may affect the control of flooding, erosion, dynamic beaches or pollution. In addition, the Ontario Energy Board, which regulates the province’s electricity and natural gas sectors,
may have additional licensing, notice and/or approval requirements. This guide touches on these additional requirements but does not describe them in detail. It is the applicant’s responsibility to meet all relevant requirements. Information is available on the Ontario Energy Board and Independent Electricity System Operator’s websites (www.oeb.gov.on.ca and www.ieso.ca).

Structure of the guide

Renewable energy projects, like other forms of development, are subject to a regulatory and approvals process that deals with matters such as advising people living nearby and ensuring sensitive environmental areas are protected. Each type of renewable energy project – wind, solar, bio-energy (anaerobic digestion, biofuel, thermal treatment, biogas) and water – also has characteristics that can give rise to technology specific requirements. As well, some proposed project locations may have site-specific approval needs. The guide is laid out to reflect both the overall approvals process and the differing requirements of various renewable energy technologies as follows:

Section 2 outlines the key steps applicants must take to prepare their project for approvals, what projects are exempt from the Renewable Energy Approval (REA) and what is required for a complete submission for provincial approvals.

Section 3 describes the consultation requirements for renewable energy projects and the importance of consultation to the success of a project.

Section 4 discusses project requirements related to areas of natural heritage, cultural heritage, water protection, provincial plan areas, endangered species and fish and wildlife conservation.

Sections 5, 6, 7 and 8 set out requirements based on project size and scope of wind, solar, bio-energy (anaerobic digestion, biofuel, thermal treatment, biogas) and water projects.

Section 9 provides a list of contacts for applicants and interested parties to learn more about matters surrounding renewable energy generation projects and project requirements.
OVERVIEW OF THE PROVINCIAL APPROVALS PROCESS
2. Overview of the provincial approvals process

Ontario’s new approach to approving renewable energy projects offers benefits to project applicants and local communities while continuing to ensure rigorous protection of the natural environment, cultural heritage and public health and safety. This new approach and updated rules reflect changes to regulations under the Environmental Protection Act, Environmental Assessment Act and Environmental Bill of Rights, 1993 (for which the Ministry of the Environment is responsible), Planning Act (which is the responsibility of the Ministry of Municipal Affairs and Housing) and to policies and requirements set by the Ministry of Natural Resources, under various pieces of legislation. It does not, however, address requirements from the federal government or other agencies.

Those familiar with the previous provincial framework for renewable energy approvals will note the following significant differences:

- Renewable energy projects are no longer subject to the Environmental Assessment Act (except for waterpower and transition projects). However, the protections built into the Environmental Assessment process continue in the REA process.
- Rules regarding setback distances from residences where people reside and other sensitive receptors, as well as environmental features, now apply consistently across the province.
- Renewable energy projects are no longer subject to land use planning instruments under the Planning Act (e.g. zoning by-laws and official plans).

The Ontario Power Authority (OPA) will issue contracts under the province’s new Feed In Tariff (FIT) program to purchase power at guaranteed rates over 20 years from wind, solar and bio-energy facilities. Waterpower facilities will have guaranteed rates over 40 years.

As well, the province has set-up the Renewable Energy Facilitation Office (REFO), for one-window access to help developers, communities and homeowners obtain information on creating renewable energy projects in Ontario. The REFO can help navigate through the new approvals.
and FIT processes by providing access to information, connecting applicants with the appropriate resources at partner ministries, agencies and governments and setting up a coordinated meeting to discuss project requirements.

For more information, visit the REFO’s website (www.ontario.ca/refo).

With the new regulatory approach to approvals, most renewable energy projects now require an REA from the Ministry of the Environment. Projects that do not need an REA are listed on the following table. These projects may still require separate provincial approvals from the Ministry of Natural Resources (www.mnr.gov.on.ca).
When a facility requires a Renewable Energy Approval, and when it does not

<table>
<thead>
<tr>
<th>Is a Renewable Energy Approval required?</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wind</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wind facilities (Class 1) with a name plate capacity greater than 3 kW</td>
<td></td>
<td>Wind facilities with a name plate capacity less than or equal to 3 kW</td>
<td>Wind facilities equal to or less than 3 kW are typically purchased at hardware and outdoor stores</td>
</tr>
<tr>
<td>Wind facilities (Class 2) over 3 kW but less than 50 kW have fewer pre-submission requirements and do not need to meet the noise, property and road/rail setbacks</td>
<td></td>
<td></td>
<td>Class 1 turbines mounted on buildings may require building permits. For more information, contact the local municipal building department</td>
</tr>
</tbody>
</table>

Certain types of projects are exempt from the need to get an REA because they are small or because they are regulated by other means.
<table>
<thead>
<tr>
<th>Is a Renewable Energy Approval required?</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind</td>
<td>Wind facilities (Class 3) equal to or greater than 50 kW with a sound power level less than 102 dBA have to meet property and road/rail setbacks</td>
<td>Projects must meet additional requirements for proximity to water, noise, natural heritage and cultural heritage, depending on the location of the project</td>
<td></td>
</tr>
<tr>
<td>Wind</td>
<td>Land-based wind facilities (Class 4 or 5) equal to or greater than 50 kW with a sound power level greater than or equal to 102 dBA are also subject to minimum noise setbacks</td>
<td>The structures supporting Class 3 wind turbines require municipal building permits under the Building Code Act, 1992</td>
<td></td>
</tr>
<tr>
<td>Solar</td>
<td>Ground mounted solar facilities (Class 3) with a name plate greater than 10 kW</td>
<td>Ground mounted solar facilities may require municipal building permits. For more information, contact the local municipal building department</td>
<td></td>
</tr>
<tr>
<td>Solar</td>
<td>Ground mounted solar less than or equal to 10 kW (Class 1)</td>
<td>Rooftop and wall mounted solar of any size (Class 1 or 2)</td>
<td></td>
</tr>
<tr>
<td>Solar</td>
<td>Rooftop and wall mounted solar of any size (Class 1 or 2)</td>
<td>Attaching of solar panels to buildings may require municipal building permits. For more information, contact the local municipal building department</td>
<td></td>
</tr>
<tr>
<td>Is a Renewable Energy Approval required?</td>
<td>Yes</td>
<td>No</td>
<td>Comments</td>
</tr>
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<td>----------------------------------------</td>
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<tr>
<td><strong>Bio-energy</strong></td>
<td>Facilities defined in the REA regulation as an anaerobic digestion, biofuel, biogas or thermal treatment facility</td>
<td>Regulated mixed anaerobic digestion facilities or anaerobic digestion facilities processing non-regulated waste on farms are subject to a Nutrient Management Strategy</td>
<td>Anaerobic digestion facilities that did not require a waste certificate of approval and are already regulated by the Nutrient Management Act, 2002 must abide by the setback distances identified in minimum distance separations (MDS), which municipalities use when issuing building permits for construction. Owners/operators of anaerobic digestion facilities must also manage materials according to an approved Nutrient Management Strategy</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>All waterpower facilities</td>
<td>Waterpower facilities are subject to the requirements of the Environmental Assessment Act [e.g. a waterpower class Environmental Assessment (EA) or an individual EA for large projects] and required MOE and Ministry of Natural Resources permits and approvals</td>
<td></td>
</tr>
</tbody>
</table>
Similarly, certain types of projects require approvals from other ministries and approving bodies:

<table>
<thead>
<tr>
<th>Ministry or approving body</th>
<th>When an approval is required</th>
<th>Permit or approval required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Natural</td>
<td>All projects on Crown land</td>
<td>Approval for work permits and/or tenure to occupy Crown land under the Public Lands Act</td>
</tr>
<tr>
<td>Resources</td>
<td>When a project may:</td>
<td>Permits under the Endangered Species Act, 2007 (ESA)</td>
</tr>
<tr>
<td></td>
<td>- Kill, harm, harass, capture, take, possess, transport or collect a species listed as</td>
<td></td>
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<tr>
<td></td>
<td>extirpated, endangered or threatened on the Species at Risk in Ontario List</td>
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</tr>
<tr>
<td></td>
<td>- Will damage or destroy the habitat of an endangered or threatened species on the Species</td>
<td></td>
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<tr>
<td></td>
<td>at Risk in Ontario List</td>
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</tr>
<tr>
<td></td>
<td>All projects involving:</td>
<td>Approval under the Fish and Wildlife Conservation Act (FWCA)</td>
</tr>
<tr>
<td></td>
<td>- The destruction of nests or eggs of birds protected under the FWCA</td>
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<tr>
<td></td>
<td>- The destruction of a beaver dam, the den of a fur bearing mammal (other than a fox or</td>
<td></td>
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<tr>
<td></td>
<td>skunk)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Interference with a black bear in its den</td>
<td></td>
</tr>
<tr>
<td>Ministry or approving body</td>
<td>When an approval is required</td>
<td>Permit or approval required</td>
</tr>
<tr>
<td>---------------------------</td>
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<td>-----------------------------</td>
</tr>
<tr>
<td>Ministry of Natural Resources</td>
<td>Waterpower projects and some water crossings</td>
<td>Location Approval and Plans and Specifications Approval under the Lakes and Rivers Improvement Act</td>
</tr>
<tr>
<td></td>
<td>When a project requires the removal and use of mineral aggregate material from the project location</td>
<td>Aggregate Permit (on Crown land) or license (on private land in a designated area), under the Aggregate Resources Act</td>
</tr>
<tr>
<td></td>
<td>When a facility will use more than 1,000 cubic metres of Crown or private forest resources per year</td>
<td>Forest Resource Processing Facility License under the Crown Forest Sustainability Act, 1994</td>
</tr>
<tr>
<td></td>
<td>When a project requires clearing and removal of Crown timber from the project location</td>
<td>Forest Resource License under the Crown Forest Sustainability Act, 1994</td>
</tr>
<tr>
<td></td>
<td>When a project is proposed in an area already licensed for forest activities</td>
<td>Approval of a withdrawal of land from an area under a Forest Resource License or a Sustainable Forest License, under the Crown Forestry Sustainability Act, 1994</td>
</tr>
<tr>
<td></td>
<td>When a project on Crown land or within a fire region will involve the burning of debris, grass, etc.</td>
<td>Permit under the Forest Fires Prevention Act</td>
</tr>
<tr>
<td>Ministry or approving body</td>
<td>When an approval is required</td>
<td>Permit or approval required</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td>Ministry of Transportation</td>
<td>▪ When project is in a Permit Control Area</td>
<td>▪ Application for Sign Permit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Application for Building and Land Use Permit/Entrance Permit</td>
</tr>
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<td></td>
<td>▪ Application for Encroachment Permit</td>
</tr>
<tr>
<td>Conservation Authority</td>
<td>▪ When the project is in an area regulated by a conservation authority under the Conservation Authorities Act and may affect the control of flooding, erosion, dynamic beaches or pollution</td>
<td>Permit</td>
</tr>
<tr>
<td>Niagara Escarpment Commission</td>
<td>▪ When any renewable energy project is in an area of development control under the Niagara Escarpment Planning and Development Act</td>
<td>▪ Niagara Escarpment Planning and Development Act Development Permit</td>
</tr>
</tbody>
</table>
Key steps in the process

People interested in applying for approvals to engage in a renewable energy project should be aware that they may still be subject to approval by other levels of government.

Under the new requirements, a proposed project must go through the following steps:

Step 1 – Pre-submission work
Before submitting an application for an REA to the Ministry of the Environment, the applicant must:

- Describe the facility and project location
- Assess and mitigate impacts and potential environmental effects associated with the project during:
  - Construction
  - Design and operation
  - Decommissioning
- Engage the public, municipalities and Aboriginal communities in discussions about the project
- If required, obtain a Development Permit issued by the Niagara Escarpment Commission
- Demonstrate how the project will meet setbacks depending on the class of project
- Prepare a report of the findings of any studies, along with their plans for constructing the project, operating and decommissioning the facility

This is the time to register on the Ontario Power Authority (OPA) website (www.powerauthority.on.ca) to gain access to tools and guidance on the requirements for connecting to the electricity grid and to learn about the contract rules of the FIT program. It is suggested that this may also be the time to contact your grid connection authorities (e.g., Hydro One and the Independent Electricity System Operator). The REFO can help you to make these contacts and put you in touch with the right people.

Step 2 – Optional consultation on pre-submission work
Applicants can contact the Ministry of the Environment or the Ministry of Natural Resources to clarify the requirements for their project. In most cases, a coordinated pre-meeting may be appropriate and is highly recommended where a project requires multiple approvals. The REFO can help the applicant set up this meeting. Additionally, this is a good time in the
process to consult with other approving authorities, such as the federal government and conservation authorities (see section 9 for a complete list of helpful contacts).

Step 3 – Complete submission
The applicant provides all of the required information for provincial ministry approvals. This includes an REA application form and supporting forms, diagrams, assessments and reports to the Ministry of the Environment and any documents required by the Ministry of Natural Resources’ Approval and Permitting Requirements document. Note: Depending on the location and nature of a project, applicants may also need to apply to the Ministry of Transportation, the Ministry of Culture or the local conservation authority for a permit. See section 9 for contact details.

Mandatory consultation requirements must also be met for the application to be considered complete (see section 3 for more information on consultation requirements).

Step 4 – Public notice to the Environmental Registry
Once an application is made for an REA, a notice of a proposal is posted on the Environmental Registry by the Ministry of the Environment so the public can review and provide comments.

- Where other permits and approvals are subject to public notice requirements, additional notices may be posted on the Environmental Registry. Ministries will coordinate timing and content of the postings

Step 5 – Decision
After considering an application for the issue or renewal of an REA and all public comments received through the Environmental Registry, the Ministry of the Environment director may do either of the following:

- Issue, renew or amend an REA
- Refuse to issue, renew or amend an REA

The director notifies the applicant of the decision and posts it on the Environmental Registry. In coordination with the REA, other provincial ministries will make a decision on any additional approvals or permits required and, where required,
will post decisions on the Environmental Registry at the same time as the Ministry of the Environment.

If a decision is made to approve the application, the applicant must get any remaining approvals necessary before starting construction. This includes, but is not limited to, a municipal building permit, the notice to proceed under the FIT contract and any federal requirements.

The complete submission

Most new renewable energy projects will require an REA from the Ministry of the Environment under the new approvals process. Depending on the project’s type and location, the applicant can expect to carry out a variety of studies about environmental, archeological and heritage resources and other potential impacts of the proposed project. The complete submission provides information about the applicant and various aspects of the project, including the results of studies. The complete submission includes:

- Project description report
  - Any energy sources to be used to generate electricity at the renewable energy generation facility
  - The facilities, equipment or technology that will be used to convert the renewable energy source or any other energy source to electricity
  - The class of the renewable energy generation facility, if applicable
  - The activities that will be engaged in as part of the renewable energy project
  - The name plate capacity of the renewable energy generation facility
  - The ownership of the land on which the project is to be located
  - Any negative environmental effects that may result from engaging in the project
  - A map showing the project location and the land within 300 metres of the project location

- Construction plan report
  - Details of any construction or installation activities
  - The location and timing of any construction or installation activities for the duration of the construction or installation
- Any negative environmental effects that may result from construction or installation activities within a 300 metre radius of the activities
- Mitigation measures for any negative environmental effects mentioned in the above bullet point

### Consultation report
- A summary of communication with members of the public, Aboriginal communities, and municipalities, local roads boards and local services boards
- Evidence that the information required to be distributed to Aboriginal communities was completed
- Any information provided by an Aboriginal community in response to a request
- Evidence that a consultation form was distributed to municipalities and/or boards
- The completed or partially completed consultation form, if any

### Design and operations report
- A site plan of the project location
- Conceptual plans, specifications and descriptions related to the design and operation of the facility
- An environmental effects monitoring plan with respect to any negative environmental effects that may result from engaging in the project
- A response plan setting out a description of the actions to be taken while engaging in the project
- Shoreline protection measures if the project is located in an area covered by the Lake Simcoe Protection Plan

### Decommissioning plan report
- Procedures for dismantling or demolishing the facility
- Activities related to the restoration of any land and water negatively affected by the facility
- Procedures for managing excess materials and waste
- Additional technical reports as required, based on the type of renewable energy facility, as required by the REA regulation

Beyond these core reports, applicants must include additional studies and information in the REA application. For example, the applicant must show that impacts on archeological and heritage resources are identified, assessed and mitigated, as appropriate. Similarly, the applicant must show that the facility meets setback requirements for significant natural heritage and water features, or, if not,
document a mitigation plan. The applicant must demonstrate that the approach reduces or eliminates the negative impacts to the feature and, for significant natural heritage features, that the Ministry of Natural Resources reviewed its approach.

An applicant may also need to provide additional information for approvals and permits to the Ministry of Natural Resources related to Crown land or resource management activities, including:

- Where the project is on Crown land, information about other Crown land users and how any potential impacts identified by either the government, or users, will be addressed
- Where the project has the potential to negatively affect any species or habitat protected under the Endangered Species Act (ESA), a description of the potential negative effects and the methods proposed to avoid or eliminate the effects. If the effects cannot be avoided or eliminated, the applicant must apply for and be granted a permit under the ESA in order to proceed with the project

Other provincial ministries and agencies may also need to grant permissions for elements of renewable energy projects. For example, the Ministry of Transportation must give an
approval where access roads to a project connect to existing public roads under their jurisdiction.

Third-party hearing

A third-party (anyone other than the applicant or the issuing authority/government) seeking a hearing with respect to an REA must make a request to the Environmental Review Tribunal within 15 days of the posting of the notice of the approval on the Environmental Registry. The Tribunal, which has a regulated timeline under the Environmental Protection Act, must then hold a hearing and make a decision within six months of the request. If the Tribunal does not meet the required timeline requirement, the director’s decision is confirmed. The Tribunal can adjourn the hearing should all parties agree or where it is necessary to ensure a fair and just hearing.

NOTE: Applicants may appeal an REA and some Ministry of Natural Resources decisions. See the Approvals and Permitting Requirements document (www.mnr.gov.on.ca) for more information.
3. Consultation requirements

Most renewable energy projects must meet mandatory consultation requirements before the applicant applies for an approval. Both the applicant and the groups consulted benefit when the process is transparent. Consultation can help shape a project’s design, identify any issues of concern and help build local support.

Consulting with the public

Consultation is important to the success of an applicant’s project and minimum requirements are mandatory for all projects requiring an REA, except small wind projects (see page 40) and on farm bio-energy facilities (see page 58).

At an early stage of project planning, the applicant must notify landowners within 120 metres of the proposed project location and place a notice in a local newspaper.

Applicants must also hold at least two community consultation meetings at the beginning of the process, once the project concept is clear.

The first community consultation meeting takes place at the start of project planning.

At least 60 days before an REA application is made, the applicant must make available for public review any studies related to the project that have been carried out.

A final public consultation meeting is required when the applicant has gathered all of the information needed to make an REA application.
While these two meetings are the minimum requirements set out in the REA regulation, applicants are encouraged to hold additional meetings with the local community throughout the project design and study period. These additional meetings are to ensure the community understands that the requirements set out under the regulations are being met, how potential impacts will be mitigated and to raise awareness about the benefits of the project. All projects for which an REA application has been submitted will be posted on the Environmental Registry for public comment by the Ministry of the Environment at the time of application and upon the issuance of a final decision.

Consulting with municipalities

Municipal consultation is mandatory for all projects requiring an REA, except for small wind projects (see page 40).

Consultation with the municipality (or municipalities) in which the facility would be located is required to take place at least 90 days before submitting an REA application.

The Ministry of the Environment provides applicants with a form that outlines what needs to be addressed with municipal officials. The form requests municipal feedback on matters related to:

- Municipal services and infrastructure (such as the proposed road access)
- The rehabilitation of areas disturbed and/or municipal infrastructure damaged during construction
- Emergency management procedures/safety protocols related to the ongoing management of the facility
If the applicant is not able to provide all of the required information, the complete submission must explain why. In addition, the applicant must describe and document efforts to address any issues raised during municipal consultation.

Consulting with Aboriginal communities

Aboriginal consultation is mandatory for applicants of projects requiring an REA, except for small wind projects (see page 40). The nature of the consultation will vary depending on the project.

The applicant must contact the Ministry of the Environment for a list of Aboriginal communities that must be notified regarding the proposed project. The Ministry of the Environment will give the applicant, on behalf of the Crown, a list of communities that may have a potential interest in the environmental effects of the project or Aboriginal or treaty rights that may be affected by it. If a project is to be located on Crown land, this list will reflect what was already required by the Ministry of Natural Resources as part of the site release process.

The applicant is then encouraged to draw up and carry out a consultation plan. This includes giving notice and project information to Aboriginal communities early in the planning process and making best efforts to meet with them. The applicant must document the results of all consultation they conduct. The documentation is also required to outline any potential adverse affects on Aboriginal or treaty rights identified by the community and the measures proposed to address them.
PROTECTING CULTURAL HERITAGE
AND THE NATURAL ENVIRONMENT
4. Protecting cultural heritage and the natural environment

All projects that require an REA must meet natural heritage, water and cultural heritage requirements. Applicants must also meet requirements if the project is to be in a provincial plan area (e.g. Niagara Escarpment, Oak Ridges Moraine, Lake Simcoe, etc.). In addition, applicants need to assess the impacts their projects may have on endangered species and demonstrate how these impacts will be mitigated. The extent of these requirements and how they apply will differ with the size and scope of the project.

Cultural heritage

Applicants must consider whether the renewable energy project may have an impact on cultural heritage—archaeological or heritage resources.

All applicants must determine whether the project is on a property protected through a by-law, instrument or agreement under the Ontario Heritage Act. If so, the applicant must get authorization from the appropriate body and submit a copy of that authorization as part of their REA application.

In addition, applicants must consider whether the project may have an impact on an archaeological or heritage resource (other than a protected property). The Ministry
of Culture has identified key questions available on the ministry’s website (www.culture.gov.on.ca) to guide applicants in completing this step for both archaeological and heritage resources (e.g., has the project area been subject to recent extensive and deep disturbance?). If the applicant does not find any potential impacts, a written summary of the factors supporting this conclusion are submitted with the application. If this consideration finds that impacts are possible, more detailed assessments will be required. These assessments help to ensure that impacts on archaeological or heritage resources are understood and mitigated. Applicants must submit all assessments to the Ministry of Culture and must include a copy of the Ministry of Culture’s comments with their REA application.

In some cases, applicants have different requirements based on the type of renewable energy project (e.g., a wind facility with a capacity over 3 kW but less than 50 kW). They only have to carry out an archaeological assessment if the project location is:

- Identified on a municipal archaeological management plan
- Within 250 metres of a known archaeological resource
- A provincially-designated archaeological site.

### Natural heritage

The Ontario government protects significant natural features, such as:

- Provincially significant wetlands, including those in coastal areas
- Areas of natural and scientific interest (ANSIs). ANSIs are areas of land and water that represent significant geological and biological features
- Significant woodlands and valleylands
- Significant habitat necessary to sustain wildlife, including birds and bats
- Provincial parks and conservation reserves

These natural features, parks and conservation reserves, are protected by a setback for all elements of a renewable energy project. For most features, and for provincial parks and conservation reserves, the setback is 120 metres with the only exception being a setback of 50 metres from earth science areas of natural and scientific interest.

If the applicant wants to locate the project within the setback, they will have to undertake a study and submit a report, as part of the application, that identifies and assesses any negative environmental effects of the project on the feature (or provincial park or conservation reserve) and identifies the mitigation measures to be undertaken to mitigate those effects.

No projects are allowed within provincially significant wetlands in southern Ontario and provincially significant coastal wetlands, even with a study. As well, no project may be allowed to be located in a provincial park or a
conservation reserve (except where permitted under the Provincial Parks and Conservation Reserves Act).

To help an applicant in protecting these features, the Ministry of Natural Resources will review material in advance of the application being submitted. The Ministry of Natural Resources also provides guidance material to help applicants determine if a feature is significant and offers information on different approaches to minimize environmental effects. Applicants must include a copy of the Ministry of Natural Resources’ comments with their REA application.

Water bodies

A project must normally meet a minimum setback distance of 120 metres from any nearby water body (a water body includes a lake, a permanent or intermittent stream and a seepage area [which includes a spring]. These features are defined in O. Reg. 359/09).

If an applicant is proposing to locate the project within the minimum setback distance from a water body, a water report must be prepared and must accompany the application. That report must identify and assess any negative environmental effects of the project on the water body and must identify mitigation measures in respect of those effects.

In general, the parts of the project related to the transmission lines and associated structures and to the roads, docks, water crossings, culverts, etc. associated with the facility may be allowed within 30 metres of a water body or within the water body itself. However, parts of the project related to the generation equipment, storage facilities and transformer stations may not.

Record, review, site investigation and assessment

The applicant must carry out a review of available records and a physical investigation of the site to determine what types of natural features and/or water bodies are within a minimum 300 metre radius of the proposed project. The applicant will also need to demonstrate they have addressed any negative environmental impacts related to the project. These procedures are also carried out to determine whether a provincial park or conservation reserve is located within the required setback distance. Once completed, an evaluation
of the significance or provincial significance of the natural features may be undertaken.

If the project will be located within the required setback distance of a provincially significant or significant natural feature or a water body or a provincial park or conservation reserve, the next step is to carry out a study and prepare a report on the potential negative environmental effects of the project and on the measures to be taken to mitigate them.

In the case of a report prepared in connection with a provincially significant or significant natural feature, a provincial park or conservation reserve, applicants must submit it to the Ministry of Natural Resources for review and include a copy of the Ministry of Natural Resources’ comments with their REA application.

Provincial parks and conservation reserves

New renewable energy projects are not permitted in provincial parks or conservation reserves except:

- If it is for use by a community that is not connected to the electricity grid
If the site was identified in a Ministry of Natural Resources land use plan before being regulated as part of a provincial park or conservation reserve.

If the electricity is to be used for provincial park or conservation reserve purposes.

Before any project is approved under one of these exceptions, the applicant must satisfy the Ministry of Natural Resources by demonstrating that there are no reasonable alternatives, the lowest cost is not the sole or overriding justification for the request and that all reasonable measures will be undertaken to minimize harmful environmental effect and protect ecological integrity.

**Natural hazard lands**

Renewable energy projects cannot generally be located on shoreline areas subject to hazards from flooding, erosion and/or dynamic beach action, or on hazardous sites. The project may require an approval from a conservation authority or the Ministry of Natural Resources where there is no conservation authority. For more information on restrictions and requirements, contact your local conservation authority, or where there is no conservation authority (see section 9 for a complete list of helpful contacts), see the Ministry of Natural Resources Approval and Permitting Requirements document (www.mnr.gov.on.ca/277097.pdf).

**Provincial plan areas**

The Ontario government has provided protection for several areas within the province to help mitigate the pressures of development and preserve natural or cultural heritage.
These areas are covered by provincial policy plans that set out detailed limits on development of various types. While most provincial plans under the Planning Act (other than the Niagara Escarpment Plan) do not apply to renewable energy projects, the REA regulation provides certain heightened protections in provincial plan areas to maintain the intent of these plans. This section summarizes the controls over renewable energy projects in these protected areas.

**Niagara Escarpment**
If a project would be located within an area where a Development Permit is required, the applicant must meet the requirements of the Niagara Escarpment Planning and Development Act (www.escarpment.org) for obtaining such a permit. If a Development Permit is not issued, the applicant will not meet the REA complete submission requirements and the project cannot proceed. A Development Permit may be required for small renewable energy projects that do not require an REA.

**Oak Ridges Moraine**
If a proposed project will be located in the area covered by the Oak Ridges Moraine Conservation Plan (www.mah.gov.on.ca), the renewable energy facility may not include rapid infiltration basins or rapid infiltration columns. These are prohibited by the Ministry of the Environment regulation and are generally prohibited in connection with other facilities by the Oak Ridges Moraine Conservation Plan.

Proposed projects, in the area covered by the Oak Ridges Moraine Conservation Plan, must follow the general rules set out in the REA regulation to protect provincially significant and significant natural features. In addition, the regulation sets out additional rules for certain natural features that are not covered by the general rules.

As well, the regulation sets out a unique set of rules for the protection of water bodies that apply only to projects located in the area covered by the Oak Ridges Moraine Conservation Plan.

**The Greenbelt**
Proposed projects in the Protected Countryside, which is described in the Greenbelt Plan (www.greenbelt.ca), must follow the general rules set out in the REA regulation to protect provincially significant and significant natural features and water bodies. In addition, the regulation sets out additional rules for certain natural features that are not covered by the general rules.
Far North of Ontario
Projects proposed in the Far North of Ontario may have additional considerations or requirements associated with the Far North Land Use Planning Initiative. See the Ministry of Natural Resources website (www.mnr.gov.on.ca) for more information.

Lake Simcoe
If the proposed project will be located in the Lake Simcoe watershed, as described in the Lake Simcoe Protection Plan (www.ene.gov.on.ca), the Ministry of the Environment regulation requires that the application for the proposed project include, as part of the Design and Operations Report, a description of whether the project will require the alteration of the shore of Lake Simcoe or certain other specified water bodies, how the project will impact these shorelines, how the project will be engaged in to maintain the contour of these shorelines and certain other specified matters.

Endangered species
The Endangered Species Act, 2007 provides a strong framework for the protection and recovery of Ontario’s species at risk and their habitats.
All applicants of renewable energy projects must assess whether species protected under the Endangered Species Act, 2007 or their habitat are present in or near the proposed site. Where they are present, the applicant must assess the potential negative effect of the project on the species or habitat. This should be done in consultation with the district office of the Ministry of Natural Resources. The ministry’s Approvals and Permitting Requirements document (www.mnr.gov.on.ca/277097.pdf) provides more information on how to determine if species at risk are present and when the species and habitat protection provisions of the act apply.
If potential harm to species or habitat is identified, the applicant must look at changes to the project. All reasonable alternatives must be considered and documented in the complete submission. If it is not possible to avoid the project’s impacts through an alternative, the applicant must seek authorization under the Endangered Species Act, 2007. Authorization is given through one of two permits:
- An Overall Benefit Permit if the applicant can show that they can offset the negative effects of the project by taking additional actions that will result in an overall benefit to each individual species affected within a reasonable time.
- A Significant Social or Economic Benefit Permit if the applicant can show that the project will result in a significant social or economic benefit to Ontario.

If protected species or protected habitat is present but the applicant has determined that the project will not have an adverse effect, the complete submission must provide enough information to satisfy the Ministry of Natural Resources of that conclusion.
WIND
What is **wind** power?

Wind facilities rely on the force of wind to generate electricity. In Ontario, large wind facilities generally use turbines with 3 blades to convert wind power into electrical power. Wind speed increases with height above the ground, so wind turbines are usually mounted on tall towers.

As the wind blows over the blades, the rotor spins on its horizontal axis inside a housing at the top of the tower (nacelle) causing a generator to rotate and produce electricity. This electricity is sent through cables to the electricity grid system for distribution and use.

The power and energy output of a wind turbine increases dramatically as the wind speed increases, so power generation is most cost-effective in the windiest areas. Turbines are often clustered together into “wind farms” in such areas. The total cost of delivering the power can vary greatly depending on the proximity of available transmission lines which rules out many remote areas of high wind.

In Ontario, wind is often created because of the different rates at which land and water absorb the heat of the sun. Land heats up much more quickly than water and the air over it rises because of the warmth. Cooler air over nearby water is then pulled toward the land, creating an on-shore breeze. Conversely, land cools more quickly than water so at night the breeze often reverses to off-shore. A substantial area in Ontario is bordered by the Great Lakes, with their huge expanses of water, so these effects help to provide many wind-rich sites. Because these are near existing transmission and distribution systems, they can be very effective in helping to meet Ontario’s energy needs at a reasonable cost.
WIND FACILITY requirements
5. Wind facility requirements

Classes of wind turbine projects

For the purposes of the REA, wind facilities are categorized by class, based on the project’s electrical power output (kW or MW) and turbine sound power level (“loudness”). The provincial requirements vary with the wind facility class:

- **Class 1 wind** facilities generating less than or equal to 3 kW and do not require an REA. The structures supporting free-standing and building-mounted wind turbines may require municipal building permits. For further information, contact the local building department. These turbines typically generate enough energy to power your dishwasher or fridge.

- **Class 2 wind** facilities generating over 3 kW but less than 50 kW. These facilities require an REA, however, the requirements are simplified and there are no mandatory setbacks. These facilities are sometimes called “small...
Wind facilities requirements

"wind" and could support a small group of households or supplement a small commercial operation

- **Class 3 wind** facilities are 50kW and over but are “quieter” and have streamlined requirements. These facilities must meet property and road setbacks but not noise setbacks

- **Class 4 wind** facilities are 50 kW and over and are subject to all REA requirements, including property, road and noise setbacks

- **Class 5 wind** are offshore facilities of various size and configuration. These projects may be subject to Class 4 requirements with additional coastal/natural study requirements

Noise setbacks and the noise matrix

Wind turbines that have a name plate capacity of greater than or equal to 50 kW, that are not located within direct contact with surface water or have a sound power level that is greater than or equal to 102 dBA must meet setbacks based on the wind turbine noise matrix. These setbacks vary with the number of turbines in a facility and their sound power level ("loudness"). Applicants have the option of conducting a noise study to come closer than the setback identified in the matrix up to a minimum setback of 550 metres.

In all cases, the project needs to demonstrate that the facility, as designed, does not exceed a 40 decibel noise level (approximately the noise level in a quiet office or library).

Where roadway noise exceeds 40 dBA, a noise study can be done to determine the appropriate distance.

Property, road and railway setbacks

All turbines 50kW and over must be set back the height of the tower from properties where the land owner is not involved in the project or has not entered into an agreement to allow the turbine to be located closer. This can be reduced to a distance equal to the blade length plus 10 metres where the applicant satisfies the ministry that there are no surrounding land use concerns. These facilities must also be set back a distance equal to blade length plus 10 metres from the right of way for roads and railways.
Conditions of approval

It is expected that several standard conditions of approval will be used in wind facilities requiring an REA. These could include shut-down provisions for high wind, icing or other events seen as posing safety risks, as well as requirements for applicants to properly maintain and operate their equipment.

One-window approval and coordinated review

Various ministries will coordinate the review of REA applications and other permits and approvals, and will share information to ensure each application is complete and adequately satisfies regulatory and/or legislative requirements. The REFO can act as the applicant’s guide through the entire process, should the applicant ask for support.
Federal focus

Applicants are advised to contact the following federal government departments about their wind facilities:

- **Canadian Broadcasting Corporation (CBC):** Requires applicants to comply with Radio Advisory Board of Canada (RABC) and Canadian Wind Energy Association (CanWEA) guidelines and to notify CBC of any proposed wind facilities by emailing eoliennes_windturbines@cbc.ca.

- **Royal Canadian Mounted Police (RCMP):** Requires all applicants with potential wind facilities to contact the RCMP Mobile Communications Services at 613-949-4519 or windfarm_coordinator@rcmp-grc.gc.ca.

- **Transport Canada:** Obstacles such as wind turbines, or any other tall tower, must be assessed for lighting and marking requirements in accordance with Canadian Aviation Regulations. Transport Canada also requires applicants to complete an Aeronautical Obstruction Clearance Form (www.tc.gc.ca). Also, any projects near an airport that may potentially attract birds requires the applicant to contact Transport Canada, Aerodromes and Air Navigation Ontario Region at 416-952-1623 or by email at aerodromes.ontario@tc.gc.ca. A federal environmental assessment under the Canadian Environmental Assessment Act is not triggered by the Canadian Aviation Regulations.

- **Fisheries and Oceans Canada (DFO):** Initial requests for review of projects in or around water that may affect fish and fish habitat are first referred to the local conservation authority. Projects requiring additional review, Fisheries Act authorization and/or assessment under Canadian Environmental Assessment Agency (CEAA) or Species at Risk Act (SARA) are forwarded to DFO. In cases where there is no conservation authority, the local Ministry of
Federal focus

Natural Resources (MNR) district office is the first point of contact for the review of projects in and around water that may affect fish and fish habitat. For any offshore wind facilities, or wind facilities that may impact (directly or through ancillary projects such as water crossings) fish and fish habitat or aquatic species at risk, contact the local conservation authority or local Ministry of Natural Resources district office. Contact information for DFO offices can be found on DFO’s website (www.dfo-mpo.gc.ca).

- Environment Canada: Applicants with land-based and offshore wind facility proposals must contact Environment Canada if the proposed facility has the potential to impact migratory birds in any way. Applicants with proposed land-based and offshore wind facilities that are situated within 80 km of a national weather radar station (http://weatheroffice.gc.ca/radar/index_e.html) must contact Environment Canada, due to potential interference with weather radar signals and their ability to detect severe weather detection. Applicants of offshore wind facilities must contact Environment Canada if the proposed facility has the potential to affect water quality in any way. In addition, Environment Canada holds information that may be of use to the province and applicants in assessing the existing environment and/or its effects on the facility, including climatological records, weather forecasts, ice cover and water level and flow data. Contact the manager, Environmental Assessment Section at 905-336-4953, or EA-EE.ontario@ec.gc.ca.

- Parks Canada: If all or part of a proposed wind facility would occur on or over federal land owned by Parks Canada, or if it has the potential to affect a national park, national park reserve, national historic site, historic canal or national marine conservation area, the applicant is advised to...
Federal focus

contact the office administering the park(s) or site(s) in question. Contact information for national parks offices, national historic sites, and national marine conservation areas can be found on Parks Canada’s website (www.pc.gc.ca).

- Natural Resources Canada (NRCan) seeks to enhance the responsible development and use of Canada’s natural resources and the competitiveness of Canada’s natural resources products. NRCan is an established leader in science and technology in the fields of energy, forests, and minerals and metals and uses expertise in earth sciences to build and maintain an up-to-date knowledge base of Canada’s landmass. As such, NRCan has an interest in projects related to natural resource development and often develops programs to assist (through funding) in the research and development of energy, forestry and mining initiatives. Visit NRCan’s website (www.nrean-rncan.gc.ca) for information on programs that may apply to wind projects.

- Canadian Environmental Assessment Agency (CEAA): The Canadian Environmental Assessment Act (CEAA) may apply to wind projects if federal authorities are contemplating certain action or decisions in relation to a project that would enable it to proceed in whole or in part. A federal environmental assessment may be required when a federal authority is the proponent of the project; provides financial assistance to the proponent; sells, leases or otherwise disposes of federal lands; or issues a permit, licence or any other approval as prescribed in the Law List Regulations. For more information visit the Canadian Environmental Assessment Agency’s website (www.ceaa-acee.gc.ca) or contact the Agency’s Ontario Region Office at ceaa.ontario@ceaa-acee.gc.ca or 416-952-1576.
SOLAR
What is **SOLAR** power?

While all renewable energy is ultimately created by the sun, only solar power depends directly on sunlight to generate electricity. The most common form of solar system for electricity generation in use today is the photovoltaic cell. Systems of this type are called “solar PV.” A solar PV panel consists of several layers. The top one is glass which protects the PV cell from the weather and has a special coating to reduce reflected light from the panel. Inside the cell is a grid made of material, usually a metal, that conducts electricity. Openings in the grid let sunlight reach the semiconductor layer underneath.

It’s in the semiconductor layer that electricity is actually generated. Sunlight is made up of packets of energy called photons, which creates an electric current when it strikes the specially-prepared semiconductor layer. The metal grid gathers and transmits the flow of electricity.

The amount of energy a solar PV panel generates depends on the amount of sunlight that shines on it, therefore, location and orientation are very important. Since the sun moves across the sky throughout the day and is further above the horizon in summer than winter, panels should be tilted to maximize their exposure to sunlight. Stationary panels should face south, and in southern Ontario, the best angle of tilt is approximately 45 degrees. Some facilities use equipment that changes the angle of tilt of the panels to follow the sun throughout the day.
SOLAR FACILITY
requirements
6. Solar facility requirements

Classes of solar facilities

For the purposes of the REA, solar facilities are categorized by class:

- **Class 1 solar** facilities generate over 10 kW and are mounted on a roof or wall. Those proposing to engage in these projects are exempt from requiring an REA or Certificate of Approval. Facilities mounted on buildings may require a municipal building permit. For further information, contact the local building department.

- **Class 2 solar** facilities generate equal to or less than 10 kW and are sometimes called “micro solar”. Those proposing to engage in these projects do not require an REA or a Certificate of Approval.

- **Class 3 solar** facilities are ground mounted and generate over 10 kW. These facilities require an REA and must conduct a noise study.

Applicants should check with their municipal building department about whether a building permit is required.

Noise requirements

Applicants for Class 3 solar facilities must submit a noise study as part of their application for an REA. This noise study assesses the potential impacts at nearby noise receptors (e.g. residence) due to sound emitted by the solar facility’s electrical equipment (e.g. inverters, transformers). The application and noise study submitted is required to demonstrate that the facility, as designed, does not exceed a 40 decibel noise level (approximately the noise level experienced in a quiet office or library). The review engineer will assess the information submitted by the applicant to determine acceptable distance from the solar facility to the nearest residence or other receptor.

Prime Agricultural Land

There are restrictions within the Feed in Tariff contract for locating a solar facility on prime agricultural land. For more information on these restrictions, visit the REFO’s website (www.ontario.ca/refo).
One-window approval and coordinated review

Various ministries will coordinate the review of the complete submission and will share information to ensure each application is complete and adequately satisfies any regulatory and/or legislative requirements. The REFO can act as the applicant’s guide through the entire process, should the applicant ask for support.
Federal focus

Applicants are advised to contact the following federal government departments about their solar energy projects:

- Fisheries and Oceans Canada (DFO): Initial requests for review of projects in or around water that may affect fish and fish habitat are first referred to the local conservation authority. Projects requiring additional review, Fisheries Act authorization and/or assessment under Canadian Environmental Assessment Agency (CEAA) or Species at Risk Act (SARA) are forwarded to DFO. In cases where there is no conservation authority, the local Ministry of Natural Resources (MNR) district office is the first point of contact for the review of projects in and around water that may affect fish and fish habitat. Contact information for DFO offices can be found on DFO’s website (www.dfo.mpo.gc.ca).

- Environment Canada: Applicants with solar facilities that have potential to impact migratory birds and/or their habitat should contact the manager, Environmental Assessment Section, at 905-336-4953, or EA-EE.ontario@ec.gc.ca.

- Parks Canada: If all or part of a proposed solar facility occurs on or over federal land owned by Parks Canada, or if it has the potential to affect a national park, national park reserve, national historic site, historic canal or national marine conservation area, the applicant is advised to contact the office administering the park(s) or site(s) in question. Contact information for national parks offices, national historic sites, and national marine conservation areas can be found on Parks Canada’s website (www.pc.gc.ca).
Federal focus

- Natural Resources Canada (NRCan) seeks to enhance the responsible development and use of Canada’s natural resources and the competitiveness of Canada’s natural resources products. NRCan is an established leader in science and technology in the fields of energy, forests, and minerals and metals and uses expertise in earth sciences to build and maintain an up-to-date knowledge base of Canada’s landmass. As such, NRCan has an interest in projects related to natural resource development and often develops programs to assist (through funding) in the research and development of energy, forestry and mining initiatives. Visit NRCan’s website (www.nrcan-rncan.gc.ca) for information on programs that may apply to solar projects.

- Canadian Environmental Assessment Agency (CEAA): The Canadian Environmental Assessment Act (CEAA) may apply to solar projects if federal authorities are contemplating certain action or decisions in relation to a project that would enable it to proceed in whole or in part. A federal environmental assessment may be required when a federal authority is the proponent of the project; provides financial assistance to the proponent; sells, leases or otherwise disposes of federal lands; or issues a permit, licence or any other approval as prescribed in the Law List Regulations. For more information visit the Canadian Environmental Assessment Agency’s website (www.ceaa-acee.gc.ca) or contact the Agency’s Ontario Region Office at ceaa.ontario@ceaa-acee.gc.ca or 416-952-1576.
BIO-ENERGY
What is **BIO-ENERGY** power?

Energy is stored in organic matter, whether it’s wood for a fireplace or food to power human activity. Bio-energy is the term used to refer to energy produced from living or recently living plants or animals. Sources for bio-energy generation can include agricultural residues, food-processing by-products, animal manure, waste wood, wood chips and bark and even kitchen waste.

The energy in organic matter can be tapped to produce electricity either by burning the raw material or by first turning it into biogas that is then burned. Either way, the heat of combustion drives a turbine or engine to generate electricity. The heat can also be used directly for space heating, as in a combined heat and power facility. Ontario’s forest industry has lengthy experience with bio-energy, as many companies use wood residues to fuel generators and provide steam for processing plants.

The carbon dioxide released when organic matter is burned has been absorbed from the atmosphere recently, so there is no net increase in carbon dioxide, making it a carbon neutral source of energy. Producing bio-energy to create power instead of simply disposing of organic matter can also significantly reduce the risk of contaminating surface and groundwater and promote waste diversion from landfills.
BIO-ENERGY POWER FACILITY

requirements
7. Bio-energy facility requirements

Types of bio-energy projects

- **Thermal treatment** facilities generate electricity through the burning of wood or other solid biomass material.
- **Anaerobic digester** facilities use bacteria to convert solid and liquid bio-energy into a biogas that is similar to natural gas, which is then combusted to generate electricity.
- **Biofuel** facilities use the combustion of biomass-based liquid fuels, such as bio-diesel, to generate electricity.
- **Biogas** facilities combust gases such as captured methane gases generated from landfills to generate electricity.
BIO-ENERGY FACILITY requirements

License to use forest resources

Applicants of all proposed bio-energy projects that will use more than 1,000 cubic metres of private or Crown forest resources annually must obtain a Forest Resource Processing Facility License from the Ministry of Natural Resources (MNR). To obtain a license, an applicant needs to submit an application to MNR as part of their complete submission with a business plan showing their ability to finance, operate and manage the facility and an analysis of the source, species, and volume of the forest resources that will supply the facility.
Bio-energy

There are all kinds of material that come from organic matter, but to qualify as renewable, bio-energy facilities must use biomass, biofuel or biogas as defined under the Electricity Act, 1998 and O. Reg. 160/99 under that act.

Classes of anaerobic digestion facilities

Anaerobic digestion facilities are separated into classes, with varying provincial requirements depending on the facility location (e.g., on a farm), feedstock material (e.g. agricultural wastes), and size (e.g., greater or less than 500 kW).

Setbacks, best management practices and studies

Most farm-based anaerobic digestion facilities have to meet a setback of 250 metres from buildings used by people, such as a residence. In some cases, facilities can implement a set of best management practices to mitigate impacts to reduce a setback to 125 metres. Large industrial facilities will have to submit studies identifying noise, odour and pollutant impacts and how these impacts will be addressed.

Nutrient Management Strategy exemption

Anaerobic digestion facilities that are located on a farm and are already subject to an approved Nutrient Management Strategy under the Nutrient Management Act, 2002 and would not have required a waste Certificate of Approval are exempt from obtaining an REA.

One-window approval and coordinated review

Various ministries will coordinate the review of the complete submission and will share information to ensure each application is complete and adequately satisfies any regulatory or legislative requirements. The REFO can act as the applicant’s guide through the entire process, should the applicant ask for support.
Federal focus

Applicants are advised to contact the following federal government departments about their bio-energy projects:

- Fisheries and Oceans Canada (DFO): Initial requests for review of projects in or around water that may affect fish and fish habitat are first referred to the local conservation authority. Projects requiring additional review, Fisheries Act authorization and/or assessment under Canadian Environmental Assessment Agency (CEAA) or Species at Risk Act (SARA) are forwarded to DFO. In cases where there is no conservation authority, the local Ministry of Natural Resources (MNR) district office is the first point of contact for the review of projects in and around water that may affect fish and fish habitat. For bio-energy facilities that may impact (directly or through ancillary projects such as water crossings) fish and fish habitat or aquatic species at risk, contact the local conservation authority or local Ministry of Natural Resources district office. Contact information for DFO offices can be found on DFO’s website (www.dfo-mpo.gc.ca).

- Environment Canada: Applicants with bio-energy facilities that have potential to impact migratory birds and/or their habitat should contact the manager, Environmental Assessment Section, at 905-336-4953, or EA-EE.ontario@ec.gc.ca.

- Parks Canada: If all or part of a proposed bio-energy facility would occur on or over federal land owned by Parks Canada, or if it has the potential to affect a national park, national park reserve, national historic site, historic canal or national marine conservation area, the applicant is advised to contact the office administering the park(s) or site(s) in question. Contact information for national parks offices, national historic sites, and national marine conservation areas can be found on Parks Canada’s website (www.pc.gc.ca).
Federal focus

- Natural Resources Canada (NRCan) seeks to enhance the responsible development and use of Canada’s natural resources and the competitiveness of Canada’s natural resources products. NRCan is an established leader in science and technology in the fields of energy, forests, and minerals and metals and uses expertise in earth sciences to build and maintain an up-to-date knowledge base of Canada’s landmass. As such, NRCan has an interest in projects related to natural resource development and often develops programs to assist (through funding) in the research and development of energy, forestry and mining initiatives. Visit NRCan’s website (www.nrcan-rncan.gc.ca) for information on programs that may apply to bio-energy projects.

- Canadian Environmental Assessment Agency (CEAA): The Canadian Environmental Assessment Act (CEAA) may apply to bio-energy projects if federal authorities are contemplating certain action or decisions in relation to a project that would enable it to proceed in whole or in part. A federal environmental assessment may be required when a federal authority is the proponent of the project; provides financial assistance to the proponent; sells, leases or otherwise disposes of federal lands; or issues a permit, licence or any other approval as prescribed in the Law List Regulations. For more information visit the Canadian Environmental Assessment Agency’s website (www.cea-acee.gc.ca) or contact the Agency’s Ontario Region Office at cea.ontario@ceaa-acee.gc.ca or 416-952-1576.
WATER
What is **WATER** power?

People have been harnessing the energy of moving water for centuries to power machinery by spinning a waterwheel. In the 19th century, that same principle was used to spin a turbine and generate electricity from waterpower. Ontario, with its abundant lakes and rivers, quickly became a world leader in waterpower production.

Two different approaches are used to produce electricity from waterpower. A project can include a dam to hold back the waters of a river, creating a reservoir of stored water. This allows the facility to alter its power output to help meet changing demand through the day and over the year. Most large waterpower facilities use dams and reservoirs. The second approach is run-of-river. In this approach, the facility depends on the flow of the river itself for its output.

The size of waterpower projects can vary dramatically based on the water supply and the amount of electricity needed. The size categories range from “micro” and “mini,” which are generally stand-alone, to small and large:

- “Micro” installations are 100 kW or less and typically supply enough electricity for a few homes
- “Mini” installations are 100 kW to 1 MW and typically supply electricity for a small factory or an isolated community
- Small installations are 1 MW to 30 MW and are typically connected to the province-wide power grid
- Large installations are over 30 MW and are connected to the grid or power large industrial loads.

Waterpower is an extremely efficient source of energy. According to the Canadian Hydropower Association, modern waterpower plants can convert up to 90 per cent of the available energy into electricity.
WATERPOWER FACILITY
requirements
8. Waterpower facility requirements

The approach to the environmental review of waterpower facilities was streamlined in 2008 with the introduction of the Class Environmental Assessment for Waterpower Projects (Class EA). Waterpower facilities do not require a Renewable Energy Approval. Waterpower facilities are unique by comparison to other types of renewable energy generation facilities as they have site-specific engineering considerations. The current rules for waterpower facilities are customized with clear requirements for considering environmental impacts and working with communities to design better projects in cooperation with government.

The Class EA for Waterpower Projects (October 2008) is the source document for understanding the rules governing the development of waterpower facilities.

Waterpower facilities must also obtain the existing permits and approvals required from the Ministry of the Environment and Ministry of Natural Resources.

The Ministries of the Environment and Natural Resources in consultation with the federal government, will continue to work with the waterpower sector to align approval processes and, where appropriate, reduce the regulatory burden and further streamline approvals processes.

General Information

The Class EA for Waterpower Projects was developed by the Ontario Waterpower Association (OWA). It was approved by the Minister of the Environment and the Lieutenant Governor in Council in 2008.

The Class EA requires applicants to consider the positive and negative potential effects of a proposed project, and the significance of each potential level of effect. Common and/or important issues identified in the Class EA involve fish and fish habitat, water levels and flows, and competing or complementary interests of nearby land owners, water-resource users and water-related natural resource users.

The Class EA only applies to waterpower projects less than 200 megawatts. Projects 200 megawatts or more are subject to an individual EA.
Ontario Waterpower Association (OWA)

The OWA is responsible for:

- Providing education and best practice guidance to applicants
- Reporting to the Ministry of the Environment on the application of the Class EA on an annual basis
- Overseeing requests to alter the Class EA process

For more information about the Class EA for Waterpower Projects, visit the OWA website (www.owa.ca).
Applicants are advised to contact the following federal government departments about their waterpower projects:

- **Transport Canada**: Requires applicants with facilities that will affect a navigable waterway to submit a Navigable Water Protection Act (NWPA) application. For information about the NWPA and to obtain the NWPA application and accompanying guide, please visit the Transport Canada Ontario Region website (www.tc.gc.ca/eng/ontario/menu.htm). To ask questions, contact the Navigable Waters Protection Program of TC Marine Safety at 1-866-821-6631 or NWPOntario@tc.gc.ca. Please note that certain approvals under the Navigable Waters Protection Act trigger the requirement for a federal environment assessment under the Canadian Environmental Assessment Act.

- **Fisheries and Oceans Canada (DFO)**: Initial requests for review of projects in or around water that may affect fish and fish habitat are first referred to the local conservation authority. Projects requiring additional review, Fisheries Act authorization and/or assessment under Canadian Environmental Assessment Agency (CEAA) or Species at Risk Act (SARA) are forwarded to DFO. In cases where there is no conservation authority, the local Ministry of Natural Resources (MNR) district office is the first point of contact for the review of projects in and around water that may affect fish and fish habitat. For waterpower facilities that may impact (directly or through ancillary projects such as water crossings) fish and fish habitat or aquatic species at risk, contact the local conservation authority or local Ministry of Natural Resources district office. Contact information for DFO offices can be found on DFO’s website (www.dfo-mpo.gc.ca).
Federal focus

- Environment Canada: Has an interest in waterpower facilities that have potential to affect the quality of Canadian fisheries waters, or that may affect migratory birds. Environment Canada also has an interest in waterpower facilities that may affect flows and levels at the Canada-U.S. border of international boundary waters, as Environment Canada provides advice to the Department of Foreign Affairs and International Trade about potential approval requirements for such facilities under the International Boundary Waters Treaty Act. In addition, Environment Canada has information that may be of use to the province and applicants in assessing the existing environment and/or its effects on the facility. This information includes climatological records, weather forecasts and water level and flow data. Contact the manager, Environmental Assessment Section, at 905-336-4953, or EA-EE.ontario@ec.gc.ca.

- Parks Canada: If all or part of a proposed waterpower facility would occur on or over federal land owned by Parks Canada, or if it has the potential to affect a national park, national park reserve, national historic site, historic canal or national marine conservation area, the applicant is advised to contact the office administering the park(s) or site(s) in question. Contact information for national parks offices, national historic sites, and national marine conservation areas can be found on Parks Canada’s website (www.pc.gc.ca).

- Natural Resources Canada (NRCan) seeks to enhance the responsible development and use of Canada’s natural resources and the competitiveness of Canada’s natural resources products. NRCan is an established leader in science and technology in the fields of energy, forests, and minerals and metals and uses expertise in earth sciences to build and maintain an up-to-date knowledge base of Canada’s
Federal focus

landmass. As such, NRCan has an interest in projects related to natural resource development and often develops programs to assist (through funding) in the research and development of energy, forestry and mining initiatives. Visit NRCan’s website (www.nrcan-ncan.gc.ca) for information on programs that may apply to waterpower projects.

- Canadian Environmental Assessment Agency (CEAA): The Canadian Environmental Assessment Act (CEAA) may apply to waterpower projects if federal authorities are contemplating certain action or decisions in relation to a project that would enable it to proceed in whole or in part. A federal environmental assessment may be required when a federal authority is the proponent of the project; provides financial assistance to the proponent; sells, leases or otherwise disposes of federal lands; or issues a permit, licence or any other approval as prescribed in the Law List Regulations. There may be an opportunity to coordinate federal and provincial environmental assessment processes. For more information visit the Canadian Environmental Assessment Agency’s website (www.ceaa-acee.gc.ca) or contact the Agency’s Ontario Region Office at ceaa.ontario@ceaa-acee.gc.ca or 416-952-1576.
9. Helpful contacts

Renewable Energy Facilitation Office
Ministry of Energy and Infrastructure
Ph: 1-877-440-REFO (7336)
   (416) 212-6582
Fax: (416) 314-2175
REFO@ontario.ca

Renewable Energy Team
Environmental Assessment and Approval Branch
Ministry of the Environment
Ph: 1-800-461-6290
   (416) 314-8001
Fax: (416) 314-8452
EAABgen.moe@ontario.ca

Renewable Energy Program
(for policy development and
Crown Land Site Release information)
Ministry of Natural Resources
Ph: (705) 755-5041
Fax: (705) 755-1206
tenable.mnr@ontario.ca

Ministry of Natural Resources
Regional and District Offices
(for project development/review information)
Please visit www.mnr.gov.on.ca or call
1-800-667-1940 for office contacts and locations

Ministry of Transportation
Corridor Management and Property Section
301 St. Paul Street
St. Catharines, ON
L2R 7R4
Ph: 905-704-2250
www.mto.gov.on.ca

Conservation authorities
(for information and contact details for all of
Ontario’s conservation authorities)
Conservation Ontario
Ph: (905) 895-0716
Fax: (905) 895-0751
info@conservationontario.ca
www.conservation-ontario.on.ca
Canadian Broadcasting Corporation
(for wind projects)
eoliennes_windturbines@cbc.ca

Royal Canadian Mounted Police
(for wind projects)
RCMP Mobile Communications Services
Ph: (613) 949-4519
windfarm_coordinator@rcmp-grc.gc.ca

Transport Canada
Aerodromes and Air Navigation Ontario Region
Ph: (416) 952-1623
aerodromes.ontario@tc.gc.ca

Fisheries and Oceans Canada
Ph: (613) 993-0999
info@dfo-mpo.gc.ca

Environment Canada
Environment Assessment Section
Ph: (905) 336-4953
EA-EE.ontario@ec.gc.ca

Parks Canada
Ph: 1-888-773-8888

Natural Resources Canada
Ph: (613) 995-0947

Canadian Environmental Assessment Agency
Ontario Region Office
Ph: (416) 952-1576
ceaa.ontario@ceaa-acee.gc.ca
Technical Bulletin One
Guidance for preparing the Project Description Report

as part of an application
under O.Reg.359/09

Draft document posted for public comment on the Environmental Registry March 1, 2010

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PIBS 7436e
Disclaimer: This technical bulletin should not be construed as legal advice. Please review Ontario Regulation 359/09. If you have any questions about the application or interpretation of this regulation you should consult a lawyer.
1. Purpose of this Technical Bulletin

The purpose of this Project Description Report (PDR) Technical Bulletin is to provide direction and guidance to persons proposing to engage in a Renewable Energy Project to which the process established under the Renewable Energy Approval Regulation (O. Reg. 359/09) applies. In particular, this document addresses the PDR identified in item 10 of Table 1 in O. Reg. 359/09 (See Appendix 1).

The PDR is part of an application for a Renewable Energy Approval (REA) from the Ministry of the Environment (MOE), but may also be reviewed in relation to other permit and approvals required from the Ministry of Natural Resources (MNR), Ministry of Tourism and Culture (MTC) and Ministry of Transportation (MTO). It is recommended that in the PDR applicants consider, where appropriate, identifying any additional information required by these ministries for their respective decisions.

Applicants must prepare a PDR for all proposed renewable energy projects in accordance with item 10 of Table 1 in O. Reg. 359/09. Currently, wind, solar and bio-energy projects are subject to O. Reg. 359/09. Waterpower projects will continue to be subject to the Waterpower Class Environmental Assessment, 2008.

The PDR requires applicants to describe the renewable energy project and any potential negative environmental effects. Applicants will use their PDR as a tool to communicate a description of their proposed project, including any negative environmental effect that may result from engaging in the project, to the public, municipalities, Aboriginal communities and the regulators.

Early in the process, a draft of the PDR will be submitted to the Renewable Energy Approval Director at the Ministry of the Environment (REA Director). The draft PDR will be used to identify the Aboriginal communities that have or may have constitutionally protected rights or otherwise may be interested in any negative environmental effect of the project. Specific information and guidance about the identification of the Aboriginal communities can be obtained from the MOE.

The draft PDR must be made available for a period of time to the public, Aboriginal communities and municipalities for their inspection prior to applicants submitting an application to the REA Director in MOE.

For projects that will be proposed on Crown land, applicant is encouraged to provide a copy of the PDR to those with Crown interests (i.e. mine claim holders, licensed bait fish operators, licensed trappers etc.) as well. Specific guidance on consultation can be found in the “Technical Bulletin # 5: Guidance for preparing the Consultation Report as part of an application under O.Reg. 359/09.”

Once all required studies and consultation activities are complete and prior to applying for a Renewable Energy Approval, applicants, as part of a complete submission, should update the PDR to reflect the findings of and input from all required studies and consultation activities completed for the project.
It is highly recommended that at the early stages of the process, applicants contact MOE, Ministry of Energy and Infrastructure - Renewable Energy Facilitation Office, MNR, MTO and/or MTC for information and guidance on the requirements related to the preparation of the PDR and the overall process. An agency contact list can be found in Appendix 2 of this Technical Bulletin.

For specific guidance on off-shore wind projects, applicants should contact the MOE’s Renewable Energy Approval Unit and the MNR’s District Offices.

2. Key Definitions
When preparing a PDR it is important to consider some key definitions. For example, it is critical to understand the definitions of “renewable energy generation facility” and “renewable energy project”. The terms are not interchangeable. A list of key definitions is included in the Appendix 3 of this Technical Bulletin.


3.1. General Information
The general information that applicants are encouraged to provide in the PDR includes:

- The name of the project
- A description of the project location (refer to the definition of project location under the Appendix 3. Key Definitions section of this Technical Bulletin)

3.2. Contacts
The contact information that applicants are encouraged to provide in the PDR includes:

- The name of the applicant and, if any, co-applicant
- The name of a project consultant representing the applicant
- Contact information (address, telephone, fax, e-mail) of the applicant and consultant

3.3. Authorizations Required
In this part of the PDR, it is recommended that applicants provide information relating to all required or applicable permits, licences and authorizations, other than the REA approval, that applicants believe must be obtained for the project to proceed. For example, this may include MNR, MTO, MTC and Conservation Authority approvals etc.

3.4. Federal Involvement
It is recommended that applicants provide information on other environmental assessment (EA) regimes to which the project has been or could be subjected (i.e., Federal EA) as well as information on the status of the Federal EA process, responsible authorities, and contact persons.

4. Project Information

4.1. Energy Sources
Applicants must describe any sources of energy that are proposed to be used to generate electricity, including all supplementary fuel sources that may be used in generating renewable energy.

4.2. Project Components

Applicants must further describe the project by identifying the facilities, equipment, and technology that will be used to convert any energy source to electricity. In this section, applicants must discuss the main components of the project, including any permanent and temporary structures, associated infrastructure, associated construction and type of equipment used, including but not limited to, model/type of technology used, equipment specifications, transmission components, and transformer areas.

For the examples of facilities, equipment and technology please refer to the table below:

<table>
<thead>
<tr>
<th>Electricity Generation Components</th>
<th>Associated Facilities/Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wind</strong></td>
<td>Roads</td>
</tr>
<tr>
<td>Wind turbine information, including make, model, name plate capacity, tower height, hub height above grade, blade length, blade sweep area, rotational speeds and acoustic emissions data, including the sound power level and frequency spectrum, in terms of octave-band sound power levels.</td>
<td>Transmission lines</td>
</tr>
<tr>
<td>Transformer</td>
<td>Laydown areas</td>
</tr>
<tr>
<td>Temporary office buildings</td>
<td>Storage infrastructure</td>
</tr>
<tr>
<td>Water crossings (e.g. bridges)</td>
<td></td>
</tr>
<tr>
<td><strong>Bio-energy</strong></td>
<td>Roads</td>
</tr>
<tr>
<td>Combustion/thermal treatment equipment, generator, air pollution control equipment, feed and waste handling equipment etc.,</td>
<td>Transmission lines</td>
</tr>
<tr>
<td>Solar module information, including make, model, name plate capacity, size, dimensions, number of modules etc., Solar thermal, generators, pressure vessels and solar photovoltaic cells</td>
<td>Transformers</td>
</tr>
<tr>
<td>Temporary office buildings</td>
<td>Storage infrastructure</td>
</tr>
<tr>
<td>Water crossings (e.g. bridges)</td>
<td></td>
</tr>
<tr>
<td><strong>Solar</strong></td>
<td>Roads</td>
</tr>
<tr>
<td>Wind Turbine: wind turbine information, including make, model, name plate capacity, hub height above grade, rotational speeds and acoustic emissions data, including the sound power level and frequency spectrum, in terms of octave-band sound power levels.</td>
<td>Transmission lines</td>
</tr>
<tr>
<td>Foundation technologies: monopile or</td>
<td>Transformers</td>
</tr>
<tr>
<td><strong>Offshore Wind</strong></td>
<td>Laydown areas</td>
</tr>
<tr>
<td>Wind Turbine: wind turbine information, including make, model, name plate capacity, hub height above grade, rotational speeds and acoustic emissions data, including the sound power level and frequency spectrum, in terms of octave-band sound power levels.</td>
<td>Storage infrastructure</td>
</tr>
<tr>
<td>Foundation technologies: monopile or</td>
<td>Temporary office buildings</td>
</tr>
<tr>
<td>Water crossings (e.g. bridges)</td>
<td></td>
</tr>
</tbody>
</table>
4.3. Renewable Energy Generation Facility Classes
In this part of the report, applicants must identify the class (or classes) of the renewable energy generation facility being proposed. Facilities are classified in Part II of O. Reg. 359/09. Applicants are encouraged to provide technical documents, such as wind turbine model specifications from the producer company in support of justification of the project categorization/classification.
If the facility does not have a recognized classification (e.g. solar thermal), that must be noted. The requirements for all renewable technologies are summarized in Appendix 4 of this document.

4.4. Project Activities
In this part of the PDR, applicants must:
- describe any of the regulated activities (construction, installation, use, operation, changing and retiring) that will be engaged in as part of the project,
- describe the facility phases and the timing and scheduling of each phase for a new facility or for the expansion of or modification to an existing facility (e.g., time of year, frequency and duration),
- identify the nature of any solid, liquid or gaseous wastes, air and noise emissions likely to be generated while engaging in the project, and of plans to manage these wastes,
- describe disposal procedures for any toxic or hazardous materials to be used or any by-products to be generated while engaging in the project,
- describe sewage and stormwater management, and
- describe any water-taking activity.

4.5. Nameplate Capacity
In this part of the PDR, applicants must describe the nameplate capacity, meaning, the total of the design electricity generating capacities of all the generation units in or at the facility or the part of the facility. For wind projects, this will include nameplate of each turbine, number of turbines, and total nameplate capacity.

4.6. Land Ownership
Applicants must clearly identify if the land is owned by the Crown or is privately owned. A legal description of the parcels of the land that will be used for the proposed renewable energy
generation facility must be provided for private land and Crown land, where available, at time of application.

4.7. Description of Environmental Effects
In this section of the PDR potential negative environmental effects that may result from engaging in a renewable energy project must be described. Applicants may also describe any positive environmental effect that may result from engaging in a renewable energy project, should they choose to do so.

For the purposes of the PDR, applicants are expected to provide a summary of negative environmental effects that may be resulting from engaging in the construction, installation, operation, use and retirement of a renewable energy generation facility. It is strongly recommended that applicants complete a preliminary records review and a preliminary site visit for an area within a minimum 300 metres radius of the project location. Preliminary site visit can be a walkabout that will help applicants verify the information they gathered through the preliminary records review. Applicants must include a map showing the project location and land within 300 metres of the proposed project location (see section 3.2.8 Project Location Map). Photos or videos that were used or developed as part of the preliminary site visit should also be included.

In the PDR, applicants must determine whether the project is located within the required setback distances as described in O.Reg. 359/09. If the project will be located within the setbacks, applicants are required to prepare required additional studies and submit them as part of the REA application.

The description of potential negative environmental effects will help inform the applicants’ approach to obtaining input and information specific to planning and assessing the project. Applicants are encouraged to consult with relevant federal and provincial agencies and municipal authorities, qualified persons, potentially affected and interested individuals and the public when identifying potential negative environmental effects.

For the purposes of the PDR, applicants are expected to consider any potential negative effect on the following:

4.7.1. Heritage and Archaeological Resources
In accordance with O.Reg 359/09, applicants must consider whether the renewable energy project may have a negative effect on cultural heritage in the project location including:

- protected properties,
- archaeological resources, or/and
- heritage resources.

For the purposes of the PDR, it is recommended that applicants complete a Stage I Archaeological Assessment and a pedestrian survey.

In accordance with O.Reg 359/09 applicants must submit a Cultural Heritage and/or Archaeological Assessment study to the MTC for review and comment. A copy of the
assessments and the MTC’s comments as well the sign-off or clearance must be submitted as part of the REA application to the MOE.

In preparing the required studies, applicants should contact the MTC for guidance early in the process.

4.7.2 Natural Heritage Resources
Applicants are expected to consider whether the proposed renewable energy project may have an impact on natural heritage features including but not limited to waterbodies, wetlands, woodlots, valleylands, wildlife habitat, provincial parks, and conservation areas. In the PDR, applicants are expected to demonstrate proximity to important wetlands (significant, provincially significant and other), woodlots, valleylands, wildlife habitat, conservation reserves and provincial parks.

It is the ministry’s expectation that applicants provide a summary of any potential negative environmental effect on the natural features listed above as well as on species of flora or fauna or their habitat, protected natural areas such as ANSIs or other significant natural areas, and locally important or valued ecosystems or vegetation, if there is any within the 300 m radius of the project location.

For natural features, it is recommended that the PDR includes a summary of the findings of the preliminary records review supported by a preliminary site visit i.e. a walkabout.

In accordance with O.Reg. 359/09 a Natural Heritage Assessment study should be prepared and submitted to the Ministry of Natural Resources for review and comment. The comments provided by the MNR must be submitted to the MOE as part of the REA application.

4.7.3 Water Bodies
Applicants are expected to consider whether the proposed renewable energy project may have an impact on water bodies both surface (e.g. lake, a permanent stream, an intermittent stream and a seepage area) and ground water. Applicants are expected to demonstrate:

- proximity of the project location to water bodies including lake, a permanent stream, an intermittent stream and a seepage area
- physical characteristics of the waterway (e.g., length, width, depth, seasonal flow and fluctuations, high water mark)

Applicants are expected to describe any potential negative environmental effect
- on surface water quality, quantities or flow,
- on ground water quality, quantity or movement,
- on significant sedimentation, soil erosion or shoreline or riverbank erosion on or off site, and
- on surface or ground water from accidental spills or releases to the environment.
For the water bodies, it is recommended that the PDR includes a summary of the preliminary records review supported by the findings of a preliminary site visit (i.e. a walkabout).

4.7.4. Air, Odour, Dust
Applicants are expected to describe any negative effect that would result from engaging in a project on air quality due to emissions of contaminants, including but not limited to, nitrogen dioxide, sulphur dioxide, suspended particulates; emission of greenhouse gases (CO2, methane); and any negative effects from the emission of dust or odour.

4.7.5. Noise
Applicants are expected to describe any potential negative environmental effect from the emission of noise.

4.7.6. Land Use and Resources
Applicants are expected to provide a description of past and current land uses within a minimum of 300 metres of the project location and provide information about local business and facilities, any aggregate resources, landfill sites, petroleum wells, recreation areas, forest resources etc. within this area. Applicants are expected to describe any potential negative effect on the availability of the resources and on the current land uses. It is also expected that any potential negative effect on telecommunications network (radar, radio etc) be described.

Applicants are also expected to describe any potential contamination of the site from past land uses and a need for obtaining a Record of Site Condition.

4.7.7. Provincial and Local Infrastructure
In this section of the PDR, applicants are expected to describe any negative environmental effect on provincial and local services and infrastructure, including but not limited to impacts to road capacity and local traffic. It is recommended that applicants contact MTO early in the process to determine any permit requirements.

4.7.8. Public Health and Safety
Applicants are expected to describe any negative environmental effect on public health and safety.

4.7.9. Areas Protected under Provincial Plans and Policies
Applicants are also expected to determine if any part of the project location is proposed in the following provincial plans:

- In the Protected Countryside and or Natural Heritage System as described in the Greenbelt Plan and Greenbelt Act.

If the proposed renewable energy generation facility is located in the Protected Countryside as described in the Greenbelt Plan, applicants are expected to provide a records review supported by a preliminary site visit to describe any natural features including a sand barrens,
a savannah, a tallgrass prairie and an alvar for the location in which the proposed renewable energy generation facility will be built.

- **In the Oak Ridges Moraine Conservation Plan Area**

  If any part of the project location is within the area designated as Oak Ridges Moraine, applicants are expected to provide a records review supported by a preliminary site visit to describe the natural features including water bodies, a sand barrens, a savannah and a tallgrass prairie and Landform Conservation Areas in the project location that is in the portion of the Oak Ridges Moraine Conservation Plan (ORMCP) Area that is subject to the ORMCP.

- **In the Niagara Escarpment Plan Area**

  If the proposed renewable energy generation facility will be located in the Niagara Escarpment Plan (NEP) area applicants will:
  - provide information about land use designations for the area on which the renewable energy generation facility is proposed to be built,
  - discuss whether the proposed renewable energy generating facility is a permitted use and any permit requirements; and
  - where required under the NEP, submit a copy of the permit obtained from the Niagara Escarpment Commission as part of the REA application.

  Applicants should note that in order to make a decision on a development permit application, the Niagara Escarpment Commission (NEC) may require information other than the information referenced in this Technical Bulletin. It is recommended that applicants contact the NEC as early as possible for a complete list of information that will be required. Applicants are also encouraged to set-up a meeting with the MOE and NEC, early in the process, to discuss all the requirements for the projects that will be proposed within the NEP area.

- **In the Lake Simcoe Watershed Plan Area**

  If any part of the project location is within the Lake Simcoe Protection Plan Area applicants will describe whether the project requires alteration of the shore of Lake Simcoe, the shore of a fresh water estuary of a stream connected to Lake Simcoe or other lakes or any permanent or intermittent stream.

**4.8 Project Location Map**

Applicants must submit an unbound, well marked, legible and reproducible map that is an appropriate size to fit on a 215 millimetre by 280 millimetre page, showing the project location.

The map should:
- identify and briefly describe on-site land uses on the project location,
- identify and describe the off-site land uses within minimum 300 metres of the project location,
• for a project proposed to be built on Crown land, illustrate Crown land users (i.e. Land Use permits, claims, cabins, camps, trap lines),
• illustrate the features identified in the records review including the areas protected under provincial policies and plans, and
• illustrate the required setbacks.

The definitions and setback requirements for natural features and water bodies are summarized in Appendix 5 of this Technical Bulletin.
### Appendix 1. Relevant Sections of Table 1 from O.Reg.359/09

<table>
<thead>
<tr>
<th>Name of document</th>
<th>Requirements</th>
<th>Renewable energy project</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Project description report</td>
<td>Set out a description of the following in respect of the renewable energy project: Any energy sources to be used to generate electricity at the renewable energy generation facility. The facilities, equipment or technology that will be used to convert the renewable energy source or any other energy source to electricity. If applicable, the class of the renewable energy generation facility. The activities that will be engaged in as part of the renewable energy project. The name plate capacity of the renewable energy generation facility. The ownership of the land on which the project location is to be situated. Any negative environmental effects that may result from engaging in the project. An unbound, well marked, legible and reproducible map that is an appropriate size to fit on a 215 millimetre by 280 millimetre page, showing the project location and the land within 300 metres of the project location.</td>
<td>Any renewable energy project.</td>
</tr>
</tbody>
</table>
Appendix 2. Agency Contact List

Ministry of Energy and Infrastructure - Renewable Energy Facilitation Office
E-mail: REFO@ontario.ca
Toll-free: 1-877-440-REFO (7336)
Within the GTA: (416) 212-6582

Ministry of Tourism and Culture
900 Bay Street
5th Floor, Mowat
Toronto, Ontario M7A 1L2
Telephone: 416-212-0644
Toll free: 1-866-454-0049
Email: info.mcl@ontario.ca

MOE - Environmental Assessment and Approvals Branch

Renewable Energy Approval Unit
2 St. Clair Avenue West, Floor 12A
Toronto ON M4V 1L5
Phone: 416-314-8001
Toll free: 1-800-461-6290
Fax: 416-314-8452
E-mail: eaabgen.moe@ontario.ca

MOE – Regional Offices
Northern Region

Thunder Bay Regional Office
Suite 331
435 James St. S.
3rd Floor
Thunder Bay ON
P7E 6S7
Toll free from area codes 705/807: 1-800-875-7772
Tel: (807) 475-1205
Fax: (807) 475-1754

Kenora Area Office
808 Robertson St.
P. O. Box 5150
Kenora ON
P9N 3X9
Toll free from area code 807: 1-888-367-7622
Tel: (807) 468-2718
Fax: (807) 468-2735

North Bay Area Office
191 Booth Road
Unit 16 & 17
North Bay
P1A 4K3
Toll free: 1-800-609-5553
Tel: (705) 497-6865
Fax: (705) 497-6866

Sault Ste Marie Area Office
289 Bay Street
3rd Floor
Sault Ste. Marie ON
P6A 1W7
Tel: 705-942-6354
Fax 705-942-6327
Sudbury District Office
Suite 1201
199 Larch St.
Sudbury ON
P3E 5P9
Toll free from area codes 705/807: 1-800-890-8516
Tel: (705) 564-3237
Fax: (705) 564-4180

Thunder Bay District Office
Suite 331
435 James St. S.
Thunder Bay ON
P7E 6S7
Toll free from area code 705/807: 1-800-875-7772
Tel: (807) 475-1315
Fax: (807) 475-1754

Timmins District Office
Ontario Govt. Complex
Hwy 101 East
P.O. Bag 3080
South Porcupine ON
P0N 1H0
Toll free in area codes 705/807: 1-800-380-6615
Tel: (705) 235-1500
Fax: (705) 235-1520

Central Region
Central Region Office
5775 Yonge St.
8th floor
North York ON
M2M 4J1
Toll free: 1-800-810-8048
Tel: (416) 326-6700
Fax: (416) 325-6345

Metro Toronto District Office
5775 Yonge St.
8th Floor
North York ON
M2M 4J1
Toll free: 1-800-810-8048
Tel: (416) 326-6700
Fax: (416) 325-6346

Barrie District Office
54 Cedar Pointe Dr.
Unit 1203
Barrie ON
L4N 5R7
Toll free: 1-800-890-8511
Tel: (705) 739-6441

Halton-Peel District Office
4145 North Service Road
Suite 300
Burlington ON
L7L 6A3
Toll free: 1-800-335-5906
Tel: (905) 319-3847
Fax: (905) 319-9902

York-Durham District Office
230 Westney Rd. S.
5th Floor
Ajax ON
L1S 7J5
Toll free: 1-800-376-4547
Tel: (905) 427-5600
Fax: (905) 427-5602
Toll free: 1-800-263-1035
Tel: (905) 704-3900
Fax: (905) 704-4015

Southwestern Region

**London Regional Office**
2nd Floor.
733 Exeter Road
London ON
N6E 1L3
Toll free number from area code 519: 1-800-265-7672
Tel: (519) 873-5000
Fax: (519) 873-5020

**Owen Sound Area Office**
101 – 17th Street East
Owen Sound ON
N4K 0A5
Toll free number from area code 519: 1-800-265-3783
Tel: (519) 371-2901
Fax: (519) 371-2905

**Windsor Area Office**
4510 Rhodes Drive
Unit 620
Windsor ON
N8W 5K5
Toll free number: 1-800-387-8826
Tel: (519) 948-1464
Fax: (519) 948-2396

**Sarnia District Office**
1094 London Rd.
Sarnia ON
N7S 1P1
Toll free number: 1-800-387-7784
Tel: (519) 336-4030
Fax: (519) 336-4280

Ministry of Natural Resources

*Main MNR Office Locations*

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Office - Peterborough</td>
<td>300 Water Street, P.O. Box 7000, Peterborough, Ontario, K9J 8M5</td>
<td>(705) 755-2000 (local) 1-800-667-1940 (toll free) 1-866-686-6072 (TTY - Hearing Impaired)</td>
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<td>(Natural Resources Information Centre)</td>
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<td>Minister's Office</td>
<td>6th Floor, Room 6630, Whitney Block, 99 Wellesley St. W., Toronto, Ontario, M7A 1W3</td>
<td>(416) 314-2301</td>
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<td>Deputy Minister's Office</td>
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<td>Rabies Research and Development Unit</td>
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*Northwest Region MNR Offices*
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<td>Sudbury</td>
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<td>Wawa</td>
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<td>Aylmer</td>
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<td>Chatham</td>
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<td>Clinton</td>
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<td>1 Stone Road West, N1G 4Y2</td>
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<td>Kemptville</td>
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<td>Tweed</td>
<td>Field Office, Postal Bag 70, Old Troy Road, K0K 3J0</td>
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Appendix 3. Key Definitions

Renewable Energy Generation Facility

Under the Electricity Act, 1998, a “renewable energy generation facility” (REGF) is a generation facility that generates electricity from a renewable energy source and must meet criteria prescribed by regulation. It includes associated or ancillary equipment, systems and technologies as may also be prescribed by regulation, but does not include an associated waste disposal site, unless the site is prescribed by regulation for the purposes of this definition.

Under s O. Reg. 160/99 (Definitions and Exemptions) made under the Electricity Act, 1998, this definition is expanded in subsections 1(4) to 1(6) to stipulate that:

(4) For the purposes of the definition of “renewable energy generation facility” in the Electricity Act, 1998, the following associated or ancillary equipment, systems and technologies are prescribed:
1. Transmission or distribution lines of less than 50 kilometres in length that are associated with or ancillary to a renewable energy generation facility.
2. Transformer stations or distribution stations that are associated with or ancillary to a renewable energy generation facility.
3. Any transportation systems that are associated with or ancillary to the provision of access to a renewable energy generation facility, during the construction, installation, use, operation, changing or retiring of a renewable energy generation facility.

(5) For the purposes of subsection (4), the following apply:
1. A distribution line is associated with or ancillary to a renewable energy generation facility if the line is used to distribute electricity within the facility or from the facility to the distribution system of the distributor in whose distribution service area the renewable energy generation facility is located.
2. A transmission line is associated with or ancillary to a renewable energy generation facility if the line is used to transmit electricity within the facility or from the facility to the IESO-controlled grid.
3. A transformer station or distribution station is associated with or ancillary to a renewable energy generation facility if the station is used to transform the voltage of electricity at the facility, on a transmission line or on a distributor’s distribution system which is associated with or ancillary to the facility.
4. A transportation system includes all transportation systems constructed solely to provide access to the renewable energy generation facility, including transportation systems on Crown land, but does not include a highway which is intended for or used by the general public for the passage of vehicles.

(6) For the purposes of the definition of “renewable energy generation facility” in the Act, the following classes of waste disposal sites are prescribed:
1. A waste disposal site where the material referred to in clause (b) of the definition of biogas is subject to anaerobic digestion.
2. A waste disposal site where biomass is thermally treated.
A renewable energy generation facility includes any permanent and temporary structures, equipment or other things required to generate electricity as well as the associated or ancillary equipment, systems and technologies prescribed in O. Reg. 160/99 above.

**Renewable Energy Project**

A “renewable energy project” is defined in the Green Energy Act, 2009 and consists of a series of activities “construction, installation, use, operation, changing or retiring” in respect of a renewable energy generation facility.

**Project Location**

The “project location” is defined in O. Reg 359/09 to mean, when used in relation to a renewable energy project, a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project;

This includes all land, buildings or structures where a person will engage in a renewable energy project including during the construction, installation, operation and use, changing or retiring of the facility. The project location does not simply include the land (buildings and structures) on, in or over which the facility is located but the land (buildings or structures) on, in or over which the construction or installation activity will take place and where the operation or use of the facility will take place. The project location also includes any air space in which a person is engaging in or proposes to engage in a project.

**Negative Environmental Effect**

In the REA regulation, a reference to a “negative environmental effect” is a reference to a negative effect that will be caused or that might reasonably be expected to be caused to the environment. O. Reg. 359/09, s. 2.

**Environment**

In the REA regulation, “environment” has the same meaning as in Part V.0.1 of the Environmental Protection Act and this is the same definition as under the Environmental Assessment Act. The “environment” means,

(a) air, land or water,
(b) plant and animal life, including human life,
(c) the social, economic and cultural conditions that influence the life of humans or a community,
(d) any building, structure, machine or other device or thing made by humans,
(e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or
(f) any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario.
Applicant

While not defined an “applicant” means a person who proposes to engage in a renewable energy project.

Application

The ‘application” means an application for a renewable energy approval under the REA regulation - O. Reg. 359/09.
### Appendix 4. REA requirement summary tables for renewable energy facilities by technology

#### Solar

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<th>Class 2 Roof/wall &gt; 10 kW</th>
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<td>road noise</td>
<td>road noise</td>
<td>road noise</td>
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* in direct contact with surface water other than in a wetland
+ depends on the number of turbines that form part of the facility or are located within 3 km of a noise receptor
## Bio-energy
*(Anaerobic Digestion, Biofuel, Biogas)*

<table>
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**Note 1:** Note that anaerobic digestion facilities located at a farm operation are exempt from heritage requirements. However, archaeological assessments are required for farm based AD facilities when these facilities are located on a property designated as an archaeological site under Regulation 875 under the Ontario Heritage Act, or a known archaeological resources within 250 m.

**Note 2:** Class 2 anaerobic digestion facilities must submit a hydrogeological assessment when the prescribed construction and siting standards for nutrient storages in section 10 or 13 of the Nutrient Management Strategies Regulation O. Reg. 267/03 do not apply.

**Note 3:** Class 1 and 2 anaerobic digestion facilities greater than 500kW may be sited closer than the setback if the applicants submit an ESDM report, noise study report, and odour study report.
## Bio-energy

(Thermal Treatment)

<table>
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<tr>
<td>Lower Setback with studies</td>
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</table>

Note 1: Note that thermal treatment facilities located at a farm operation are exempt from heritage requirements. However, archaeological assessments are required for farm based thermal treatment facilities when these facilities are located on a property designated as an archaeological site under Regulation 875 under the Ontario Heritage Act, or a known archaeological resources within 250 m.

Note 2: Class 2 thermal treatment biomass storage areas can be sited closer than the 250m setback provided an odour study is submitted. Class 2 thermal treatment generating units can be sited closer than the 250m setback provided an ESDM and Noise study are submitted.

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Appendix 5. Definitions and Setback Distances for Natural Features and Water Bodies under O.Reg.359/09.

Wetlands
Wetlands are generally defined as non-agricultural lands that are seasonally or permanently covered by shallow water and have hydric soils and vegetation dominated by water tolerant plants. Wetlands in Ontario are classified as northern, southern, or coastal. Northern and southern wetlands are classified according to the Provincial Policy Statement (PPS) issued under the Planning Act. Northern wetlands are currently defined to exist on land that lies above the northern extent of Ecoregions 5E, 6E and 7E in the PPS while southern wetlands exist anywhere below this boundary. Coastal wetlands are defined as a wetland located on Lake Ontario, Erie, Huron, Superior, or St. Clair, as well as on the St. Mary’s, St. Clair, Detroit, Niagara, or St. Lawrence Rivers.

The construction, installation and expansion of a renewable energy facility for which a REA is required is prohibited within a provincially significant southern or coastal wetland under s. 37 of O.Reg.359/09.

In addition to this prohibition, renewable energy projects must not be engaged in at a project location within a setback distance of 120 m. If any component of a renewable energy project is planned within this setback distance, an Environmental Impact Study must be prepared as part of the application for a REA.

Areas of Natural or Scientific Interest (ANSI)
Provincially significant areas of natural and scientific interest are defined in accordance with the assessment of natural features required in site planning. The Ministry of Natural Resources Publication “Natural Heritage Reference Manual – Second Edition” must be used as a guide to determine the significance of ANSI.

ANSI that relate to the geological, soil, or landform features of the environment are characterised as having “earth science values”. These require setbacks of 50 m from the nearest part of the project location. For other provincially significant ANSI (life science), a setback of 120 m is required. If the project location is planned within this respective 50 m or 120 m setback distance, an Environmental Impact Study must be performed.

Provincial Parks and Conservation Reserves
The construction, installation or expansion of renewable energy facilities, for which a REA is required are not permitted in provincial parks or conservation reserves if they are prohibited activities by the Provincial Parks and Conservation Reserves Act or a regulation made under it. A 120 m setback distance should be applied to the project location from all provincial parks and conservation reserves.

Valleylands and Woodlands
Valleylands are defined as natural areas that occur in a valley or other landform depression with the presence of flowing or standing water for some period of the year. Woodlands are defined as lands with tree densities per hectare as follows:

- 1,000 of any size
- 750 with trunk diameter of 5 cm
- 500 with trunk diameter of 12 cm
- 250 with trunk diameter of 20 cm

This definition does not include fruit, nut or Christmas tree farm plantations. For the purposes of these definitions, only valley lands and woodlands south and east of the Canadian Shield as described in the Provincial Policy Statement are considered.

Both significant valleylands and woodlands must be 120 m away from where a project is engaged in. As for other natural features described previously, this setback can be adjusted if an environmental impact study is conducted.

Other significant wildlife habitat identified through natural feature assessment must be treated with a similar 120 m setback in absence of an environmental impact study.

**Setbacks in the Greenbelt and Oak Ridges Moraine**

There are additional setback requirements apply if a project location is in either the Protected Countryside as defined in Schedule 1 of the Greenbelt Plan and or the Oak Ridges Moraine Conservation Plan Area subject to the Oak Ridges Moraine Conservation Plan. These are:

- Any southern wetland, even those not evaluated to be “provincially significant”, must have a setback distance of 120 m
- Sand barrens, savannah, or tallgrass prairie, as defined in the *Oak Ridges Moraine Conservation Act* must have a setback distance of 120 m

For the Protected Countryside, project locations must be setback a distance of 120 m from an alvar. Alvars are naturally open areas of thin or no soil over essentially flat limestone, dolostone, or marble rock, supporting a sparse vegetation cover of mostly shrubs and herbs.

As with other natural features, it is possible to engaged in a renewable energy project in respect of a wind facility within the 120 m setback if an environmental impact study is prepared.

**Setbacks from Water Bodies**

Wind facilities must be constructed or installed in such an manner that they do not unduly impact water bodies. The term water body has been defined in O.Reg. 359/09 to include a lake, a permanent or intermittent stream, or a seepage area but not:

- grassed waterways;
- temporary channels for drainage such as furrows or shallow channels that can be tilled and driven through;
- roadside ditches that do not contain streams;
- temporarily ponded areas that are normally farmed;
• dugout ponds;
• artificial bodies of water intended for storage or treatment of agricultural runoff

Permanent streams are those that continually flow during an average year. Intermittent streams are natural or artificial channels that carry water intermittently and are free from vegetation dominated by plant communities that require or prefer the presence of water or continuously saturated soil to survive.

Seepage areas are sites where ground water emerges and the water table is present at the ground surface including springs.

In general there are two setback limits that should be considered: under s. 39(1), a 30 m setback from the water body average annual high water mark of a lake, intermittent stream, permanent stream or seepage area (to protect direct impacts on shoreline vegetation) and under s. 40(1), a larger setback of 120 or 300 m (depending on the water body) to protect the drainage area related to the water body.

In respect of the setbacks under s. 39(1), for class 3 or 4 wind facilities, turbines and transformer stations must be located outside of the setback distance from water bodies. For class 5 wind facilities, transformer stations must be located outside of the setback distance from water bodies. Development of other facility components such as transmission lines and roads can be built within the setbacks, however a water body report must be prepared in accordance with section 39(2) and submitted as part of the application.

While water bodies like lakes, streams and seepage areas are subject to the 120 m setback to protect drainage areas, 300 m is needed for sensitive lake trout lakes. Lake trout lakes are defined as those that have been designated as such by the Ministry of Natural Resources. The 300 m setback applies to lake trout lakes if they are at or above development capacity. Development within the drainage area setbacks of 120 or 300 m is permitted, however only if the prepared in accordance with section 40(2) and submitted as part of the application.
Renewable Energy Approvals

Technical Bulletin
Technical Bulletin Two
Guidance for preparing the Design and Operations Report
as part of an application under O.Reg.359/09

Draft document posted for public comment on the Environmental Registry March 1, 2010

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PIBS 7437e
Disclaimer: This technical bulletin should not be construed as legal advice. Please review Ontario Regulation 359/09. If you have any questions about the application or interpretation of this regulation you should consult a lawyer.
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1. Purpose of This Technical Bulletin
The purpose of this Bulletin is to clarify the requirements for the Design and Operations Report to be prepared as part of an application for a Renewable Energy Approval under O. Reg. 359/09. This document may be updated from time to time and is intended as guidance only. O.Reg.359/09 should be interpreted directly for the current legal requirements of a Renewable Energy Approval (REA).

The Design and Operations Report is required as part of a complete submission for all renewable energy projects that require a REA with the exception of Class 2 wind projects (those with name plate capacity greater than 3 kW and less than 50 kW). Due to the relative simplicity of Class 2 wind projects, they only require description in the Project Description Report.

The Design and Operations Report is the principal document where the details of a renewable energy project are presented. It builds on the Project Description Report by defining:

- the exact site plan;
- the design of the facility and the equipment to be used;
- how the project will be operated;
- how environmental effects will be monitored and mitigated; and
- how emergencies and communications will be managed.

The contents of the report should support the description of potential negative environmental effects presented in the Project Description Report.

It should be noted that when completing the Design and Operations Report it is the applicant’s obligation to demonstrate compliance with the regulation. The manner in which a project meets the specific requirements that pertain to it must be clearly conveyed in the figures, tables, and text of the report. In addition to this, it is the applicant’s responsibility to ensure all information provided is accurate. If elements of the report are found to be unclear or inaccurate, this may form the basis of the MOE determining the application to be incomplete, requesting further reports or not approving of the project.

An additional function of the Design and Operations Report is to act as a communication tool for public and aboriginal consultation. A draft report must be made available to the public 60 days prior to the final public consultation meeting for the renewable energy project in accordance with section 16 of O.Reg.359/09.

1.1. Outline of Report Contents
Specific content required for a complete Design and Operations Report is shown in Table 1 of O. Reg. 359/09. For reference, the pertinent rows of the table are reprinted in Appendix 1 of this Technical Bulletin. While the structure of the Design and Operations Report is at the applicant’s discretion, the following example table of contents can be used as a guide for structure. Whatever structure is chosen, the report must be clear and contain all required information.

1. Introduction
2. Site Plan
3. Facility Design Plan
4. Facility Operational Plan
5. Environmental Effects Monitoring Plan  
6. Communications and Emergency Response Plans

1.2. Bulletin Organization  
The guidance provided by this Bulletin is organized according to the suggested table of contents given above. Sections 3, 4, and 5 describe what should be included in the site plan, facility design plan, and facility operations plan. Section 6 then provides additional detail on project activities that require specific direction, including water takings, sewage/stormwater management, discharges to air, and waste and biomass management equipment. Section 7 provides additional information on technology-specific considerations in preparing the site plan, facility design plan, and facility operations plan. Sections 8 and 9 describe the environmental effects monitoring plan, and the communications and emergency response plan, respectively. Section 10 provides additional considerations if the project is located in a specified land use planning area.

1.3. Integration of Additional Reports  
For some renewable energy projects, additional reports must be prepared for a complete REA application. These reports are:

- Effluent Management Plan Report  
- Emission Summary and Dispersion Modelling Report  
- Environmental Impact Study Report  
- Hydrogeological Assessment Report  
- Noise Study Report  
- Odour Study Report  
- Property Line Setback Assessment Report  
- Surface Water Assessment Report  
- Water Bodies Report

The required content of the additional reports is outlined in various sections and Table 1 of O.Reg.359/09. Guidance on preparing these reports is contained in Section 11 of this Bulletin. These reports, where applicable, will contain details that contribute to the Design and Operations Report. For instance, the description of natural features required in the site plan may be contained in an Environmental Impact Study Report. To create a cohesive application package, applicants are encouraged to summarize and reference work done in additional reports to fulfil the requirements of the Design and Operations Report.

2. Report Introduction  
A short introduction can be included to provide an overview of the purpose of the proposed project. This can summarize information about the general location, activities involved, total and usable area of the project and the technology used. With similar information presented in the Project Description Report, this is not intended to be lengthy but simply provide brief context and clarity for the reader.

3. Site Plan
The Design and Operations Report should contain diagrams of the site with project equipment and other relevant features indicated. Although this Technical Bulletin refers to site plan in the singular, for many projects it will be necessary to include multiple site plan diagrams to clearly describe the project.

The site plan builds upon the conceptual map contained in the Project Description Report. The conceptual map in the Project Description Report shows where the project is located and lands within 300 m of the project location. The site plan in the Design and Operations Report provides greater detail of the exact location and extent of all components of the renewable energy generation facility. All proposed components of the facility must be clearly shown along with any relevant features adjacent to the project location (such as natural features and water bodies) that are subject to siting requirements in O.Reg.359/09.

3.1. Site Plan Format
The site plan should be presented so that it is clear to read and evaluate. To do this, the applicant should consider the following:

- All diagrams, plans or maps must be drawn to scale and include a scale bar and a north arrow.
- The diagrams must be dated and include the name of the project.
- The scale should be selected to demonstrate compliance with the requirements of O.Reg.359/09. This may be achieved by using multiple maps or insets as necessary.
- A colour/demarcation scheme should be selected that allows all plan features to be observed and delineated clearly.
- If aerial photos or satellite imagery is used in a site plan, the date the image was collected and its source should be referenced.
- Electronic versions of site plans should be created using a software format that allows for the plan to be read clearly. If this poses challenges for the applicant, the applicant can submit a hard copy version for ministry evaluation.
- Tables should be appended and referenced in the site plan.

Site plans are important technical documents but are not considered engineering drawings.

Every significant feature that is shown in the site plan, including project components, cultural/natural features and water bodies should also be described in other sections of the Design and Operations Report or other reports such as in an Environmental Impact Study.

There are certain features that must be depicted on the site plan for all renewable energy facilities. These can be divided into three categories: Facility Components, Cultural/Natural Features and Water Bodies, and Noise/Odour Receptors.

3.2. Facility Components
The components that comprise a renewable energy facility under O.Reg.359/09 are defined in the regulation and key definitions are also presented in Appendix 2. All components of a renewable energy facility must be depicted in the site plan, including:

- Any buildings or structures
• Any transportation systems, such as roads, established solely to provide access for construction or operation of the facility and not open to any other public use.
• Electrical transmission lines, transformers, and other electrical conversion equipment associated with the facility. This should include any rights of way or easements required for these components as well

In addition to these general facility components, applicants must specify on the site plan the location of:
• Any roads, utility corridors, rights of way, and easements situated within 300 metres of the project location;
• groundwater and surface water supplies;
• any things that discharge contaminants to the air such as flares, vents and stacks;
• works that collect, transmit, treat, or dispose of sewage; and
• areas where waste, biomass, source separated organics or farm material are stored, handled, processes or disposed of, if applicable to the renewable energy facility.

The project location should be depicted in sufficient detail to show the external boundaries of all components as proposed.

O.Reg.359/09 contains a number of provisions that define distances for site investigation and for setbacks from natural features and water bodies that reference distance to the “project location” which is defined as:

A part of land and all or part of any building of structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project.

For the purposes of defining setback and site investigation distances, a project location boundary must be determined. This boundary is the outer limit of all components of the renewable energy facility including any land over which construction activities will take place. For example, if a wind turbine represents an outer boundary, the actual limit of the project location would be the extent of any staging area used for erecting the turbine or the outer limit of a turbine blade, whichever is further. This boundary should be considered from the ground level (or to a projected point at ground level if boundary is above or below ground such as for the wind turbine blade example) when determining setback distances to a natural feature or water body.

3.2.1. Associated Transformers
One project component that requires specific consideration in the site plan is associated transformers which operate at a nominal voltage of 50 kV or more. Section 35 of O.Reg.359/09 requires that all transformers 50 kV or greater be sited to mitigate noise impacts on noise receptors. This can include meeting minimum setback distances from noise receptors (1000 m, or 500 m if shielded with an acoustic barrier as defined in O.Reg.359/09) or by conducting a noise study to demonstrate that the transformer meets noise guidelines. No matter which option is used to comply with the regulation, the location of all transformers must be shown clearly in the site plan with UTM coordinates. Setback distances between the transformer and the nearest noise receptor should be noted directly on the site plan and through appended tables.
3.3. Cultural/Natural Features and Water Bodies
For general context, all site plans must include maps or diagrams that indicate topographical land contours and surface water drainage. These featured should be depicted for all land within 120 m of the project location. Land uses within 120 metres of the project should also be shown.

Prior to drafting the Design and Operations Report, applicants should determine if there are protected properties within 125 m of the project location as well as whether there are any archaeological and heritage resources that may be impacted by the project. This determination is described in greater detail in cultural assessment guidance prepared and updated by the Ministry of Culture. Any identified protected properties, archaeological resources or heritage resources within 125 m of the project location must be identified in the site plan.

Similarly, an assessment of the significance of all natural features and water bodies within 120 m of the project location should be conducted prior to drafting the site plan as required by O.Reg.359/09. Definitions of the features and water bodies that should be considered under O.Reg359/09 are given in Appendix 3 of this update and guidance from the Ministry of Natural Resources on Natural Heritage Assessment can be used for further direction on how the assessment should be conducted.

Where significant natural features or water bodies exist within the vicinity of a project location, the project must meet setback requirements or conduct Environmental Impact Studies or Water Bodies Assessments to identify potential negative environmental effects and mitigation measures in respect of the feature or water body. The definitions of natural features and water bodies in Appendix 3 also provide the required setback distances under O.Reg.359/09. If the project meets the setback distance from the project location to a natural feature/water body to avoid conducting a study, this setback distance must be demonstrated in the site plan and documented in appended tables. If practical, UTM coordinates of the project location boundary point used in determining the setback should be given. For further information on the preparation of an Environmental Impact Study Report or Water Bodies Report please refer to Sections 11.3 and 11.9, respectively, of this Bulletin. Where reports will be submitted in lieu of meeting the setback requirements, applicants are encouraged to note and reference such reports on the site plan and/or appended tables.

3.4. Noise/Odour Receptors
Some renewable energy projects emit noise and/or odour which may impact neighbouring land uses. The site plan must include any noise or odour receptors that may be negatively impacted by the proposed project.

Noise receptors are defined in O.Reg. 359/09 as the centre of buildings or structures used for overnight accommodation or those used as an educational facility, day nursery, or place of worship. Examples of structures that the MOE would consider overnight accommodations include permanent or seasonal residences, hospitals, hotels/motels, and nursing/retirement homes.

Public or privately owned campsites or campgrounds are also included in the definition of noise receptors.
In addition to existing buildings or structures, those that are planned for construction and have been issued a building permit under the Building Code Act are also considered to be noise receptors. Noise receptors should be identified by the applicant through reasonable inquiry prior to the date the application is submitted.

Setback distances apply to noise receptors if they are located on land owned by a non-participating land owner. Noise receptors on land owned by a proponent of a wind energy facility or by someone who has entered into an agreement to permit all or part of the facility on their land are not considered noise receptors for the purposes of determining noise setbacks.

Vacant land that is zoned to allow construction of potential noise receptors is also considered to be a noise receptor. In this case the noise receptor on vacant lots are identified as the centre of the lot as defined in O.Reg.359/09.

Odour receptors include all structures defined as noise receptors above and some additional receptors. These are:

- a portion of property that is used for recreational purposes but is not accessory to a building or structure used for overnight accommodation;
- a portion of property used for commercial activity;
- a community centre; and
- a health care facility.

Determining the scope of noise and odour receptors to include in the site plan is guided by technology specific setbacks described in O.Reg.359/09. Compliance with all setback requirements must be demonstrated. To do this, the location of noise and odour receptors must be marked on the site plan. Separate tables with UTM coordinates should also be included to demonstrate compliance with the setback requirements of O.Reg.359/09.

4. Facility Design Plan

The facility design plan is the section of the report that describes the types, sizes, and design of proposed facility components. The focus of these conceptual plans and descriptions should be to detail attributes of the project that have the potential to cause negative environmental effects identified in the Project Description Report. For environmental effects that have been addressed by adhering to setback distances (for instance, avoiding development within 120 metres of a significant natural feature), this mitigation approach should be noted. The facility design plan is paired with the operations plan, which details how equipment and processes will be operated during the life of the project and how operation may impact the environment.

The conceptual plans, specifications and descriptions in the facility design plan should indicate:

- Dimensions and design drawings of all electrical generation equipment
- Proposed generation equipment supplier, make and model numbers, and specifications, as applicable. This may be achieved by including specification reports from equipment suppliers as an appendix; however it is important that this information be presented in a
manner that allows the Ministry of the Environment to evaluate potential negative environmental effects.

- A description of how all functional components are connected/used to generate and transmit electricity to the grid.
- The nature of the structural components that support the equipment such as foundations and footings.
- For electrical transmission equipment: electrical specifications, type of line (above ground, buried line), and dimensions of all equipment.
- For associated transformers: electrical conversion specifications, dimensions, a diagram of each transformer including any acoustic barriers, and if acoustic barriers are proposed the materials of construction, density, and dimensions of the barriers.
- Where specifications for equipment are given, a description of the potential variability in stated parameters, particularly if changes in such parameters have the potential to affect the evaluation of negative environmental effects.

The facility design plan must also describe equipment related to any water takings, sewage/stormwater management, air discharges, and waste and biomass management. Guidance for describing these features is given in Section 6 below.

5. Facility Operations Plan

The operational plan for a renewable energy project describes the daily function of the project in generating electricity and any planned maintenance or ancillary activities that will occur continuously or intermittently over the course of the project life. The plan should emphasize how operations may contribute to or mitigate negative environmental effects. It should also include a discussion of site supervision and staff training.

The content of the operations plan will depend on the renewable energy technology and specific activities such as water takings, sewage treatment, air discharges, or waste handling. While solar and wind projects may have simple operating regimes, some bio-energy projects will have more complex processes to describe.

Section 6 below provides guidance on how to address key process features that may occur during operation of a renewable energy facility.

6. Guidance for Key Process Features

6.1. Water Taking

If engaging in the renewable energy project requires the applicant to take groundwater or surface water the location of these activities should be fully described in the design and operations report. Note that if such facility components are only used temporarily during the construction phase of the project they should be dealt with in the Construction Plan Report as described in the Ministry of the Environment publication “Technical Update #3: Guidance on preparing the Construction Plan Report as part of an application under O.Reg.359/09”.

Renewable energy projects do not require Permits to Take Water (PTTW) under the Ontario Water Resources Act, however the information related to the water taking provided in the Design
and Operations Report in submission for a REA should be guided by current expectations for PTTWs. Guidance for application for a PTTW is contained in the Ministry of the Environment publication “Permit to Take Water (PTTW) Manual” (2005 publication 4932e). The content requirements for PTTW applications and the methods used to evaluate and determine effects on the water source described in this manual should be used to guide the description of water takings when applying for a REA.

**Site Plan**
The locations of all water takings must be noted in the site plan.

**Facility Design Plan**
The design of proposed equipment used to take water should be described. This includes all pumps, piping and other ancillary equipment such as flow monitoring and control devices related to the water taking.

**Facility Operations Plan**
If engaging in the proposed project will require the taking of water from the ground or surface water, information must be provided to describe the water taking. This includes a complete inventory of the proposed water takings associated with the operation of the facility, specifying:

- **Times**
- **Durations**
- **Rates**
- **Quantities**

In conjunction with this inventory, an assessment must be undertaken to ensure the quantities proposed will be available to meet expected demand and to assess the potential for the water takings to interfere with existing uses of the water resource.

### 6.2. Sewage/Stormwater Management

Some renewable energy projects will generate sewage or stormwater runoff that must be managed to prevent potential impact on the environment. For this reason, project proponents may include plans to build sewage works or stormwater management equipment to mitigate environmental risk. There is a range of potential treatment systems that may be contemplated, including but not limited to:

- a simple leachate collection scheme from biomass storage areas for direct addition to an on-farm anaerobic digester
- an infiltration basin to mitigate stormwater runoff from an anaerobic digestion facility
- a complete secondary treatment system to treat effluents generated from a thermal treatment facility

If the collection, transmission, treatment, or disposal of sewage, the management of stormwater or the provision of sediment control on an ongoing basis (not simply in the construction phase), is required as part of a renewable energy facility the Design and Operations Report must describe these activities/works.

For applicants who are planning sewage works or stormwater management equipment, it is advised that they first determine if the project requires the preparation of the Effluent
Management Plan Report, Hydrogeological Assessment Report, and/or the Surface Water Assessment Report as given by the inclusion criteria in column 3 of Table 1 of O.Reg.359/09. These reports will provide some of the details needed to describe the collection and treatment system as well as the surrounding environment. The Design and Operations Report should summarize and refer to elements of these reports that contribute to the facility design plans.

Although the sewage works or stormwater management equipment included in a renewable energy facility are governed by a REA and exempt from approval under the Ontario Water Resources Act (OWRA), the MOE will assess sewage works or stormwater management equipment in a manner that is consistent with how this equipment would be evaluated as an application for a Certificate of Approval (CofA) under the OWRA. Therefore, the information required in the Design and Operations Report should be guided by ministry publications that address the application for a CofA for sewage works and stormwater management. The Ministry of the Environment has published guidance to describe the information requirements and to suggest recommended design strategies. They are:

“Guide for Applying for Approval of Industrial Sewage Works” 1990 Publication 3070e01.
- Describes the approval process and the requirements for application. Part III – Supporting Information Requirements details the information that should be included in a Design and Operations Report. This Guide may be amended from time to time. Applicants are required to use the most recent Guide.

“Design Guidelines for Sewage Works” 2008 Publication 6879e
- For information on recommended design guidelines for sewage works such as sewers and sewage treatment plants

“Stormwater Management Planning and Design Manual” 2003 Publication 4329e
- For information on approaches to manage stormwater through facility design and installation of stormwater management equipment

These publications do not contemplate applications to REA and should be read in consideration of their intended context.

Site Plan
The locations of all sewage works and stormwater management equipment must be depicted in the site plan.

Facility Design Plan
The facility design plan must provide a description of any works for the collection, transmission, treatment and disposal of sewage including details of any sediment control features and stormwater management facilities. Sewage works and stormwater management equipment in the facility design plan should be designed in accordance with the guidance contained in other Ministry documents as referenced above.

Facility Operations Plan
The operational plan contributes to the description of facility design by detailing the operational matters including:

- Expected quantities of sewage/stormwater collected, treated or discharged
- The flow rates and times/duration (if intermittent) of sewage collection and treatment
- Concentrations of key contaminants in sewage or stormwater at various points in the collection/treatment system
- Calculations demonstrating the basis for the expected quantity/quality of sewage or stormwater. Calculations should also be included show how the quantity and quality of sewage/stormwater supports the design parameters of any treatment equipment
- The make and design specifications of any commercially available equipment for treating sewage or stormwater proposed for use at the facility
- Procedural aspects of operating or maintaining any of the equipment including details on any measurements taken in respect of process control
- Any chemical inputs required in respect of a sewage or stormwater treatment process. For any chemicals that have the potential to be emitted to the environment, the Material Safety Data Sheets of the chemicals should be included
- The derivation of any bi-products or residual wastes as a result of a treatment process including how such bi-products will be managed

In addition to this suggested content, applicants should include any operational details that they determine to be relevant for evaluating the potential for negative environmental effects as a result of the project.

### 6.3. Discharge of Contaminants to Air

Renewable energy generation facilities may have equipment that discharges contaminants to the air. Examples of this include, among others:

- Flares at anaerobic digestion facilities
- Combustion unit stacks at a biomass thermal treatment facility
- A biofilter treating odour or other air contaminants from a biomass storage area

All the components of the facility that discharge contaminants to the air must be described in the Design and Operations Report.

For some bio-energy facilities, the project will specifically require the preparation of an Emissions Summary and Dispersion Modelling Report as per the requirements listed in Table 1 of O.Reg. 359/09. If a facility requires such a report, the Design and Operations Report can reference sections of the report that describe the relevant equipment. At the minimum, information provided to describe the air discharge must be sufficient to allow for the calculations included in the Emissions Summary and Dispersion Modelling Report. More detail on preparing this report is given in Section 8.2 below.

### Site Plan

The location of any project components that discharge contaminants to air must be included in the site plan.
Facility Design Plan
The purpose of this description is to determine the potential adverse environmental effect of the discharge. Characteristics of design of the equipment that discharges to air that are relevant include:

- The height of the point of discharge
- The dimensions and configuration of any point source discharge such as a smokestack
- Any monitoring and control instrumentation related to the emissions with a description of the control and/or monitoring scheme
- The site elevation profile in the vicinity of the discharge location
- Any ancillary equipment (such as pollution control equipment) that may influence the concentration or flowrate of the contaminant discharge.

Facility Operations Report
The expected concentration of air contaminants discharged from the facility must be described. This should include:

- A list of all contaminants expected to be discharged both at point sources and as fugitive emissions
- A description of the maximum concentrations of all contaminants expected
- A description of the mass transfer/flow rate and times/duration (if intermittent) of the discharge
- Reference to calculations which show the basis for the concentrations and mass transfer/flow rates expected
- Procedural aspects of operating the facility that can influence the mass transfer/flow rate or concentration of contaminants

6.4. Waste and Biomass Management Equipment
If a renewable energy project includes any systems, facilities, or equipment for handling, storing and processing any waste, biomass, source separated organics, farm material, biogas, and/or waste materials generated by the facility these project components must be described in the Design and Operations Report.

For reference purposes, applicants preparing a facility design plan with biomass, source separated organics, farm material and process waste storage areas can consult appendix 3 of the Ministry of the Environment publication “Sample Application Package for a Comprehensive Waste Transfer and Processing Facility Certificate of Approval” dated 2009 (Publication 6837e). This document provides a hypothetical example of a design and operations report describing a waste transfer facility. The information in this example can serve as a reference for reporting expectations under the REA for facilities with similar components.

Site Plan
The locations of all biomass, source separated organics, farm material and process waste storage and management equipment should be shown in the site plan.

Facility Design Plan
A description of any systems, facilities and equipment for receiving, handling, storing and processing waste, biomass, source separated organics, farm material and biogas is required. Design features relevant for determining the potential for adverse environmental effects should be given, such as:

- Design, dimensions and capacities of any storage areas
- Materials used for construction
- Measures to prevent contaminants from entering surface water or groundwater such as a leachate collection system
- Equipment or systems used to prevent fires, if applicable
- Equipment or systems used to prevent odours or other air contaminant emissions
- Equipment or systems used to prevent overflow from tanks
- Design features intended for the containment or mitigation of spills

Facility Operations Plan
Operational matters governing how biomass, source separated organics, farm material and process waste is managed must be provided. A flow chart showing flow of the waste through the process should be included in this description. Operational matters to describe include:

- The types and sources of received materials used at the facility, including their quality with respect to the concentration of heavy metals and other contaminants
- The maximum daily and annual quantity that will be accepted at the facility as well as a description of the expected frequency for receiving them
- How the materials will be unloaded and handled
- The estimated average time that the material will remain at the facility prior to being processed
- The estimated average rate at which the materials will be used
- The composition, type or classification of any waste generated
- The amount of waste generated on a daily basis or a description of times/amounts if waste is generated intermittently
- Procedures for collecting and handling wastes
- The amount, if any, of waste that will be stored at any time on the site
- Details on the procedure for storing wastes including operational measures to mitigate negative environmental effects (e.g. only unloading waste within an enclosed structure to mitigate dust and odour emissions)
- Information on the process for final disposal of waste including a description of the disposal method, frequency, and procedures for transporting waste from storage and destination of the wastes generated. Waste generated at the facility must be disposed of at an MOE approved facility.

7. Technology-Specific Guidance
The following sections describe some additional considerations for completing the Design and Operations Report for different renewable energy technologies.

7.1. Solar Projects
Only solar projects with name plate capacity >10 kW and mounted at a location other than on the roof or wall of a building require a REA. These facilities are typically comprised of a number of
solar modules mounted with support structures footed in the ground and ancillary electrical equipment to invert, transform and transmit the generated electricity to the grid.

**Site Plan**
There are no unique site plan requirements for solar projects beyond those for all renewable energy projects.

**Facility Design Plan**
To describe the design of solar projects, applicants should include the following:
- Make and model of the solar module
- Diagram of the dimensions of each solar module
- Diagram and specifications of how the solar modules are mounted
- Description of the mechanism and range of motion if solar modules track the sun
- Description of any treatments to land on which the solar modules are proposed, particularly with regard to soil permeability and the potential for negative environmental effects related to stormwater runoff from the facility
- Description of how power is inverted, transformed and transmitted, including specifications of all power conversion equipment

**Facility Operations Plan**
Solar energy projects may have unique considerations that should be discussed in the operational plan. Some examples include (amongst others determined by the applicant):
- How the land upon which the solar modules are mounted will be managed to maintain specified land use conditions. This could include procedures to limit the growth of vegetation. This should be described if such activities have the potential to cause negative environmental effects
- How solar modules will be maintained including a description of all maintenance activities, their frequency, and any operational details that contribute to the evaluation of negative environmental effects

### 7.2. Wind Projects

**Site Plan**
Wind energy projects are subject to a number of unique requirements for siting turbines under O.Reg.359/09. These requirements are discussed in the Wind Setback Bulletin (Technical Bulletin #6: Wind setback requirements under O.Reg.359/09) along with guidance for demonstrating compliance in the site plan.

It is important to note that since wind projects include setback requirements from noise receptors, roads and all property lines, these features must be shown in the site plan for such projects.

**Facility Design Plan**
All class 3, 4 and 5 wind energy projects (those that require a Design and Operations Report) require the submission of a Wind Turbine Specifications Report as given in Table 1 of O.Reg.359/09. This report should specify for each turbine:

- Make and model of the turbine
- Name plate capacity
- Hub height above grade
- Rotational speeds
- Acoustic emissions data including the sound power level across the operating range of wind speeds and across the frequency range (octave band levels)

The specifications of this report can be summarized and referenced in the Design and Operations Report design plan. A discussion of the potential variance in any of the quoted parameters (i.e. sound power levels) should be included.

Turbine tower lighting, for transportation obstruction marking or other purposes, is an additional feature of wind turbines that can be described in the facility design plan.

Facility Operations Plan
The technology-specific considerations for wind energy project operations include:

- How wind turbines will be operated and monitored to ensure proper function. Since damaged turbines can cause increased sound power levels or risk of fire or structural instability, monitoring for damage may mitigate potential negative effects.
- How meteorological data will be monitored and used to make operational decisions
- All maintenance activities, including a description of their frequency and any operational details that could cause or mitigate negative environmental effects.

Enforcement of Compliance
Note that since September 2009, the Ministry of the Environment has undertaken unannounced, proactive inspections of green energy facilities. During these inspections, if owners or operators of facilities are found to be failing to comply with our requirements, we will take appropriate action to protect the community.

7.3. Bio-Energy Projects
Bio-energy facilities include those that use anaerobic digestion, thermal treatment, biofuels or biogas to generate electricity. Compared to solar and wind projects, bio-energy projects are more likely to involve multiple discharges of contaminants to air, collection and treatment of sewage/stormwater, and the storage or processing of biomass and waste generated at the facility. These facilities may require greater detail in drafting the facility design plan and facility operations plans. Since many of the complexities of these projects relate to proposed water takings, discharges and/or biomass/waste management as described in Section 6 above, this guidance may be applicable but is not repeated in this section.

Site Plan
Specific siting requirements under O.Reg.359/09 apply to anaerobic digestion and thermal treatment facilities. Siting constraints must be depicted in the site plan as described in Sections 3.7.1. and 3.7.2. below. Additional features to indicate on the site plan include (if applicable):
• Biomass, source separated organics, farm material and process waste receiving, loading and unloading areas
• Sorting, screening processing including dewatering and drying areas
• Digester tank(s) and digested output storage tank, pasteurization equipment
• Flares and biofilters
• Buildings where generators, combustion engines, turbines and associated equipment are located
• Location of any berms, structures, equipment to control run off or noise from the facility
• Location of biomass storage areas, including underground/above ground storage tanks, bunkers and pads
• Parking lots and storage areas for vehicles

7.3.1. Anaerobic Digestion Facilities
Anaerobic digestion facilities are subject to requirements to prevent impacts from odour and noise on nearby receptors. These requirements can be found in sections 47, 48, and 50 and Table 1 of O.Reg.359/09. They are also summarized, along with the approval requirements for all renewable energy technologies in Appendix 4 of this document. The requirements govern project components that have the potential to emit odour, including:
• Storage areas/tanks for biomass, farm materials, source separated organics, and digestate material
• Generating units
• Flares
• Anaerobic digesters
The regulation defines a range of requirements for mitigating impacts from anaerobic digestion facilities that include applying setback distances, equipping anaerobic digesters with gas storage covers of limited permeability, and/or conducting odour, noise and emissions studies.

Where odour setback distances are used to mitigate potential effects from odour emissions, distances should be calculated from the outer boundary of the area or structure nearest the odour receptor to the odour receptor. This distance must be demonstrated on the site plan directly.

Applicants must include in the site plan all noise and odour receptors that may be adversely impacted by the project. These should also be identified on the plan or in associated tables, with the position of the receptor defined according to the discussion in Section 3.4 above.

7.3.2. Thermal Treatment
Thermal treatment facilities also have technology specific requirements in O.Reg. 359/09. These requirements address potential noise and odour emissions and are contained in sections 51 and Table 1 of the regulation. Appendix 4 provides a summary of these requirements for reference. Certain thermal treatment projects (Class 2 in O.Reg.359/09) can adhere to setback distances in lieu of submitting Noise, Odour and Emissions Summary and Dispersion Modelling reports. Applicants must demonstrate compliance to this setback distance by indicating the location of all relevant odour receptors as well as any biomass storage areas and the generating unit. Locations for the purposes of setback distances must be taken from the outer boundary of the area or unit nearest the odour receptor.
Facility Design Plan
Bio-energy projects may include components that take water, store biomass, source separated organics, farm material, generate waste, collect, treat or discharge sewage or stormwater, as well as components that discharge contaminants to the air. These unique features can be addressed according to the guidance in Section 6 above.

In addition to this, some bio-energy projects are governed by prescribed setback and/or technology requirements to mitigate potential noise and odour emissions (see O.Reg.359/09 for all requirements, Appendix 4 provides a summary). For instance, some anaerobic digestors can demonstrate compliance by having a gas storage cover with a design permeability less than 500 cm$^3$/m$^2$/day/bar. The facility design plan must describe how the proposed equipment adheres to all technological requirements if they apply.

Facility Operations Plan
To illustrate the types of considerations to include in the operations plan, the following is an example of content sections that could be used to describe the operation plan for a bio-energy facility:

- Description of on-site operations for electricity generation
- Biomass, source separated organics and farm material screening and processing procedure
- Waste generation, storage and disposal
- Facility equipment maintenance
- Staff training
- Site inspections and nuisance conditions
  - Dust control
  - Litter prevention and control
  - Pest control
  - Complaint response procedure
  - Record keeping
  - Disruption of shipment

Bio-energy projects may also have unique operational procedures during start-up, shutdown and maintenance periods. These procedures should also be included in the description of facility operation, particularly if these operational procedures may influence the environmental effects caused by the facility or any mitigation measures.

Financial Assurance
The Ministry of the Environment retains the ability to require financial assurance on a project specific basis on any project issued a REA under section 132 of the Environmental Protection Act. However, a financial assurance estimate is specifically required for class 2 and 3 anaerobic digestion facilities and thermal treatment facilities that are managing waste as identified in section 49, 50 and 52 of O. Reg. 359/09. The applicant is required to provide an estimated financial assurance amount that is calculated based on the amount of waste that will be managed in such facilities. This calculation and the provision of funds must be made in accordance with the Ministry of the Environment publication “Financial Assurance Guideline”, Guideline F-15, PIHS 0226e03, available at www.ene.gov.on.ca/en/publications. For projects that require a
calculation of estimated financial assurance, this calculation should be included in the Design and Operations Report.

8. Environmental Effects Monitoring Plan

To show how negative environmental effects will be mitigated and how ongoing monitoring by the applicant will ensure compliance with O.Reg.359/09, an environmental effects monitoring plan must be prepared as a part of the Design and Operations Report. The plan will be primarily supported by conclusions and descriptions found in other sections of the Design and Operations Report or in other reports prepared for submission to the Renewable Energy Approval. References to other sections should be made where applicable.

The environmental effects monitoring plan should include the following, using summary tables and text descriptions as well as references to other reports as required:

1. A summary of all potential negative environmental effects caused by the project as given in the description of negative environmental effects in the Project Description Report. This summary is included for context.
2. Performance objectives in respect of each potential negative effect. Performance should be defined such that in achieving the objective the negative effect will be mitigated
3. A description of all mitigation strategies planned to achieve performance objectives
4. Where there is an ongoing risk of potential negative environmental effects, description of how the project will be monitored to ensure that mitigation strategies are meeting performance objectives
5. Contingency measures that will be undertaken should monitoring reveal that negative effects are occurring

Examples of the nature of these plan requirements are depicted in Table 1 below. Note that the evaluation of appropriate performance objectives and mitigation/monitoring strategies is to be determined by the applicant to reflect the unique character of a project and Table 1 is for illustrative purposes only.
### Table 1. Example summary content of the environmental effects monitoring plan

<table>
<thead>
<tr>
<th>Potential Negative Effect</th>
<th>Performance Objective</th>
<th>Mitigation Strategy</th>
<th>Monitoring Plan and Contingency Measures</th>
</tr>
</thead>
</table>
| Noise from a wind turbine may impact a nearby noise receptor | Noise at all nearby noise receptors below 40 dBA | - Adherence to all noise setback requirements as shown in the site plan  
- Meteorological monitoring to prevent damage to turbines | - Turbine aerodynamic monitoring to identify damaged turbines  
- Follow-up monitoring in response to public complaints  
Contingency Measures  
- Repairing/Replacing turbines that are unable to meet standard  
- Suspending operation of turbines determined to be out of compliance until they can be fixed |
| Leachate from biomass storage area may discharge into nearby stream | Complete containment of all leachate | - See the Effluent Management Plan Report for a full discussion of mitigation measures. Principal measures include:  
- Covered storage area prevents rainfall contact  
- Leachate trap included in storage area design  
- Maintenance to ensure proper function of leachate trap  
- Unloading of biomass conducted within the covered storage area | - Post construction inspection of storage area and potential contaminant transport route to stream  
- Annual inspection of stream to confirm no adverse effects  
Contingency Measures  
- If leachate is found to impact stream, additional leachate collection equipment will be installed  
- Suspension of biomass storage until adequate mitigation in place  
- Monitoring of surface water to ensure no more discharge of leachate into the stream |
| Stormwater runoff from solar facility may contaminate nearby wetland | No significant change in stormwater quality and quantity entering wetland as a result of project activities | - Adherence to natural feature setback requirements as shown in the site plan  
- Stormwater containment measures during construction as described in the construction plan report  
- Maintenance of vegetative cover under solar panels as described in the facility design plan | - Post construction monitoring of generated stormwater runoff and the wetland according to the methods and schedules described in the monitoring plan below  
Contingency Measures  
- If stormwater is found to impact wetland, additional stormwater containment and treatment technologies will be installed as described in the monitoring plan below |

While applicants may use a table format as above to summarize the environmental effects monitoring plan, sufficient detail must be provided to fully describe the table contents. If any monitoring or contingency measures are not detailed sufficiently in other reports or sections, they should be discussed in the environmental effects monitoring plan. This should include details on:

- Methodologies to be used
- Locations of monitoring
- Frequency of sample collection
- Rationale for how the monitoring plan will provide technically and statistically valid conclusions about meeting the performance objectives
- How results of the monitoring plan will be reported
- The specific contingency measures that will be undertaken, including their timing, design and operational considerations if applicable

Monitoring methodology should be based on existing guidance from the Ontario government where relevant. For instance, a common potential negative environmental effect for large scale wind projects is bird and bat deaths resulting from the operation of wind turbines. For monitoring this specific potential effect, guidance from the Ministry of Natural Resources should be used.
9. Emergency Response and Communications Plans
The proponent of a renewable energy project must create plans to manage emergencies at the project location and to provide channels for communication to the public, aboriginal communities and municipalities, relevant Ministries of the Ontario Government including the Ministry of the Environment, local road boards and Local Service Boards (in this section these people and organizations will be referred to as “responders” for brevity). Table 1 of O.Reg.359/09, with relevant sections contained in Appendix 1 of this Bulletin, provides the minimum required content for the emergency response and communications plan. This response plan should include the following components:

- A plan for communications in the event of an emergency including key contact information and a description of the chain of communications between the proponent and relevant responders under emergency scenarios applicable to the project.
- Description of how the information will be disseminated to all relevant responders such as the local fire department.
- A plan for non-emergency communications related to the project. This should describe how the public and other organizations will be provided information about the project. This could include notification of any project changes, results of the ongoing project monitoring, or other matters considered relevant by the applicant.
- A plan for receiving communications from the public and any stakeholder. This should describe how the public and any stakeholders will be directed to correspond with the proponent, how correspondence will be recorded, how the proponent will address any concerns raised, and the communications plan for the response. This should also describe if/how correspondence will be shared with other stakeholders such as the Ministry of the Environment. The procedure for recording any complaints from the public should include the following:

  (a) Recording each complaint in a log book or in an electronic file. The information recorded shall include name, address and the telephone number of the complainant; time and date of the complaint, details of the complaint; actions taken to remediate the cause of the complaint; and proposed actions to be taken to prevent reoccurrence in the future.

  (b) Notifying the Ministry's Spills Action Centre at 1-800-268-6060 of the receipt of the complaint.

Emergency Response and Communication Plans must cover the entire life of the project including construction, operation, and decommissioning phases. If it is anticipated that these phases will lead to changes in the plan, a description of how and when the plan will be updated should be included. This description should also note how stakeholders will be informed of changes in practice.

10. Considerations for Projects Subject to Land Use Plans
The Ontario Government has worked to protect sensitive and important land through several land use planning laws. Special considerations apply to the Design and Operations Report for projects that take place entirely or in part on lands subject to these defined land use planning areas. These areas (as defined in their respective acts) include the Niagara Escarpment, Lake Simcoe
Watershed, Oak Ridges Moraine, and the Greenbelt. The sections below describe what should be considered for each planning area for the purposes of this report.

10.1. **Niagara Escarpment**
O.Reg.359/09 stipulates that applicants proposing projects in the Niagara Escarpment Plan Area must submit drafts of REA reports to the Niagara Escarpment Commission (NEC) 90 days prior to the final public meeting. Depending on the nature of the project, development permits may be required by the NEC and evidence of such permits, if applicable, must be included in the complete submission for a REA. If applicants must seek approval from the NEC, it is advised that the REA documents, such as the Design and Operations Report, be drafted in consideration of the requirements of the NEC. Applicants are encouraged to contact the NEC directly to discuss development permits.

10.2. **Lake Simcoe Watershed**
If the projects location is in the Lake Simcoe watershed applicants must provide additional documentation as a component of the Design and Operations Report. The documentation should demonstrate how the project adheres to the goals of the Lake Simcoe Protection Plan by mitigating negative environmental effects on the shore of Lake Simcoe, the shore of fresh water estuaries of a stream connected to Lake Simcoe, or the shores of any other water bodies in the Lake Simcoe watershed.

The documentation must include:
- A description of whether the project requires alteration of the shore of Lake Simcoe, the shore of a fresh water estuary of a stream connected to Lake Simcoe or other lakes or any permanent or intermittent streams in the Lake Simcoe watershed
- How the project may impact any shoreline, including ecological functions
- How the project will be engaged in
  - To maintain the natural contour of the shoreline by planting natural vegetation and bioengineering will be considered as mitigation strategies.
  - And use a vegetative riparian area in respect of water bodies, except where the land is and will continue to be used for agricultural purposes.

Further information on the goals of the Lake Simcoe Protection Plan and suggested mitigation strategies to guide development of a renewable energy project in the watershed can be found in the Plan itself. This Ministry of the Environment publication is entitled “Lake Simcoe Protection Plan” (2009 Publication 6932e01).

10.3. **Oak Ridges Moraine**
Renewable energy projects at project locations that are located entirely or in part on land subject to the Oak Ridges Moraine Conservation Plan have special provisions that must be considered in an application for a REA. These provisions are described in sections 42, 43, 44, 45, 46 and 47 of O.Reg359/09. The provisions were incorporated in the regulation to maintain protection of the Oak Ridges Moraine in respect of renewable energy projects since these are now exempt from the Planning Act. While O.Reg359/09 describes the minimum legal requirements that pertain to projects in the Oak Ridges Moraine, applicants are expected to consider the full intent of the Oak Ridges Moraine Conservation Plan when evaluating the potential for negative environmental
effects as a result of the proposed project. Depending on the case-specific details of the project, this could be achieved by expanding the Design and Operations Report as follows:

- For projects in landform conservation areas of the plan, providing greater detail on the topography of landforms and a description of how the project may impact landforms including mitigation measures. Such projects should also describe the percentage of developed area and the dimensions of any land rendered impervious in respect of the project.
- Including a stormwater management plan
- Describing how the project design adheres to a watershed plan developed by a municipality or conservation authority
- Providing an account of how planning, design and construction practices ensure that no buildings or other site alterations impede the movement of plants and animals among key natural features, hydrologically sensitive features and adjacent land within Natural Core Areas and Natural Linkage Areas defined in the Oak Ridges Moraine Conservation Plan

Applicants to a REA are encouraged to refer to O.Reg.140/02 of the Oak Ridges Moraine Conservation Plan made under the Oak Ridges Moraine Conservation Plan Act and to consult with local municipalities and conservation authorities who have additional experience interpreting the plan as it relates to the project location.

10.4. Greenbelt

Proposed projects located in the Protected Countryside of the Greenbelt are subject to additional requirements under section 41 of O.Reg.359/09. Though these are the minimum additional requirements, as with projects in the Oak Ridges Moraine it is advised that applicants consider the intent of the Greenbelt Act in designing renewable energy projects located in the Greenbelt. Depending on the case-specific details of the project, this could be achieved by expanding the Design and Operations Report as follows:

- Indicating the percentage of developed area and the dimensions of any land rendered impervious in respect of the project.
- Including a stormwater management plan
- Describing how the project design adheres to a watershed plan developed by a municipality or conservation authority

Proponents of projects in the Greenbelt are encouraged to refer to the Ministry of Municipal Affairs and Housing 2005 publication “Greenbelt Plan” and to consult with local municipalities and conservation authorities who have additional experience interpreting the plan as it relates to the project location.

11. Additional Reports

The following sections provide an overview of the requirements for additional reports that may be needed for a complete REA submission. The minimum required content of these reports is given in Table 1 of O.Reg.359/09. For several of the reports, guidance is provided in other government documents, and the sections that follow provide references where appropriate.

11.1. Effluent Management Plan Report

The Effluent Management Plan Report is required for certain bio-energy facilities (see Appendix 4 for details). These are facilities where it is expected that some sewage or stormwater effluent
will be produced and require assessment and management. The goal of the Effluent Management Plan Report is to provide sufficient details about all potential effluents, their treatment/mitigation, and the potential for negative impacts on surface waters if treated effluents are discharged. Applicants should consult with staff from the local MOE Regional Technical Support unit prior to completing the Effluent Management Plan Report.

For some facilities, the additional reports Hydrogeological Assessment Report and Surface Water Assessment Report will also require preparation (see Sections 11.4 and 11.8). If these reports are required, applicants are encouraged to scope the three reports such that they complement in providing a clear account of the potential impacts of the project on surface water and groundwater. To this end, the Effluent Management Plan Report should focus on the amount and nature of generated effluents and treatment technology used for mitigation of impacts with the other reports providing greater detail on the water resources (surface and groundwater) where effluents may be discharged.

For the Effluent Management Plan Report, the content provided should include the following components:

Description of Sewage
All sewage produced as a result of the facility must be completely described. This description should include:

- Expected quantities of sewage including stormwater produced by or at the facility
- The flow rates and times/duration (if intermittent) of sewage collection and treatment
- Expected concentrations of key contaminants in sewage or stormwater at various points in the collection/treatment system
- Calculations demonstrating the basis for the expected quantity/quality of sewage or stormwater. If the effluent is related to stormwater and intermittent due to meteorological variability, a description of the rationale for estimating effluent quantity and flow rates should be provided.
- Calculations should also be included to show how the quantity and quality of sewage/stormwater supports the design parameters of any treatment equipment.

Description of Sewage Treatment and Disposal
Any sewage treatment and disposal equipment used to mitigate potential negative environmental effects must be described. The detail required to complete this description will depend on the complexity of the sewage works proposed. For instance a small stormwater infiltration basin may only require details on the design specifications such as dimensions and performance objectives. On the other hand, a more complex biological treatment facility may require more detailed design descriptions as well as operational plans and control schemes.

In all cases, the treatment performance objective of the process should be stated in regards to any contaminant that is to be removed or converted as a result of treatment. This should include the concentration or other appropriate measure of the contaminant that could be used to assess the potential for negative impacts when discharged to a receiving water resource.
With regard to this range of potential works, applicants are directed to consult relevant Ministry of the Environment guidance documents in relation to sewage treatment and stormwater management to assist with determining the appropriate details to include. These documents are listed in section 6.2 of this Bulletin.

**Description of the Receiving Water Body**
If any sewage or stormwater will be discharged to a receiving surface water body, the assimilative capacity of the water body must be described. Where a Surface Water Assessment Report has been prepared as part of the REA application, this may be referenced.

The requirements for the assimilative capacity study vary from site to site, however, in general, the applicant should provide the following information:
- low flow conditions in the receiving water body, e.g., the 7Q20 for a stream, i.e., the 7-day average low flow occurring once in 20 years,
- the background concentration of any contaminant parameter of concern
- the maximum allowable downstream increase for each parameter of concern, e.g., the difference between the background level and the Provincial Water Quality Objective (PWQO), and a proposed effluent load allocation for the facility based on the entire watershed and watershed users (downstream/upstream)
- methods used to reduce impact of the effluent on the receiving water body, e.g., use of diffusers, effluent and receiving water density considerations, discharging at rates proportional to stream flow, etc

The evidence presented to describe the assimilative capacity should allow for a determination of potential negative environmental effects as a result of the effluent discharge. In drawing such conclusions, the applicant should present and provide rationale for all calculations used to evaluate impact on the water body.

**11.2. Emission Summary and Dispersion Monitoring Report**
The Emission Summary and Dispersion Modelling Report (ESDM) is a common requirement in obtaining a Certificate of Approval for an air emission under the *Environmental Protection Act*. Renewable energy projects are not subject to Certificates of Approval but applicants must prepare an ESDM, when required, in accordance with section 26 of O.Reg. 419/05 (Air Pollution – Local Air Quality) under the *Environmental Protection Act*. The following Ministry of the Environment guidance material can be used to assist with preparing this report:

- “Guideline A-10: Procedure for Preparing an Emission Summary and Dispersion Monitoring (ESDM) Report” 2009 Publication 3614e03
- “Guideline A-11: Air Dispersion Modelling Guideline for Ontario” 2009 Publication 5165e02

For other MOE guidance documents, please refer to the Ministry website: http://www.ene.gov.on.ca/en/publications/forms/index.php

**11.3. Environmental Impact Study Report**
Environmental Impact Studies are required whenever a project is proposed within specified setback distances to natural features. Guidance for the preparation of an Environmental Impact Study is presented in guidance on Natural Heritage Assessment from the Ministry of Natural Resources.

11.4. Hydrogeological Assessment Report

The Hydrogeological Assessment Report is required for some bio-energy projects (see Appendix 4). Preparation of the Hydrogeological Assessment Report must be completed by a licensed professional engineer or professional geoscientist (or by someone under supervision of such professionals). Applicants should consult with staff from the local MOE Regional Technical Support unit prior to completing the Hydrogeological Assessment Report.

The principle components of the report are:

**Description of Project Geology/Hydrogeology**

Geology and hydrogeology must be surveyed for all land within 300 m of any storage areas for biomass, source separated organics, or farm materials as well as from any storage or digester tanks. The findings of this survey must be described in the report, including:

- An overview of the local physiographic and hydrogeological setting, including ground water and surface water features and functions
- The key topographic / geological features in the study area
- Details on soil materials present in the study area, including thicknesses, composition, and texture
- The geological stratigraphic framework should be provided. In bedrock environments this should include known fractures, joints, bedding planes, faults, and shear zones, if applicable.
- The hydrogeological features of local aquitards and aquifers (confined, semi-confined and unconfined) that the Qualified Person considers relevant to the proposed taking. This may include details of their depth, thickness, lateral continuity, porosity, vertical/horizontal hydraulic gradients, hydraulic conductivity, transmissivity, storativity-specific storage and the location / nature of aquifer recharge supplying the well. Location of all wells at the site and within 300 m of the project location
- A site-specific conceptual hydrogeological model should be developed based on published geological and hydrogeological mapping, supplemented with site-specific hydrogeological information as defined above. Wherever possible, this should be done within the context of existing regional scale watershed studies or ground water studies, which commonly include pertinent information such as local recharge rates and surface water base flows

The format for presenting this information can include descriptions, specifications and plans including maps and diagrams as long as they are clear and accurate.

**Evaluation of Site Suitability**

After characterizing the site geology and developing a conceptual model of the site hydrogeology, the report must set out an assessment of the suitability of the project location for the handling, storage, processing of biomass taking into account a number of factors.
One factor is the facility design. Relevant details include:

- Aspects of the facility related to the storage of biomass, source separated organics, farm materials, or any other materials that have the potential to generate leachate or seepage that may affect groundwater. This should include an assessment of the design of such project components and the appropriateness of the design in regard to preventing negative effects.
- Any aspects of the facility that have the potential to cause the discharge of contaminants to groundwater through normal operation or through accidental spills or leakage (for instance through the use of underground storage tanks).
- Any major perturbations to landforms arising from installation of the facility that could impact groundwater flow or quality.

Another factor that needs to be taken into account is the ability to identify through monitoring any negative environmental effects to groundwater as a result of leachate production. The sampling protocol with respect to sampling locations and frequency should be described, including:

- The methodology for sampling and measurement
- The reliability/appropriateness of any equipment used for sampling or measurement
- Name of the accredited laboratory to be used for analysing the samples

The last factor that must be taken into account when preparing the assessment is the feasibility of contingency plans that could be implemented in unexpected circumstances. Scenarios that should be considered include:

- if greater than anticipated volumes of leachate are produced;
- if leachate quality is worse than expected;
- if mitigation measures are ineffective; or
- if adverse effects are detected through monitoring site groundwater.

11.5. Odour Study Report

An Odour Study Report is required for certain bio-energy projects as shown in Appendix 4. The purpose of this report is to identify sources of odour and determine the potential for the odour to cause negative effects at odour receptors in the vicinity of the project. The content of this report is defined in Table 1 of O.Reg.359/09. It should include the following components:

**Description of potential odour sources**

The report should identify and describe all significant potential sources of odour including those from process equipment and fugitive sources. The description should include:

- Details on the project component that relates to the odour, such as the design specifications of a storage tank or biomass storage area that could emit odour.
- A description of the materials that have the potential to cause odour including proposed quantities.
- Identification of any variables that can influence the rate of odour generation.
- A quantification of the magnitude of the odour source including a description of the methodology used to calculate this value.

**Evaluation of potential negative environmental effects**
The report must describe any negative environmental effects that may result from the odour discharge at all odour receptors. This should be done by providing the following:

- Identification of the location of any odour receptor that has the potential to be negatively affected by odour arising from the project. The distance from receptors to all sources of odour should be provided
- Through reference to the ESDM report, a quantification of the magnitude of potential odour at all receptors should be provided, including a description of the methodology used
- A discussion of any technical uncertainty or statistical variance associated with the quantification of odour magnitude at receptors
- A conclusion about the potential for negative environmental impacts

**Description of Mitigation Measures**
The Odour Study Report must describe all technical methods employed to mitigate any negative environmental effects as well as describe any negative environmental effects that are expected to result after the technical methods are employed. This description should include:

- The mechanism for controlling odour. For instance, a description of how odours are contained or treated
- The specifications of any equipment used to control the odour. Such equipment should also be depicted in the Design Plan and Site Plan where applicable
- The performance objective of the mitigation equipment such as the magnitude of expected odour emitted following mitigation
- A discussion of any technical uncertainty or statistical variance associated with the efficacy of the mitigation technology
- Any variables or circumstances that could impact the efficacy of the mitigation measure
- Through reference to the ESDM report, a quantification of the magnitude of potential odour at all receptors
- A description of any negative environmental effects that are expected to result after implementation of the mitigation measure
- Any proposed ongoing monitoring of the mitigation equipment or of odour discharge
- A response plan for any public complaints about odour. This could reference the Emergency Response and Communication Plan in the Design and Operations Report

11.6. **Noise Study Report**
Noise study reports are required for certain bio-energy facilities and class 3 solar projects. They should be prepared in accordance with Appendix A of the Ministry of the Environment publication:


11.7. **Property Line Setback Assessment Report**
Class 3, 4, and 5 wind projects are subject to property line setback requirements that require turbines to be located a distance equal to the hub height from a property line. If an applicant
wishes to site a wind turbine closer than the length of the turbine blade plus ten metres from a property line, a Property Line Setback Assessment Report must be submitted as part of the application. This additional report can also be incorporated in the Design and Operations Report as a separate section or sections.

The Property Line Setback Assessment must be developed to demonstrate that siting the turbine in such a location will not result in any adverse impacts on neighbouring businesses, infrastructure, or land use activities. Specifically, the assessment should evaluate the land use in the vicinity of the turbine. This should confirm the presence of structures (i.e. barns, storage buildings, stables) and if there will be any expected adverse impacts associated with the turbine being located closer than the turbine hub height setback. If there are potential adverse impacts, a description of preventative measures to address the potential adverse impacts must be included. Such an assessment must be performed separately for each turbine that is sited within the specified property line setback.

11.8. Surface Water Assessment Report

The Surface Water Assessment Report is required for some bio-energy projects (see Appendix 4). Preparation of the Surface Water Assessment Report must be completed by a licensed professional engineer or professional geoscientist (or by someone under supervision of such professionals). Applicants should consult with staff of the local MOE Regional Technical Support unit prior to completing the Surface Water Assessment Report. The principle components of the report are:

Description of Surface Water Features
Surface water features at the project location must be surveyed and described. Any surface water features that receive a direct discharge of sewage must also be described. This description should include:

- The physiographic, hydraulic, hydrologic and geomorphic processes of the surface water sources
- The current and historical natural functions of the water body. These should be characterized so that potential negative effects can be assessed
- A description of the aquatic habitat and aquatic community (benthos, fish, plants) in the nearest viable habitat upstream and downstream
- The human uses of the water resource, e.g., cold water or warm water fishery, irrigation, recreation, power production should be included

The format for presenting this information can include descriptions, maps, diagrams or other plans as long as they are clear and accurate.

Evaluation of Facility Suitability
After describing the water bodies at the project location an assessment of the facility for the suitability for the handling, storage and processing biomass, source separated organics, or farm material must be prepared. To perform this evaluation a number of key factors must be taken into account.
One factor is how aspects of the facility are designed in relation to the storage and processing of biomass, source separated organics or farm materials to control the production of leachate, erosion and sedimentation. This should include an assessment of the design of such project components and the appropriateness of the design in regards to preventing negative effects including:

- Any aspects of the facility that have the potential to cause the discharge of contaminants to surface water through normal operation or through accidental spills or leakage (for instance through the use of storage tanks or piping)
- The structure and materials of construction for any storage or processing facilities
- Any major perturbations to landforms arising from installation of the facility that could impact surface water flow or quality

Another factor to be taken into account is the surface water features at the project location and within 300 metres of the location where biomass, source separated organics, or farm material will be stored, processed or handled, in addition to those that will receive a direct discharge of sewage from the facility. This should include an assessment of potential negative environmental effects on the water body and this discussion can refer to the conclusions drawn regarding the assimilative capacity of the water body in the Effluent Management Plan Report.

An additional factor to be taken into account in evaluating the facility is the ability to identify any negative environmental effects of leachate production on the surface water through monitoring. This discussion should evaluate:

- The sampling protocol with respect to sampling locations, frequency and parameters to be sampled
- The methodology for sampling and measurement
- The reliability/appropriateness of any equipment used for sampling or measurement

The last factor that must be taken into account when preparing the assessment is the feasibility of contingency plans that could be implemented in unexpected circumstances. Scenarios that should be considered include:

- if greater than anticipated volumes of leachate are produced;
- if leachate quality is worse than expected;
- if mitigation measures are ineffective; or
- if adverse effects are detected through monitoring site surface water.

11.9. Water Bodies Assessment Report

A Water Bodies Assessment Report is required when a project component is proposed within the water body setback distances defined in O.Reg.359/09. Guidance for the preparation of a Water Bodies Assessment Report is given in guidance on Natural Heritage Assessment provided by the Ministry of Natural Resources.
Appendix 1. Requirements for the Design and Operations Report in Table 1 of O.Reg.359/09

<table>
<thead>
<tr>
<th>Design and operations report</th>
<th>1. Set out a site plan of the project location at which the renewable energy project will be engaged in, including,</th>
<th>Any renewable energy project, other than a project in respect of a Class 2 wind facility.</th>
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<td></td>
<td>i. one or more maps or diagrams of,</td>
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<td></td>
<td>A. all buildings, structures, roads, utility corridors, rights of way and easements required in respect of the renewable energy generation facility and situated within 300 metres of the facility,</td>
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<td>B. any ground water and surface water supplies used at the facility,</td>
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<td>C. any things from which contaminants are discharged into the air,</td>
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<td>D. any works for the collection, transmission, treatment and disposal of sewage,</td>
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<td>E. any areas where waste, biomass, source separated organics and farm material are stored, handled, processed or disposed of,</td>
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<td>F. the project location in relation to any of the following within 125 metres: properties described in Column 1 of the Table to section 19, heritage resources, archaeological resources, the portion of the Oak Ridges Moraine Conservation Plan Area that is subject to the Oak Ridges Moraine Conservation Plan, the area of the Niagara Escarpment Plan, the Protected Countryside, the Lake Simcoe watershed, and</td>
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<td>G. any noise receptors or odour receptors that may be negatively affected by the use or operation of the facility,</td>
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<td>ii. a description of each item diagrammed under subparagraph i, and</td>
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<td>iii. one or more maps or diagrams of land contours, surface water drainage and any of the following, if they have been identified in complying with this Regulation: properties described in Column 1 of the Table to section 19, heritage resources, archaeological resources, water bodies, significant or provincially significant natural features and any other natural features identified in the Protected Countryside or in the portion of the Oak Ridges Moraine Conservation Plan Area that is subject to the Oak Ridges Moraine Plan.</td>
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<td>2. Set out conceptual plans, specifications and descriptions related to the design of the renewable energy generation facility, including a description of,</td>
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<td>i. any works for the collection, transmission, treatment and disposal of sewage, including details of any sediment control features and storm water management facilities,</td>
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<td>ii. any things from which contaminants are discharged into the air, and</td>
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<td>iii. any systems, facilities and equipment for receiving, handling, storing and processing any waste, biomass, source separated organics, farm material and biogas.</td>
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<td>3. Set out conceptual plans, specifications and descriptions related to the operation of the renewable energy generation facility, including,</td>
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<td>i. in respect of any water takings,</td>
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A. a description of the time period and duration of water takings expected to be associated with the operation of the facility,

B. a description of the expected water takings, including rates, amounts and an assessment of the availability of water to meet the expected demand, and

C. an assessment of and documentation showing the potential for the facility to interfere with existing uses of the water expected to be taken,

   ii. a description of the expected quantity of sewage produced and the expected quality of that sewage at the project location and the manner in which it will be disposed of, including details of any sediment control features and storm water management facilities,

   iii. a description of any expected concentration of air contaminants discharged from the facility,

   iv. in respect of any biomass, source separated organics and farm material at the facility,

A. the maximum daily quantity that will be accepted,

B. the estimated annual average quantity that will be accepted,

C. the estimated average time that it will remain at the facility, and

D. the estimated average rate at which it will be used, and

v. in respect of any waste generated as a result of processes at the project location, the management and disposal of such waste, including,

A. the expected types of waste to be generated,

B. the estimated maximum daily quantity of waste to be generated, by type,

C. processes for the storage of waste, and

D. processes for final disposal of waste.

4. Include an environmental effects monitoring plan in respect of any negative environmental effects that may result from engaging in the renewable energy project, setting out,

   i. performance objectives in respect of the negative environmental effects,

   ii. mitigation measures to assist in achieving the performance objectives mentioned in subparagraph i,

   iii. a program for monitoring negative environmental effects for the duration of the time that the project is engaged in, including a contingency plan to be implemented if any mitigation measures fail.

5. Include a response plan setting out a description of the actions to be taken while engaging in the renewable energy project to inform the public, aboriginal communities and municipalities, local roads boards and Local Services Boards with respect to the project, including,

   i. measures to provide information regarding the activities occurring at the project location, including emergencies,

   ii. means by which persons responsible for engaging in the project may be contacted, and

   iii. means by which correspondence directed to the persons responsible for engaging in the project
6. If the project location is in the Lake Simcoe watershed, a description of whether the project requires alteration of the shore of Lake Simcoe, the shore of a fresh water estuary of a stream connected to Lake Simcoe or other lakes or any permanent or intermittent stream and,

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<td>i. how the project may impact any shoreline, including the ecological functions of the shoreline, and</td>
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<td>ii. how the project will be engaged in to,</td>
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A. maintain the natural contour of the shoreline through the implementation of natural shoreline treatments, such as planting of natural vegetation and bioengineering, and

B. use a vegetative riparian area, unless the project location is used for agricultural purposes and will continue to be used for such purposes.

Renewable Energy Generation Facility
Under the *Electricity Act, 1998*, a “renewable energy generation facility” is a generation facility that generates electricity from a renewable energy source and must meet criteria prescribed by regulation. It includes associated or ancillary equipment, systems and technologies as may also be prescribed by regulation, but does not include an associated waste disposal site, unless the site is prescribed by regulation for the purposes of this definition.

Under s O. Reg. 160/99 (Definitions and Exemptions) made under the *Electricity Act, 1998*, this definition is expanded in subsections 1(4) to 1(6) to stipulate that:

(4) For the purposes of the definition of “renewable energy generation facility” in the *Electricity Act, 1998*, the following associated or ancillary equipment, systems and technologies are prescribed:

1. Transmission or distribution lines of less than 50 kilometres in length that are associated with or ancillary to a renewable energy generation facility.
2. Transformer stations or distribution stations that are associated with or ancillary to a renewable energy generation facility.
3. Any transportation systems that are associated with or ancillary to the provision of access to a renewable energy generation facility, during the construction, installation, use, operation, changing or retiring of a renewable energy generation facility.

(5) For the purposes of subsection (4), the following apply:

1. A distribution line is associated with or ancillary to a renewable energy generation facility if the line is used to distribute electricity within the facility or from the facility to the distribution system of the distributor in whose distribution service area the renewable energy generation facility is located.
2. A transmission line is associated with or ancillary to a renewable energy generation facility if the line is used to transmit electricity within the facility or from the facility to the IESO-controlled grid.
3. A transformer station or distribution station is associated with or ancillary to a renewable energy generation facility if the station is used to transform the voltage of electricity at the facility, on a transmission line or on a distributor’s distribution system which is associated with or ancillary to the facility.
4. A transportation system includes all transportation systems constructed solely to provide access to the renewable energy generation facility, including transportation systems on Crown land, but does not include a highway which is intended for or used by the general public for the passage of vehicles.

(6) For the purposes of the definition of “renewable energy generation facility” in the Act, the following classes of waste disposal sites are prescribed:
1. A waste disposal site where the material referred to in clause (b) of the definition of biogas is subject to anaerobic digestion.
2. A waste disposal site where biomass is thermally treated.
A renewable energy generation facility includes any permanent and temporary structures, equipment or other things required to generate electricity as well as the associated or ancillary equipment, systems and technologies prescribed in O. Reg. 160/99 above.

**Renewable Energy Project**

A “renewable energy project” is defined in the *Green Energy Act, 2009* and consists of a series of activities “construction, installation, use, operation, changing or retiring” in respect of a renewable energy generation facility.

**Project Location**

The “project location” is defined in O. Reg 359/09 to mean, when used in relation to a renewable energy project, a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project;

This includes all land, buildings or structures where a person will engage in a renewable energy project including during the construction, installation, operation and use, changing or retiring of the facility. The project location does not simply include the land (buildings and structures) on, in or over which the facility is located but the land (buildings or structures) on, in or over which the construction or installation activity will take place and where the operation or use of the facility will take place. The project location also includes any air space in which a person is engaging in or proposes to engage in a project.

**Negative Environmental Effect**

In the REA regulation, a reference to a “negative environmental effect” is a reference to a negative effect that will be caused or that might reasonably be expected to be caused to the environment. O. Reg. 359/09, s. 2.

**Environment**

In the REA regulation, “environment” has the same meaning as in Part V.0.1 of the Environmental Protection Act and this is the same definition as under the Environmental Assessment Act. The “environment” means,

(a) air, land or water,
(b) plant and animal life, including human life,
(c) the social, economic and cultural conditions that influence the life of humans or a community,
(d) any building, structure, machine or other device or thing made by humans,
(e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or
(f) any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario.

**Applicant**

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While not defined an “applicant” means a person who proposes to engage in a renewable energy project.

**Application**
The ‘application” means an application for a renewable energy approval under the REA regulation - O. Reg. 359/09.
Appendix 3. Definitions and Setback Distances for Natural Features and Water Bodies under O.Reg.359/09.

**Wetlands**
Wetlands are generally defined as non-agricultural lands that are seasonally or permanently covered by shallow water and have hydric soils and vegetation dominated by water tolerant plants. Wetlands in Ontario are classified as northern, southern, or coastal. Northern and southern wetlands are classified according to the Provincial Policy Statement (PPS) issued under the *Planning Act*. Northern wetlands are currently defined to exist on land that lies above the northern extent of Ecoregions 5E, 6E and 7E in the PPS while southern wetlands exist anywhere below this boundary. Coastal wetlands are defined as a wetland located on Lake Ontario, Erie, Huron, Superior, or St. Clair, as well as on the St. Mary’s, St. Clair, Detroit, Niagara, or St. Lawrence Rivers.

The construction, installation and expansion of a renewable energy facility for which a REA is required is prohibited within a provincially significant southern or coastal wetland under s. 37 of O.Reg.359/09.

In addition to this prohibition, renewable energy projects must not be engaged in at a project location within a setback distance of 120 m. If any component of a renewable energy project is planned within this setback distance, an Environmental Impact Study must be prepared as part of the application for a REA.

**Areas of Natural or Scientific Interest (ANSI)**
Provincially significant areas of natural and scientific interest are defined in accordance with the assessment of natural features required in site planning. The Ministry of Natural Resources Publication “Natural Heritage Reference Manual – Second Edition” must be used as a guide to determine the significance of ANSI.

ANSI that relate to the geological, soil, or landform features of the environment are characterised as having “earth science values”. These require setbacks of 50 m from the nearest part of the project location. For other provincially significant ANSI (life science), a setback of 120 m is required. If the project location is planned within this respective 50 m or 120 m setback distance, an Environmental Impact Study must be performed.

**Provincial Parks and Conservation Reserves**
The construction, installation or expansion of renewable energy facilities, for which a REA is required are not permitted in provincial parks or conservation reserves if they are prohibited activities by the *Provincial Parks and Conservation Reserves Act* or a regulation made under it. A 120 m setback distance should be applied to the project location from all provincial parks and conservation reserves.

**Valleylands and Woodlands**
Valleylands are defined as natural areas that occur in a valley or other landform depression with the presence of flowing or standing water for some period of the year. Woodlands are defined as lands with tree densities per hectare as follows:
• 1,000 of any size
• 750 with trunk diameter of 5 cm
• 500 with trunk diameter of 12 cm
• 250 with trunk diameter of 20 cm

This definition does not include fruit, nut or Christmas tree farm plantations. For the purposes of these definitions, only valley lands and woodlands south and east of the Canadian Shield as described in the Provincial Policy Statement are considered.

Both significant valleylands and woodlands must be 120 m away from where a project is engaged in. As for other natural features described previously, this setback can be adjusted if an environmental impact study is conducted.

Other significant wildlife habitat identified through natural feature assessment must be treated with a similar 120 m setback in absence of an environmental impact study.

Setbacks in the Greenbelt and Oak Ridges Moraine
There are additional setback requirements apply if a project location is in either the Protected Countryside as defined in Schedule 1 of the Greenbelt Plan and or the Oak Ridges Moraine Conservation Plan Area subject to the Oak Ridges Moraine Conservation Plan. These are:

• Any southern wetland, even those not evaluated to be “provincially significant”, must have a setback distance of 120 m
• Sand barrens, savannah, or tallgrass prairie, as defined in the Oak Ridges Moraine Conservation Act must have a setback distance of 120 m

For the Protected Countryside, project locations must be setback a distance of 120 m from an alvar. Alvars are naturally open areas of thin or no soil over essentially flat limestone, dolostone, or marble rock, supporting a sparse vegetation cover of mostly shrubs and herbs.

As with other natural features, it is possible to engaged in a renewable energy project in respect of a wind facility within the 120 m setback if an environmental impact study is prepared.

Setbacks from Water Bodies
Wind facilities must be constructed or installed in such an manner that they do not unduly impact water bodies. The term water body has been defined in O.Reg. 359/09 to include a lake, a permanent or intermittent stream, or a seepage area but not:

• grassed waterways;
• temporary channels for drainage such as furrows or shallow channels that can be tilled and driven through;
• roadside ditches that do not contain streams;
• temporarily ponded areas that are normally farmed;
• dugout ponds;
• artificial bodies of water intended for storage or treatment of agricultural runoff.
Permanent streams are those that continually flow during an average year. Intermittent streams are natural or artificial channels that carry water intermittently and are free from vegetation dominated by plant communities that require or prefer the presence of water or continuously saturated soil to survive.

Seepage areas are sites where ground water emerges and the water table is present at the ground surface including springs.

In general there are two setback limits that should be considered: under s. 39(1), a 30 m setback from the water body average annual high water mark of a lake, intermittent stream, permanent stream or seepage area (to protect direct impacts on shoreline vegetation) and under s. 40(1), a larger setback of 120 or 300 m (depending on the water body) to protect the drainage area related to the water body.

In respect of the setbacks under s. 39(1), for class 3 or 4 wind facilities, turbines and transformer stations must be located outside of the setback distance from water bodies. For class 5 wind facilities, transformer stations must be located outside of the setback distance from water bodies. Development of other facility components such as transmission lines and roads can be built within the setbacks, however a water body report must be prepared in accordance with section 39(2) and submitted as part of the application.

While water bodies like lakes, streams and seepage areas are subject to the 120 m setback to protect drainage areas, 300 m is needed for sensitive lake trout lakes. Lake trout lakes are defined as those that have been designated as such by the Ministry of Natural Resources. The 300 m setback applies to lake trout lakes if they are at or above development capacity. Development within the drainage area setbacks of 120 or 300 m is permitted, however only if the prepared in accordance with section 40(2) and submitted as part of the application.
## Appendix 4. REA requirement summary tables for renewable energy facilities by technology

### Solar

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<thead>
<tr>
<th>Plans &amp; Reports</th>
<th>Class 1: All ≤ 10 kW</th>
<th>Class 2 Roof/wall &gt; 10 kW</th>
<th>Class 3 Ground &gt; 10 kW</th>
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<th>Class 3 (Land Turbine ≥ 50 kW and &lt; 102 dBA)</th>
<th>Class 4 (Land Turbine ≥ 50 kW and with ≥ 102 dBa &gt;107 dBA)</th>
<th>Class 5 (Off-Shore* Turbine Facility)</th>
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*in direct contact with surface water other than in a wetland
+depends on the number of turbines that form part of the facility or are located within 3 km of a noise receptor
## Bio-energy
### (Anaerobic Digestion, Biofuel, Biogas)

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| Archaeological Features | see note 1 | see note 1 | see note 1 | see note 1 | X | X | X |
| Natural Features | X | X | X | X | X | X |
| Water Bodies | X | X | X | X | X | X |
| Provincial Policy Plans | X | X | X | X | X | X |
| Technical | Emissions Summary and Dispersion Modelling Report | X | X | X
| Noise Study Report | X | X | X |
| Effluent Management Plan Report | X | X | X |
| Hydrogeological Assessment Report | see note 2 | see note 2 | X |
| Surface Water Assessment Report | see note 2 | see note 2 | X |
| Financial Assurance Estimate | X | X | X |
| Setbacks & Mitigation | Setback from Odour Receptors | 250m | 250m | 250m | 250m |
| Lower Setback with Mitigation | 125m | see note 3 | 125m | see note 3 |

### Notes:
1. Note that anaerobic digestion facilities located at a farm operation are exempt from heritage requirements. However, archaeological assessments are required for farm based AD facilities when these facilities are located on a property designated as an archaeological site under Regulation 875 under the Ontario Heritage Act, or a known archaeological resources within 250 m.

2. Class 2 anaerobic digestion facilities must submit a hydrogeological assessment when the prescribed construction and siting standards for nutrient storages in section 10 or 13 of the Nutrient Management Strategies Regulation O. Reg. 267/03 do not apply.

3. Class 1 and 2 anaerobic digestion facilities greater than 500kW may be sited closer than the setback if the applicants submit an ESDM report, noise study report, and odour study report.
# Bio-energy (Thermal Treatment)

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<tr>
<td>Lower Setback with studies</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Note 1:** Note that thermal treatment facilities located at a farm operation are exempt from heritage requirements. However, archaeological assessments are required for farm based thermal treatment facilities when these facilities are located on a property designated as an archaeological site under Regulation 875 under the Ontario Heritage Act, or a known archaeological resources within 250 m.

**Note 2:** Class 2 thermal treatment biomass storage areas can be sited closer than the 250m setback provided an odour study is submitted. Class 2 thermal treatment generating units can be sited closer than the 250m setback provided an ESDM and Noise study are submitted.
Renewable Energy Approvals

Technical Bulletin
Technical Bulletin Three
Guidance for preparing the Construction Plan Report
as part of an application under O.Reg.359/09
Disclaimer: This technical bulletin should not be construed as legal advice. Please review Ontario Regulation 359/09. If you have any questions about the application or interpretation of this regulation you should consult a lawyer.
Contents

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1. Purpose of this Technical Bulletin
The purpose of this bulletin is to clarify the requirements for the Construction Plan Report, a component of an application for Renewable Energy Approval under Regulation 359/09. This document may be updated from time to time and is intended as guidance only: O.Reg.359/09 should be interpreted directly for the current legal requirements of a Renewable Energy Approval (REA).

The Construction Plan Report is required as part of an application for all renewable energy projects that require a REA with the exception of Class 2 wind facilities (those with name plate capacity greater than 3 kW but less than 50 kW). Due to the relative simplicity of Class 2 wind projects, they only require description in the Project Description Report.

The purpose of the Construction Plan Report is to describe in sufficient detail project activities related to the construction phase so that all potential negative environmental effects may be identified. The report must describe mitigation measures in respect of negative environmental effects of the construction or installation.

The Construction Plan Report should contribute to and be consistent with information presented in other reports submitted as part of a REA application. For instance the construction plans are expected to describe the installation of all project components detailed in the Design and Operations Report. For more information on this report see the Ministry of the Environment Publication “Technical Update #2: Guidance for preparing the Design and Operations Report as part of an application under O.Reg.359/09”, referred to in this document as the Design and Operations Report Guide. As well, the Construction Plan Report should also provide details on potential negative environmental effects arising from construction activities, which should support the description of negative environmental effects presented in the Project Description Report.

An additional function of the Construction Plan Report is to act as a communication tool for public and aboriginal consultation. A draft report must be made available to the public 60 days prior to the final public consultation meeting for the renewable energy project in accordance with section 16 of O.Reg.359/09.

2. Construction Plan Report Content
The principal content of the Construction Plan Report includes a description of:

- All construction and installation activities, including their timing and location
- All negative environmental effects that may occur as a result of construction or installation activities within 300 meters of the project location
- Mitigation measures proposed in respect of any potential negative environmental effects

The structure of the report should be selected by the applicant to provide a clear account of these contents. This could involve breaking down the description according to construction phases or by related activities. An introductory section summarizing the general timing of the principal construction activities should be considered. Pertinent sections of other reports, such as the site plan in the Design and Operations Report can be reprinted or referenced where appropriate.
Concluding remarks regarding the potential negative environmental effects resulting from construction activities should also be provided.

2.1. Description of Construction and Installation Activities
The Construction Plan Report must contain a detailed description of all activities that will occur in order to bring the project into operation. This should cover the construction and installation of all equipment, roads, transmission lines, transformers, and other ancillary components proposed for the project including the construction of associated buildings or structures (a more detailed definition of what is included in a renewable energy project is given in the Ministry of the Environment publication “Technical Bulletin #1: Guidance for preparing the Project Description Report as part of an application under O.Reg.359/09”). These descriptions can be provided in text or through the use of maps and figures as necessary. Activities are project specific but can include site preparation, equipment installation and connection, and post installation activities such as the restoration of vegetation or impacted water bodies. For each project component, the following aspects of the construction and installation process should be described with an emphasis on any attribute that could cause or mitigate an environmental effect, including the following:

Materials brought on site
A description of all materials needed for construction. For a road, this could involve the gravel or other fill needed. For a foundation or footing, this could involve wood, concrete and/or steel structural components that require description. For generation equipment, materials needed for all support structures or buildings or the generation equipment itself should be included. The description must provide, if applicable:
- All quantities and types of materials that will be transported onsite for construction
- The method of transporting the materials, such as by truck, with details on the size and number of trucks
- The timeline and operational plan for transporting materials to the site
- The site locations where materials will be used
- Any plans to temporarily store materials on-site, including the duration of storage

Construction equipment used
A description of all large machinery used in construction. This could involve equipment to excavate or grade ground, drill footings, or erect structures such as through the use of cranes. The description should provide:
- The type, size and weight (if applicable) of construction equipment
- The potential for the equipment to emit noise and dust
- Any chemicals used in the operation of construction equipment including fuel. The description should describe how the chemicals are managed to prevent negative environmental effects
- How the equipment will be brought into and out of the site

Timing and operational plans
The timing of proposed construction and installation activities must be described. This should indicate:
- The sequence of events
• The duration of any activity
• The timing with regard to seasons insofar as seasonality influences potential environmental effects.
• The time of day that activities will be conducted

Temporary uses of land
Construction activities may result in temporary changes to land surface or grading as well as the installation of temporary structures such as culverts. This may be due to the construction of temporary access roads or staging areas. Any change to land that occurs during construction and is not reflected in the permanent design of the renewable energy facility (i.e. site plan of the Design and Operations Report) should be described. This should include:
  • The extent of the affected area
  • A description of the land use prior to construction
  • A description of the temporary land use during construction
  • The timing and duration of the temporary change

Materials generated at, or transported from, the project location
Some construction activities will result in the generation of materials that have no further use at the project location. This could include aggregates excavated or vegetation removed in respect of installation of a generation facility, among others. Such materials may be stored/disposed of on-site or transported offsite. Any materials generated as a result of construction or installation activities should be described, including the following:
  • The quantity and type of material generated
  • If stored or disposed of at the project location, an account of how the storage or disposal will be undertaken
  • If transported offsite, the proposed future use or final disposal of the material. If materials excavated are contaminated their disposal may be regulated under Regulation 347 (General – Waste Management), made under the Environmental Protection Act.
  • If transported offsite, the proposed method of transporting the material including the type and number of trucks, if relevant.

It should be noted that on-site disposal of waste generated during construction or installation may require a Certificate of Approval for waste under Part V of the Environmental Protection Act. If on-site disposal of waste generated during construction or installation of a renewable energy generation facility is proposed, project proponents should contact the Ministry of the Environment to determine if a Certificate of Approval is needed for this disposal.

2.2. Description of Negative Environmental Effects
With the construction and installation activities detailed, it is possible to describe any negative environmental effects that could arise from construction or installation of the renewable energy generation facility.

As required in Table 1 of O.Reg.359/09, the description of negative environmental effects must include those caused by construction and installation activities within 300 metres of the project location. This description of negative effects to 300 metres is required even if the project meets setback requirements from natural features and water bodies.
In describing the effects, both the nature and magnitude of the effect must be included.

While it is the applicant’s responsibility to include all potential negative environmental effects as they relate to the project, the following sections provide guidance regarding common potential environmental effects during construction:

**Stormwater runoff impacts**
Construction activities can change land surface properties that may result in a negative environmental effect such as degradation of local surface water quality caused by stormwater runoff. Any activities that alter the surface properties of land or water drainage should be considered for potential to cause negative impacts. Some examples include:

- Removal of vegetation
- Impervious surface treatments such as concrete or asphalt
- Re-grading land
- Compacting soils through use of heavy machinery

**Dust and noise emissions**
Construction activities have the potential to emit contaminants to air. The liberation of dust through excavation, drilling or the use of trucks on dirt roads, among others, should be considered for potential negative effects, if applicable. Likewise if the operation of heavy machinery could result in noise emissions that may impact neighbouring noise receptors, these should be described.

**Destruction of vegetation and habitat**
The use of construction machinery may result in habitat loss due to compacting of ground or destruction/removal of vegetation. Any such effects should be described.

**Impacts on water bodies**
Some project components such as roads or transmission lines may be built in proximity to, or over water bodies. The construction may include temporary culverts, weirs, or diversion of streams, among other things. If such components could negatively affect the water quality and/or quantity, a description of the potential negative effects is required. For projects where a Water Body Assessment report has been prepared, such a report may be referenced to support the description of the environmental effects caused by construction and installation activities.

**Impacts related to water takings**
If a project includes a proposal to take water from a ground or surface water source in order to conduct construction activities, such as when significant quantities of groundwater are pumped from excavated areas, potential impacts on water resources must be described. An important environmental effect to consider is the potential for the project to interfere with existing uses of the water resource.

Applicants to a Renewable Energy Approval do not also require Permits to Take Water (PTTW) under the *Ontario Water Resources Act*. However, the information related to a water taking provided in the Construction Plan Report should be guided by requirements for PTTWs.
Guidance for a PTTW application can be found in the Ministry of the Environment publication “Permit to Take Water (PTTW) Manual” (2005 publication 4932e, available at http://www.ene.gov.on.ca/en/publications). Requirements for PTTW applications and the methods used to evaluate and determine effects on the water source described in this manual should be used to guide the description of water takings that result from construction activities.

**Fuel spills**

Fuels used in construction equipment can potentially cause negative environmental effects if they are spilled during fuelling or storage. If the planned construction activities present the potential for fuel spills this should be described.

**Impacts on Archaeological Resources**

In preparing a complete REA application, applicants are required to assess archaeological heritage resources and protected properties. The assessments may include some provisions for ensuring construction activities do not damage these resources. If such concerns are raised in an assessment, the applicant should describe the potential for negative effects.

As noted above, this list of potential environmental effects serves only to guide applicants. It is the applicant’s responsibility to present all potential negative environmental effects.

### 2.3. Mitigation Measures

For each potential negative environmental effect caused during construction and installation, the applicant is required to describe any mitigation measures proposed. Mitigation measures can include:

- Modifying the types of construction activities engaged in
- Installation of additional treatment technologies such as those that remediate or contain discharges of contaminants
- Changing the schedule or operational practices of construction activities

The mitigation measures should be described in sufficient detail so that they can be reviewed by the Ministry of the Environment to determine their adequacy. Mitigation measures will also be discussed in consultation with municipalities to determine potential impacts on provision of municipal services. See the Ministry of the Environment publication “Technical Update #5: Guidance for preparing the Consultation Report as part of an application under O.Reg.359/09” for more information on consultation requirements. The examples below illustrate different types of mitigation and the information that could be presented to describe them:

**Modification to construction activities**

An example of a modification to a construction activity is where horizontal directional drilling is used to install a subsurface transmission line as opposed to a trench installation. This technique may mitigate impacts on water bodies or natural features under which the line is installed. If such a mitigation measure is proposed, the information required in the Construction Plan Report in describing the measure would include describing the equipment used for installation and any additional potential effects as a result of the horizontal directional drilling equipment itself.

**Treatment technologies**
An example of the use of treatment technologies is the use of sediment containment structures such as fencing or stormwater management ponds to mitigate negative effects on a water body due to stormwater runoff. In this case, the structures/equipment should be defined with respect to their location, technical specifications, and duration of installation. Information on how these structures will be monitored, operated, and maintained must also be provided. The report must also describe how any repairs required to address construction-related damage to structures such as stormwater management ponds will be made. If the equipment is designed to achieve a performance objective such as a concentration limit, the applicant should describe how the technology will be monitored and maintained to ensure proper function. In some cases, the treatment technologies used for mitigation will be more fully described in a Water Body Assessment Report or other report and can be referenced where applicable.

**Scheduling and operational changes**
Examples of how scheduling and operational aspects of construction and installation activities can mitigate impacts include:

- Conducting excavations on days with low wind to prevent dust emissions and using water to control the dust
- Operating loud machinery during daytime hours only
- Conducting vegetation removal and other site preparation outside of wildlife breeding seasons.

When describing these measures, the specific criteria for determining the timing of activities should be discussed (e.g., what would constitute a windy day? or what are the seasonal bounds for reproduction of wildlife of interest?) with rationale given for such determinations.

**3. Environmental Effects Monitoring Plan**
Environmental monitoring of the identified potential negative environmental effects may be proposed in addition to the mitigation measures. Where the likelihood of a significant negative environmental effect is low, the applicant may also propose a monitoring approach in lieu of a mitigation measure. Monitoring approaches should be described in sufficient detail, including:

- Methodologies to be used
- Sampling protocols (where and when, quality assurance)
- Performance objectives used to evaluate effectiveness

If monitoring is a component of a mitigation measure, the description should also identify what actions will be taken if monitoring reveals that negative effects are occurring.

An environmental effects monitoring plan is also a requirement of the Design and Operations Report as described in Table 1 of O.Reg.359/09 and the Design and Operations Report Guide. Applicants are encouraged to structure reports in a manner that achieves clarity. They may consider referencing the Design and Operations Report monitoring plan in the Construction Report Plan where relevant.
### Appendix 1. Requirements for the Construction Plan Report in Table 1 of O.Reg.359/09

<table>
<thead>
<tr>
<th>Name of document</th>
<th>Requirements</th>
<th>Renewable energy project</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Construction plan report</td>
<td>Set out a description of the following in respect of the renewable energy project:</td>
<td>Any renewable energy project, other than a project in respect of a Class 2 wind facility.</td>
</tr>
<tr>
<td></td>
<td>1. Details of any construction or installation activities.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. The location and timing of any construction or installation activities for the duration of the construction or installation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Any negative environmental effects that may result from construction or installation activities within a 300 metre radius of the activities.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Mitigation measures in respect of any negative environmental effects mentioned in paragraph 3.</td>
<td></td>
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</tbody>
</table>
Appendix 2. Key Definitions for Renewable Energy Generation Projects

Renewable Energy Generation Facility

Under the Electricity Act, 1998, a “renewable energy generation facility” is a generation facility that generates electricity from a renewable energy source and must meet criteria prescribed by regulation. It includes associated or ancillary equipment, systems and technologies as may also be prescribed by regulation, but does not include an associated waste disposal site, unless the site is prescribed by regulation for the purposes of this definition.

Under s O. Reg. 160/99 (Definitions and Exemptions) made under the Electricity Act, 1998, this definition is expanded in subsections 1(4) to 1(6) to stipulate that:

(4) For the purposes of the definition of “renewable energy generation facility” in the Electricity Act, 1998, the following associated or ancillary equipment, systems and technologies are prescribed:
   1. Transmission or distribution lines of less than 50 kilometres in length that are associated with or ancillary to a renewable energy generation facility.
   2. Transformer stations or distribution stations that are associated with or ancillary to a renewable energy generation facility.
   3. Any transportation systems that are associated with or ancillary to the provision of access to a renewable energy generation facility, during the construction, installation, use, operation, changing or retiring of a renewable energy generation facility.

(5) For the purposes of subsection (4), the following apply:
   1. A distribution line is associated with or ancillary to a renewable energy generation facility if the line is used to distribute electricity within the facility or from the facility to the distribution system of the distributor in whose distribution service area the renewable energy generation facility is located.
   2. A transmission line is associated with or ancillary to a renewable energy generation facility if the line is used to transmit electricity within the facility or from the facility to the IESO-controlled grid.
   3. A transformer station or distribution station is associated with or ancillary to a renewable energy generation facility if the station is used to transform the voltage of electricity at the facility, on a transmission line or on a distributor’s distribution system which is associated with or ancillary to the facility.
   4. A transportation system includes all transportation systems constructed solely to provide access to the renewable energy generation facility, including transportation systems on Crown land, but does not include a highway which is intended for or used by the general public for the passage of vehicles.

(6) For the purposes of the definition of “renewable energy generation facility” in the Act, the following classes of waste disposal sites are prescribed:
   1. A waste disposal site where the material referred to in clause (b) of the definition of biogas is subject to anaerobic digestion.
   2. A waste disposal site where biomass is thermally treated.
A renewable energy generation facility includes any permanent and temporary structures, equipment or other things required to generate electricity as well as the associated or ancillary equipment, systems and technologies prescribed in O. Reg. 160/99 above.

**Renewable Energy Project**

A “renewable energy project” is defined in the Green Energy Act, 2009 and consists of a series of activities “construction, installation, use, operation, changing or retiring” in respect of a renewable energy generation facility.

**Project Location**

The “project location” is defined in O. Reg 359/09 to mean, when used in relation to a renewable energy project, a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project;

This includes all land, buildings or structures where a person will engage in a renewable energy project including during the the construction, installation, operation and use, changing or retiring of the facility (. The project location does not simply include the land (buildings and structures) on, in or over which the facility is located but the land (buildings or structures) on, in or over which the construction or installation activity will take place and where the operation or use of the facility will take place. The project location also includes any air space in which a person is engaging in or proposes to engage in a project.

**Negative Environmental Effect**

In the REA regulation, a reference to a “negative environmental effect” is a reference to a negative effect that will be caused or that might reasonably be expected to be caused to the environment. O. Reg. 359/09, s. 2.

**Environment**

In the REA regulation, “environment” has the same meaning as in Part V.0.1 of the Environmental Protection Act and this is the same definition as under the Environmental Assessment Act. The “environment” means,

(a) air, land or water,
(b) plant and animal life, including human life,
(c) the social, economic and cultural conditions that influence the life of humans or a community,
(d) any building, structure, machine or other device or thing made by humans,
(e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or
(f) any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario.
Applicant

While not defined an “applicant” means a person who proposes to engage in a renewable energy project;

Application

The ‘application” means an application for a renewable energy approval under the REA regulation - O. Reg. 359/09.
### Appendix 3. REA requirement summary tables for renewable energy facilities by technology

#### Solar

<table>
<thead>
<tr>
<th>Plans &amp; Reports</th>
<th>Class 1: All ≤ 10 kW</th>
<th>Class 2 Roof/wall &gt; 10 kW</th>
<th>Class 3 Ground &gt; 10 kW</th>
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<td>Project Description Report</td>
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<td>Construction Plan Report</td>
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<tr>
<td>Design and Operations Report</td>
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<td>Decommissioning Plan Report</td>
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<td>Project Notice</td>
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<td>Meeting Notice(s)</td>
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<td>Public Consultation</td>
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<td>Water Bodies</td>
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<td>Technical</td>
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<td>Site-specific Noise Study Report</td>
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## Wind

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<td>Land Based Turbine 3 &gt; 50kW</td>
<td>Land Turbine ≥ 50 kW and &lt; 102 dBA</td>
<td>Land Turbine ≥ 50 kW and with ≥ 102 dBA</td>
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### Plans & Reports

- No REA: X
- REA Required: X X X X X X X
- Project Description Report: X X X X X X
- Construction Plan Report: X X X X
- Design and Operations Report: X X X X
- Decommissioning Plan Report: X X X X

### Consultation

- Project Notice: X X X X X X
- Meeting Notice(s): X X X X X
- Public Consultation: X X X X X
- Municipal Consultation: X X X X X
- Aboriginal Consultation: X X X X
- Consultation Report: X X X X

### Heritage & Protected Areas

- Cultural Heritage Features: X X X X X
- Archaeological Features: X X X X
- Natural Features: X X X X
- Water Bodies: X X X X
- Provincial Policy Plans: X X X X

### Technical

- Wind Turbine Specifications Report: X X X X X
- Must meet noise matrix: X
- Wind Farm Noise Report: Maybe+ X X
- Offshore Wind Facility Report: X

### Setbacks & Mitigation

- Parcel Boundary Setback: hub height hub height hub height hub height
- Lower Parcel Boundary Setback with Study: blade + 10m blade + 10m blade + 10m blade + 10m
- Road/railway right of way setback: blade + 10m blade + 10m blade + 10m blade + 10m
- Minimum Noise Setback: 550 m 550 m
- Lower Noise setback with Mitigation: road noise road noise

* in direct contact with surface water other than in a wetland
+ depends on the number of turbines that form part of the facility or are located within 3 km of a noise receptor
# Bio-energy

(Anaerobic Digestion, Biofuel, Biogas)

<table>
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<tr>
<th></th>
<th>NMA approved On-farm Anaerobic Digesters and no EPA waste certificate of approval</th>
<th>Class 1 AD Facility</th>
<th>Class 2 AD Facility</th>
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Note 1: Note that anaerobic digestion facilities located at a farm operation are exempt from heritage requirements. However, archaeological assessments are required for farm based AD facilities when these facilities are located on a property designated as an archaeological site under Regulation 875 under the Ontario Heritage Act, or a known archaeological resources within 250 m.

Note 2: Class 2 anaerobic digestion facilities must submit a hydrogeological assessment when the prescribed construction and siting standards for nutrient storages in section 10 or 13 of the Nutrient Management Strategies Regulation O. Reg. 267/03 do not apply.

Note 3: Class 1 and 2 anaerobic digestion facilities greater than 500kW may be sited closer than the setback if the applicants submit an ESDM report, noise study report, and odour study report.
### Bio-energy

**(Thermal Treatment)**

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**Note 1:** Note that thermal treatment facilities located at a farm operation are exempt from heritage requirements. However, archaeological assessments are required for farm based thermal treatment facilities when these facilities are located on a property designated as an archaeological site under Regulation 875 under the Ontario Heritage Act, or a known archaeological resources within 250 m.

**Note 2:** Class 2 thermal treatment biomass storage areas can be sited closer than the 250m setback provided an odour study is submitted. Class 2 thermal treatment generating units can be sited closer than the 250m setback provided an ESDM and Noise study are submitted.
Technical Bulletin Four
Guidance for preparing the Decommissioning Plan Report
as part of an application under O.Reg.359/09

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1. Purpose of this Technical Bulletin

The purpose of this Decommissioning Plan Report (DPR) Technical Bulletin is to provide direction and guidance to persons proposing to engage in a Renewable Energy Project to which the process established under the Renewable Energy Approval Regulation (O. Reg. 359/09) applies.

The DPR is identified in item 3 of Table 1, found in the Renewable Energy Approval Regulation (O. Reg. 359/09). It is a mandatory report that is included as part of the complete submission sent to the Ministry of the Environment (MOE) for approval of all renewable energy projects that require a renewable energy approval (REA) other than small scale Class 2 wind facilities (> 3 kW and < 50 kW). It may also be reviewed in relation to permits and approvals from the Ministry of Natural Resources (MNR), the Ministry of Tourism and Culture (MTC) and the Ministry of Transportation (MTO). For example, the DPR will be reviewed by MNR if the project is on Crown land, and conditions related to decommissioning may be included in MNR lease documents.

A DPR is required to describe how applicant proposes to restore the project location to a clean and safe condition. This includes retiring the elements of the renewable energy generation facility, restoring the land and water and managing the excess materials and waste.

The DPR describes the plans for decommissioning the renewable energy generation facility and is required to contain, at a minimum, the following information:

1. Procedures for dismantling or demolishing the facility
2. Activities related to the restoration of any land and water negatively affected by the facility
3. Procedures for managing excess materials and waste

From a process standpoint the DPR is prepared after applicant has prepared a draft of the Project Description Report. The starting points and end points are discussed in greater detail within the body of this Technical Bulletin.

It is mandatory as per section 16 of O. Reg. 359/09 for the DPR to be made available 60 days prior to the final public meeting which must occur prior to the submission of a REA application to MOE.

2. Key Definitions

When preparing a DPR it is important to understand the definitions of “renewable energy generation facility” and “renewable energy project”. The terms are not interchangeable. A list of key definitions is included in the Appendix 1 of this Technical Bulletin.

3. Requirements

A DPR for a renewable energy generation facility must include information concerning:

- Decommissioning during construction (abandonment of project)
- Decommissioning after ceasing operation
• Restoration of lands negatively affected by the facility

These are described in the following sections:

3.1. Decommissioning during Construction (Abandonment of Project)
In the event that construction of a renewable energy generation facility and associated work is not completed, exposed soils may be subject to erosion due to wind or stormwater run-off, which may respectively result in the creation of dust and sedimentation impacts. It is recommended that the DPR describes the steps that will be taken and the measures that will be implemented to mitigate any impacts resulting from the abandonment of a renewable energy generation facility.

3.2. Decommissioning after Ceasing Operation
The DPR must include the steps that will be taken to decommission the entire facility or individual components of the facility in the event that the operation closes down.

3.3. Restoration of lands negatively affected by the facility
In the DPR, applicants are required to describe how the lands and water affected by the renewable energy facility will be restored. The ministry expectation is that the restoration will be to a safe, clean and pre-facility condition.

4. Decommissioning Requirements and Process Description
Decommissioning of a renewable energy generation facility will require dismantling and removal of equipment and site restoration. In describing the decommissioning process steps, it is recommended that the DPR describes the plans for the decommissioning of all structures, foundations and infrastructures that are part of a renewable energy generation facility. Applicants should note that practices that limit the need for clearing an area for the purposes of equipment removal are preferred. The lists below provide a general description of the project components for various parts of the renewable energy generation facilities that will be decommissioned.

Should applicant be of the view that certain components of the facility should not be removed the DPR should include the reasons why.

4.1. Equipment Dismantling and Removal
The tables below represent a general description of decommissioning activities. It should be noted that decommissioning plan in respect of these activities should include but not be limited to the items presented in these tables.

4.1.1. Above-ground Structure Decommissioning

| Wind | • Dismantling and removal of turbine components including blades, nacelle, tower and transformer  
| Bio-energy | • Dismantle and removal of above-ground buildings, structures, berms and equipments for disposal, recycle or sale, including but |
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| not limited to: biomass and product receiving, sorting, mixing, screening, loading, unloading and processing units, storage areas and structures; scale; dewatering and drying pads, structures, burners and associated equipment; conveyors; thermal treatment units; heat recovery unites; air pollution control equipment, including stacks; furnaces; boilers; above and below ground tanks; bunkers; generators; turbo generators; turbines; flaring systems; pipes, transformers; overhead collection lines; pasteurization tanks and equipments; digester tank(s), dismantling and removal of flexible/nonflexible digester roofing and any components associated with the above structures and equipment; and • Disconnecting and removing all electrical connections. |
|---|---|
| Solar | • Removal of panels, mounts and supporting structures, transformers and inverters, and transformer substations; • Removal of transmission/distribution lines; • Removal of roads and/or other transportation systems |
| Off-shore Wind | • Dismantling and removal of blade, nacelle, tower and containerised transformer • Removal of scour protection, grid connection, sub sea cabling, anemometry mast |

### 4.1.2. Below-ground Structure Decommissioning

| Wind | • Removal of all physical material pertaining to a wind turbine or wind facility |
| Bio-energy | • Removal of below-ground structures, including but not limited to: storage tanks; pipes; electrical components; foundations, and any other components associated with the said structures and equipment; and • Disconnecting and removing all electrical connections. |
| Solar | • Removal of underground mounts, supporting structures, electrical connections. |
| Off-shore Wind | • Removal of gravity foundation, monopole foundation, lattice tower with tension legs |

### 4.2. Site Restoration

In the DPR, applicants are required to describe how the lands and water negatively affected by the renewable energy facility will be restored. Applicants are encouraged to develop plans that will allow restoration of the lands and water that may have been affected by the renewable energy facility to a safe and clean condition and as close to a pre-construction state as feasible. Accordingly, it is recommended that the DPR includes a brief description of the pre-construction state of the project location.
The site restoration activities that may be considered as part of the Decommissioning Plan include but not limited to removal of all non-native material placed in the project location area, restoration of all disturbed areas to pre-existing facility state, where applicable by seeding and re-vegetation. In describing the site restoration activities, applicants are strongly encouraged to consider type of soil, size and type of infrastructure and develop measures accordingly. For example, if the renewable energy generation facility is located on agricultural land, it is recommended that measures that would ensure the restoration of the nutrient content of the soil be considered. Further, in the DPR, applicants are expected to consider erosion and sedimentation control measures and other Best Management Practices that would be followed during the decommissioning of a renewable energy generation facility.

4.3. Managing Excess Materials and Waste
In the DPR, applicants must describe the plans to manage the excess material and waste that will be generated as part of the decommissioning of the renewable energy generation facility. It is recommended that, in the DPR, applicants provide a description of the type of the excess material and waste that would be generated as a result of the decommissioning of the facility. Applicants are required to describe the procedures for managing excess materials and waste. This may include transporting excess material and waste off-site. If the excess material and waste will be disposed at a landfill site, the information about the receiving landfill site, if the excess material and waste will be reused, procedure for the reuse should be described. For bio-energy projects, for example, applicants are required to describe the process of the removal and proper disposal of any biomass that would remain at the facility.

5. Emergency Response and Communications Plans
Depending on the nature of the decommissioning activities proposed, applicants may need to include measures in the Emergency Response and Communications Plans to address concerns related to decommissioning. For a detailed discussion on Emergency Response and Communications Plans please refer to “Technical Bulletin #2 – Guidance for preparing the Design and Operations Report as part of an application under O. Reg. 359/09.”

6. Decommissioning Notification

7. Other Approvals
Applicants should note that they may require approvals other than REA for their projects and specifically for the decommissioning activities. It is highly recommended that in the DPR, applicants provide a list of and describe all other approvals or permits that they will be required to obtain for decommissioning of the project.

For example, after the decommissioning a renewable energy project, they may require a Record of Site Condition under the Ministry of the Environment’s Records of Site Condition Regulation, O. Reg. 153/04 made under the Environmental Protection Act (EPA) (Records of Site Condition - XV.1 of the Act).
For the renewable energy projects proposed to be located in an area under the jurisdiction of the Niagara Escarpment Commission (NEC), the DPR is required to be submitted to the NEC as part of the NEC permit process. Applicants should note that for the decommissioning activities for a project located in an area under the jurisdiction of the NEC, they will require a Development Permit (DP) from NEC. It is highly recommended that applicants consult with NEC on the issues related to the decommissioning of a renewable energy generation facility if the facility is proposed to be located in an area under the jurisdiction of the NEC.

In addition, decommissioning activities may require permit(s) from other agencies, including but not limited to, the federal Department of Fisheries and Oceans, MNR and Conservation Authorities. Applicants should also note that for projects within areas under forest management plans, there may be additional conditions regarding decommissioning and site restoration set out in the existing forest management plan that will need to be respected. For projects which will be located on Crown land, MNR should be consulted for additional requirements.

8. Financial Assurance
The Ministry of the Environment retains the ability to require financial assurance on a project specific basis on any project issued a REA under section 132 of the Environmental Protection Act. However, a financial assurance estimate is specifically required for class 2 and 3 anaerobic digestion facilities and thermal treatment facilities that are managing waste as identified in section 49, 50 and 52 of O. Reg. 359/09. Applicants are required to provide an estimated financial assurance amount that is calculated based on the amount of waste that will be managed in such facilities. This calculation and the provision of funds must be made in accordance with the Ministry of the Environment publication “Financial Assurance Guideline”, Guideline F-15, PIBS 0226e03, available at www.ene.gov.on.ca/en/publications. For projects that require a calculation of estimated financial assurance, this calculation should be included in the Design and Operations Report.

9. Conditions of Approval
Applicants should note that the REA Director has the authority to impose conditions on a REA to ensure that the decommissioning activities are implemented as described in the DPR. Depending on the project and the project location area, the REA may include conditions about

- providing notification regarding the plans to continue or cease the operation by the end of power purchase agreement,
- providing notification regarding the need for an application for amendment to the REA to keep the renewable energy facility in operation after the end of power purchase agreement,
- timing for the start and completion of the decommissioning activities,
- keeping the DPR up-to-date to ensure that when required a portion of the facility which is not operational due to technical failure can be properly decommissioned,
- the continuation of groundwater and surface water monitoring after operation, for a period of time acceptable to the MOE REA Director,
- site restoration measures that would ensure that the nutrient content of the soil is restored, especially when the project is located on agricultural land,
- restoration of the site as close to a pre-construction state as feasible, and
• providing a decommissioning cost estimate as well as the methods for ensuring that the funds will be available for decommissioning and site restoration.
Appendix 1. Key Definitions

Renewable Energy Generation Facility

Under the Electricity Act, 1998, a “renewable energy generation facility” (REGF) is a generation facility that generates electricity from a renewable energy source and must meet criteria prescribed by regulation. It includes associated or ancillary equipment, systems and technologies as may also be prescribed by regulation, but does not include an associated waste disposal site, unless the site is prescribed by regulation for the purposes of this definition.

Under s O. Reg. 160/99 (Definitions and Exemptions) made under the Electricity Act, 1998, this definition is expanded in subsections 1(4) to 1(6) to stipulate that:

(4) For the purposes of the definition of “renewable energy generation facility” in the Electricity Act, 1998, the following associated or ancillary equipment, systems and technologies are prescribed:

1. Transmission or distribution lines of less than 50 kilometres in length that are associated with or ancillary to a renewable energy generation facility.
2. Transformer stations or distribution stations that are associated with or ancillary to a renewable energy generation facility.
3. Any transportation systems that are associated with or ancillary to the provision of access to a renewable energy generation facility, during the construction, installation, use, operation, changing or retiring of a renewable energy generation facility.

(5) For the purposes of subsection (4), the following apply:

1. A distribution line is associated with or ancillary to a renewable energy generation facility if the line is used to distribute electricity within the facility or from the facility to the distribution system of the distributor in whose distribution service area the renewable energy generation facility is located.
2. A transmission line is associated with or ancillary to a renewable energy generation facility if the line is used to transmit electricity within the facility or from the facility to the IESO-controlled grid.
3. A transformer station or distribution station is associated with or ancillary to a renewable energy generation facility if the station is used to transform the voltage of electricity at the facility, on a transmission line or on a distributor’s distribution system which is associated with or ancillary to the facility.
4. A transportation system includes all transportation systems constructed solely to provide access to the renewable energy generation facility, including transportation systems on Crown land, but does not include a highway which is intended for or used by the general public for the passage of vehicles.

(6) For the purposes of the definition of “renewable energy generation facility” in the Act, the following classes of waste disposal sites are prescribed:

1. A waste disposal site where the material referred to in clause (b) of the definition of biogas is subject to anaerobic digestion.
2. A waste disposal site where biomass is thermally treated.
A renewable energy generation facility includes any permanent and temporary structures, equipment or other things required to generate electricity as well as the associated or ancillary equipment, systems and technologies prescribed in O. Reg. 160/99 above.

Renewable Energy Project

A “renewable energy project” is defined in the Green Energy Act, 2009 and consists of a series of activities “construction, installation, use, operation, changing or retiring” in respect of a renewable energy generation facility.

Project Location

The “project location” is defined in O. Reg 359/09 to mean, when used in relation to a renewable energy project, a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project;

This includes all land, buildings or structures where a person will engage in a renewable energy project including during the construction, installation, operation and use, changing or retiring of the facility. The project location does not simply include the land (buildings and structures) on, in or over which the facility is located but the land (buildings or structures) on, in or over which the construction or installation activity will take place and where the operation or use of the facility will take place. The project location also includes any air space in which a person is engaging in or proposes to engage in a project.

Negative Environmental Effect

In the REA regulation, a reference to a “negative environmental effect” is a reference to a negative effect that will be caused or that might reasonably be expected to be caused to the environment. O. Reg. 359/09, s. 2.

Environment

In the REA regulation, “environment” has the same meaning as in Part V.0.1 of the Environmental Protection Act and this is the same definition as under the Environmental Assessment Act. The “environment” means,

(a) air, land or water,
(b) plant and animal life, including human life,
(c) the social, economic and cultural conditions that influence the life of humans or a community,
(d) any building, structure, machine or other device or thing made by humans,
(e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or
(f) any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario.
**Applicant**

While not defined an “applicant” means a person who proposes to engage in a renewable energy project.

**Application**

The ‘application” means an application for a renewable energy approval under the REA regulation - O. Reg. 359/09.
Technical Bulletin Five

Guidance for preparing the Consultation Report

as part of an application under O.Reg.359/09

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Disclaimer: This technical bulletin should not be construed as legal advice. Please review Ontario Regulation 359/09. If you have any questions about the application or interpretation of this regulation you should consult a lawyer.
1. Purpose of this Technical Bulletin
The purpose of this Consultation Report Technical Bulletin is to provide direction and guidance to persons proposing to engage in a Renewable Energy Project to which the process established under the Renewable Energy Approval Regulation (O. Reg. 359/09) applies.

In particular this bulletin addresses consultation requirements under O. Reg 359/09 and the Ministry of the Environment’s (MOE) expectations regarding consultation with the public, Aboriginal communities and local municipalities and boards for renewable energy generation facilities. This bulletin also describes requirements for the preparation of a Consultation Report identified in item 2 of Table 1 of O. Reg. 359/09. There is a separate technical bulletin, which is currently being developed, to provide further guidance specifically on consultation with Aboriginal communities.

Although not specifically addressed in this bulletin, applicants are strongly encouraged to consult with other government agencies that may have an interest in their projects, including the Ministry of Natural Resources (MNR), Ministry of Transportation (MTO), Ministry of Tourism and Culture (MTC), Conservation Authorities (CAs) and the federal government agencies. Specifically, in completing a Records Review which is required under O.Reg. 359/09, applicants are expected to consult with all relevant agencies including but not limited to the MNR, MTO, MTC, CAs, and, where applicable, federal government agencies.

The Consultation Report is required as part of a complete submission for all renewable energy projects that require a REA with the exception of a small scale Class 2 wind facility. The Consultation Report provides the MOE with information on consultation conducted in respect of a renewable energy project. The Consultation Report is a tool applicants will produce to document how they consulted with interested and affected stakeholders in the area, and what changes were made to the project design as a result of consultation.

2. Key Definitions
When preparing a Consultation Report, it is important to consider some key definitions. A list of key definitions is included in Appendix 1 of this Technical Bulletin.

3. Requirements
O. Reg. 359/09 outlines the legal notification and consultation requirements for renewable energy generation facilities. Based on the assessment of the complexity and environmental sensitivity of the project, or the expected level of interest or controversy, applicants may decide to undertake additional notification and consultation activities other than those mandated by O. Reg. 359/09 for their projects.

Once an applicant has fulfilled the notification and consultation requirements outlined in O. Reg 359/09, it must document consultation activities in a Consultation Report. The Consultation Report must be included as part of applicant’s complete submission for a Renewable Energy Approval (REA), and must fulfill the information requirements set out in O. Reg. 359/09, item 2 of Table 1. For convenience, the information requirements are listed in Appendix 2 of this Technical Bulletin.

3.1. Notification Requirements
Applicants are required to provide notification to inform the public of a renewable energy project which they are proposing to develop. For most projects, applicants must also provide notification of the location and time of at least two public meetings regarding the renewable energy projects. Projects that do not require public meetings are listed in Appendix 3.

3.1.1. Notice to Engage in a Project
Once an applicant has determined that its project requires an approval in accordance with O.Reg. 359/09, a Notice of Proposal to Engage in a Project is required to be prepared, published and distributed in accordance with O. Reg 359/09. All renewable energy projects, for which a REA is required, regardless of class and energy source, require a Notice of Proposal to Engage in a Project to be issued.

In preparing a Notice of Proposal to Engage in a Project, applicants must use the template entitled The Renewable Energy Approval – Notice of a Proposal to Engage in a Renewable Energy Project s. 15(1)(a) Ontario Regulation 359/09. The template for the notice can be obtained from the MOE’s website and is included here in Appendix 4.

For projects that do not require public meetings, the Notice of Proposal to Engage in a Project must be issued at least 30 days before the application for a renewable energy approval is submitted to the MOE. Although public meetings are not required, applicants of such projects may choose to hold public meetings for these projects.

For all other projects which require public meetings, the Notice of Proposal to Engage in a Project can be combined with notices regarding the required public meetings.

3.1.2. Notice of Public Meeting(s)
Applicants are required to hold at least two public meetings, each on a separate day:
- in each local municipality in which the project location is situated; and
  - if the project location is in unorganized territory, within 25 kilometres of the project location, or
  - in the local municipality that is closest to the project location, if there is no appropriate place to hold a public meeting within 25 km of the project location.

As noted above, public meeting requirements do not apply to projects listed in Appendix 3.

In giving a Notice of a Public Meeting, applicants must use the template entitled “The Renewable Energy Approval – Notice of Meetings s.15 (1) (b) Ontario Regulation 359/09.” This document can be obtained from the MOE’s website and is included in this bulletin as Appendix 5. Where an applicant wishes to combine the Notice of Proposal to Engage in a Project with the Notice of a Public Meeting, the Notice of Meetings template should be used.

The Notice of Public Meeting must be distributed at least 30 days before the first public meeting. If this notice does not contain information about the final public meeting, a separate Notice of Public Meeting is to be prepared and published at least 60 days prior to the final public meeting.

3.1.3 Distribution of Notices
Applicants are required to publish a Notice of Proposal to Engage in a Project and/or a Notice of Public Meeting:

- on two separate days in a newspaper with circulation in each local municipality that falls within the project location,
- if reasonable, a newspaper printed by Aboriginal communities on the list provided by the Director, if such a newspaper exists and is permitted,
- if the project location is in unorganized territory, the Notice of Project must be published in a newspaper with a general circulation within 25 kilometres of the project location, or
- if no newspapers exists, the Notice must be posted in at least six conspicuous locations within 25 kilometres of the project location,
- If an applicant has a website, the Notice(s) must be posted on their website.
- While it is not a legal requirement, buildings frequented by the local community members such as libraries, community centres, municipal office buildings, local grocery stores, and post offices should be considered for posting a Project Notice. If the project location is not close to an urban settlement, applicants may consider posting the Notice(s) at the nearest road intersection within 25 km of the project location as well as on the project location. The size of such notice may be adjusted to increase its visibility.

Applicants are required to give (mail or deliver) copies of the Notices to:

- every assessed owner of land within 120 metres of the project location,
- every Aboriginal community identified on the list provided by the REA Director of the MOE and, any other Aboriginal community that, in the opinion of applicant, may have Aboriginal or treaty rights that are adversely impacted by the renewable energy project or may be interested in any negative environmental effects of the project,
- the clerk of each local municipality and upper-tier municipality in which the project location is situated,
- the secretary-treasurer of each local roads board of a local roads area in which the project location is situated,
- the secretary of each Local Services Board of a board area in which the project location is situated,
- the secretary-treasurer of a planning board that has jurisdiction in an area in which the project location is situated,
- the chair of the Niagara Escarpment Commission, if the project location is in the area of the Niagara Escarpment Plan,
- the REA Director at the MOE (Environmental Assessment and Approvals Branch), and
- the MOE's District Manager in each district which the project location is situated.

The above list is a minimum requirement but not exhaustive. Applicants are encouraged to also provide notice to other potentially interested persons that the applicant is aware of (such as landowners in the vicinity of the project location, local interest groups, businesses, and members of the public that may be affected by some aspect of the project). Applicants should consider the nature and extent of potential negative environmental effects of their projects, and the needs and interests of interested persons, in determining who to provide Notice to. For small-scale projects with minimal negative environmental effects and low public concern, providing Notices to the above list will likely be adequate. However, for larger projects with more significant
environmental effects and high levels of public concern, providing Notices beyond the above list is highly recommended. Applicants may also wish to distribute copies of Notices to other relevant agencies (such as the MNR, federal government agencies, etc.).

A variety of sources can be used by applicants in establishing mailing lists. For example, municipal property records can be used to identify owners of land. The Niagara Escarpment Commission contact information can be obtained at the following website: http://www.escarpment.org/home/index.php. The MOE’s District Offices and contact information are listed in Appendix 4 of this Technical Bulletin. For the contact information regarding local municipalities and local boards, applicants are encouraged to consult municipal websites. For a list of the municipalities in Ontario, applicants may consult the Association of Ontario Municipalities’ website at http://www.amo.on.ca/YLG/ylg/ontario.html and the Ministry of Municipal Affairs and Housing’s website at www.mah.gov.on.ca.

Notices are critical to ensure meaningful participation of interested and/or potentially affected parties. In addition to giving notice, applicants may use different means such as flyers, posters, internet, email and radio or TV announcements to communicate information about and solicit feedback on the project.

Local radio and TV stations can be an effective means of providing project notification to a wide community of potential interest. Use of a project website to post notices and provide project information is highly recommended. As noted above, where an applicant already has a website, notices must be posted on that website.

In addition, it may be beneficial to post notices in locations that are frequented by members of the local community as mentioned above. Posting in a variety of locations is encouraged for all projects, and as noted above is a requirement for projects where there is no newspaper with general circulation within 25 kilometres of the project location.

The steps to notify Aboriginal communities of a renewable energy project will be outlined in further detail in the MOE publication “Aboriginal Consultation Guide for Renewable Energy Projects governed under O.Reg. 359/09: Aboriginal Consultation Guide.” This document is currently being developed.

It may be possible to coordinate public notice requirements under the REA regulation with the notice requirements under other legislation. If applicants wish to provide coordinated notices for their renewable energy projects, applicants should consult the MOE before they post coordinated notices.

3.2. Consultation requirements
Consultation should be a two-way exchange of information between renewable energy project applicants and interested or potentially affected local groups, Aboriginal communities, members of the public as well as municipalities and local boards.
Consultation helps ensure that concerns are identified early and addressed where possible, in a transparent manner. Consultation also enables applicants to obtain and use local knowledge in their project designs and in the assessment of any potential negative environmental effect.

The purpose of consultation is:
- to ensure that relevant information about the renewable energy project proposed to be developed is provided to the relevant Aboriginal communities, members of the public and the municipalities, local boards;
- to obtain/identify relevant information/local knowledge in possession of the local communities, local municipalities and the Aboriginal communities;
- to identify concerns that may arise from the proposed renewable energy project; and
- to address concerns by way of providing additional information, explanation, changing project design or making commitments in response to local input.

3.2.1. Consultation with the Public
Consultation is necessary to be made aware of the concerns of adjacent land owners, interest groups and members of the public who may be directly affected by some aspect of the renewable energy project.

As noted above, there are no public meeting requirements for the projects listed in Appendix 3.

For the other projects, in accordance with section 16 (1) of O. Reg. 359/09, applicants are required to hold at least two public meetings, each on a separate day, in every municipality that the project is proposed to be engaged in. The first public meeting is to take place once the applicant has enough information to prepare a draft Project Description Report. The final public meeting is required when applicant has gathered all of the information needed to make a REA application.

While these two meetings are the minimum requirements set out in O. Reg. 359/09, applicants may wish to hold additional meetings throughout the project design and study period, depending on the needs of the community or complexity of the project.

Public meetings should be held at an easily accessible venue located close to the project location and at a convenient time to allow members of the community to attend.

The public meetings will allow applicants to provide information about the project, the planning and design details formulated to date as well as provide a forum to discuss potential impacts and concerns with local community members.

3.2.1.1. First Public Meeting
Prior to the first public meeting, a draft of the Project Description Report, prepared in accordance with the “Technical Bulletin #1 – Guidance for Preparing the Project Description Report as part of an application under O.Reg. 359/09,” must be posted on the applicant’s project website, if a website exists. In addition, applicants are expected to make paper copies of this report available to the public in local government offices, local municipal offices and/or libraries. At the meeting
itself, in accordance with O. Reg. 359/09, applicants must make a draft of the Project Description Report available for inspection.

3.2.1.2. Final Public Meeting
The second or final public meeting should take place when the applicant has completed all the necessary studies and requirements in order to submit a complete application to the MOE.

Sixty (60) days before the second or final public meeting is held, applicants must make available drafts of all the reports and technical studies to be submitted as part of their REA application other than the consultation report, by posting the drafts on the project website and making paper copies available to the public in each local municipality and in each part of an unorganized territory in which the project location is situated.

3.2.1.3. Public Consultation Methods
While mandatory consultation requirements are specified in O.Reg. 359/09, applicants may choose to undertake supplementary activities. It is highly recommended that the consultation techniques or methods that will be used are tailored to community needs and the nature of project in terms of potential for negative environmental effects.

3.2.2. Consultation with Aboriginal Communities
Aboriginal consultation is mandatory for applicants of projects requiring an REA, except for small wind projects (classified in O.Reg  359/09 as Class 2 Wind Facilities). The nature of the consultation will vary depending on the project. Applicant must contact the MOE for a list of Aboriginal communities that must be notified regarding the proposed project. The MOE will give applicant, on behalf of the Crown, a list of communities that may have a potential interest in the environmental effects of the project or Aboriginal or treaty rights that may be affected by it. In order to obtain the list of Aboriginal communities, applicants must submit a draft Project Description Report and a “Request Form for an REA Aboriginal Consultation List” to the REA Director of the Environmental Assessment and Approvals Branch at the MOE. The draft Project Description Report must be prepared in accordance with the “Technical Bulletin # 1: Guidance for Preparing the Project Description Report as part of an application under O.Reg. 359/09.”

Once a list of Aboriginal communities is obtained from the MOE, applicants must provide notification, and project information early in the process and make best efforts to consult with each Aboriginal community identified. Specific guidance on Aboriginal consultation requirements is currently being developed.

3.2.3. Consultation with Municipalities and other Local Authorities
For consultation with local municipalities and other local authorities, applicants must complete Part A of the form entitled Consultation Form: Municipalities, Local Authorities. A copy of this form can be obtained from the MOE’s website and is included in Appendix 6 of this Technical Bulletin.

Ninety (90) days before the final public meeting is held, applicants are required to distribute the form to the following individuals:
• the clerk of each local municipality and upper-tier municipality in which the project location is situated,
• the secretary-treasurer of the local roads board of each local roads area in which the project location is situated, and
• the secretary of the Local Services Board of each board area in which the project location is situated.

This is required for all renewable energy projects with the exception of a Class 2 wind facility (s18 (3), O.Reg. 359/09).

In consultation with municipal officials, both upper and lower-tier, applicants shall request the municipality to complete Part B of the Municipal Consultation Form as it relates to the following:

• Boundaries of the property or properties on which the facility will be located;
• Proposed road access during construction and after commissioning;
• Location and types of municipal service connections that may be required;
• Traffic management plans during construction and, if necessary, operation;
• Plans for the rehabilitation of areas disturbed and/or municipal infrastructure damaged during construction;
• Emergency management procedures/safety protocols;
• Proposed site landscaping, if applicable.
• Easements or restrictive covenants on the property;
• Location of fire hydrants and connections to drainage, water works and sanitary sewers and watermains;
• Location of buried kiosks and above-grade utility vaults;
• Location of existing and proposed gas and electricity lines and connections;
• Building Code permits and licences;
• Identification of any significant natural features and water bodies; and
• Identification of any archaeological or heritage resources.

Once the municipality has reviewed the information contained in the Municipal Consultation Form and provided the requested information relating to infrastructure and servicing, the relevant municipality should sign the form and return it to applicant for inclusion in their REA submission.

Applicants should submit drafts of the following reports to the municipalities and local boards, so as to permit them to have sufficient information about the project:
• Project Description Report,
• Construction Plan Report,
• Design and Operations Report and
• Decommissioning Report.
4. Documentation
In accordance with O.Reg. 359/09, the Consultation Report must include the following information on consultation activities conducted in respect of a proposed renewable energy project:

- A summary of communication with any members of the public, Aboriginal communities, municipalities, Local Roads Boards and Local Services Boards regarding the project.
- Evidence that the information required to be distributed to Aboriginal communities under subsection 17 (1), O. Reg. 359/09 was distributed.
- Any information provided by an Aboriginal community in response to a request made under paragraph 4 of subsection 17 (1), O.Reg. 359/09.
- Evidence that a consultation form was distributed in accordance with subsection 18 (1), O.Reg. 359/09.
- The consultation form distributed under subsection 18 (1), O.Reg. 359/09, if any part of it has been completed by a municipality, local roads board or Local Services Board.
- A description of whether and how,
  - comments from members of the public, Aboriginal communities, municipalities, local roads boards and Local Services Boards were considered by the person who is engaging in the project,
  - the documents that were made available under subsection 16 (5), O.Reg. 359/09 were amended after the final public meeting was held, and
  - the proposal to engage in the project was altered in response to comments received from members of the public, Aboriginal communities, municipalities, local roads boards and Local Services Boards.

In order to fulfill the consultation requirements, applicants are expected to provide copies of notices published in accordance with s. 15 of O. Reg. 359/09, a record and mailing list of individuals, organizations or agencies who received project notices as well as a list of all participants who attended the public meetings, a record of public concerns and issues, and a record of how the concerns and issues have been considered. As well, applicants are expected to describe and document how any issues raised during municipal consultation were considered and report any outstanding concerns. Providing copies of the notes or the minutes of any meetings held with the municipal officials can be an effective way of documenting the municipal consultation.

It is recommended that the Consultation Report be organized to include separate sections/reports on each of public, Aboriginal and municipal consultation.

4.1 Public Record
The Renewable Energy Approvals (REA) Director at the MOE must maintain a record of each Renewable Energy Approval application that is submitted to the MOE.

Applicants, members of the public, Aboriginal communities and municipalities should note that under the Freedom of Information and Protection of Privacy Act (FIPPA):

- All documents submitted by an applicant as part of an application form part of a file that will be maintained by the MOE.
Information about an application may be accessible to the public in accordance with FIPPA. For more information about FIPPA, visit the Access and Privacy Office website at www.accessandprivacy.gov.on.ca.

5. Submitting comments through Environmental Registry

Once a formal application is submitted to the MOE, a review will be conducted to ensure the application was prepared in accordance with O.Reg 359/09 and is complete. Once it is reviewed for completeness, the MOE will post an abstract of the project on the Environmental Registry for a minimum 30-day public comment period. The posting will include information regarding the locations where the final reports will be made available for review.

Applicants are encouraged to provide a status update regarding the commencement of the Environmental Registry comment period on their project website (if one exists). Applicants could also provide notice of the Environmental Registry posting through project newsletters, e-mails or other ways of communication they established with stakeholders/interested parties. During this time period, individuals or groups may submit comments to the MOE. These comments will be considered by the MOE prior to making decisions on renewable energy projects.
Appendix 1. Key Definitions

Renewable Energy Generation Facility

Under the Electricity Act, 1998, a “renewable energy generation facility” (REGF) is a generation facility that generates electricity from a renewable energy source and must meet criteria prescribed by regulation. It includes associated or ancillary equipment, systems and technologies as may also be prescribed by regulation, but does not include an associated waste disposal site, unless the site is prescribed by regulation for the purposes of this definition.

Under s O. Reg. 160/99 (Definitions and Exemptions) made under the Electricity Act, 1998, this definition is expanded in subsections 1(4) to 1(6) to stipulate that:

(4) For the purposes of the definition of “renewable energy generation facility” in the Electricity Act, 1998, the following associated or ancillary equipment, systems and technologies are prescribed:
1. Transmission or distribution lines of less than 50 kilometres in length that are associated with or ancillary to a renewable energy generation facility.
2. Transformer stations or distribution stations that are associated with or ancillary to a renewable energy generation facility.
3. Any transportation systems that are associated with or ancillary to the provision of access to a renewable energy generation facility, during the construction, installation, use, operation, changing or retiring of a renewable energy generation facility.

(5) For the purposes of subsection (4), the following apply:
1. A distribution line is associated with or ancillary to a renewable energy generation facility if the line is used to distribute electricity within the facility or from the facility to the distribution system of the distributor in whose distribution service area the renewable energy generation facility is located.
2. A transmission line is associated with or ancillary to a renewable energy generation facility if the line is used to transmit electricity within the facility or from the facility to the IESO-controlled grid.
3. A transformer station or distribution station is associated with or ancillary to a renewable energy generation facility if the station is used to transform the voltage of electricity at the facility, on a transmission line or on a distributor’s distribution system which is associated with or ancillary to the facility.
4. A transportation system includes all transportation systems constructed solely to provide access to the renewable energy generation facility, including transportation systems on Crown land, but does not include a highway which is intended for or used by the general public for the passage of vehicles.

(6) For the purposes of the definition of “renewable energy generation facility” in the Act, the following classes of waste disposal sites are prescribed:
1. A waste disposal site where the material referred to in clause (b) of the definition of biogas is subject to anaerobic digestion.
2. A waste disposal site where biomass is thermally treated.
A renewable energy generation facility includes any permanent and temporary structures, equipment or other things required to generate electricity as well as the associated or ancillary equipment, systems and technologies prescribed in O. Reg. 160/99 above.

**Renewable Energy Project**

A “renewable energy project” is defined in the *Green Energy Act, 2009* and consists of a series of activities “construction, installation, use, operation, changing or retiring” in respect of a renewable energy generation facility.

**Project Location**

The “project location” is defined in O. Reg 359/09 to mean, when used in relation to a renewable energy project, a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project;

This includes all land, buildings or structures where a person will engage in a renewable energy project including during the construction, installation, operation and use, changing or retiring of the facility. The project location does not simply include the land (buildings and structures) on, in or over which the facility is located but the land (buildings or structures) on, in or over which the construction or installation activity will take place and where the operation or use of the facility will take place. The project location also includes any air space in which a person is engaging in or proposes to engage in a project.

**Negative Environmental Effect**

In the REA regulation, a reference to a “negative environmental effect” is a reference to a negative effect that will be caused or that might reasonably be expected to be caused to the environment. O. Reg. 359/09, s. 2.

**Environment**

In the REA regulation, “environment” has the same meaning as in Part V.0.1 of the Environmental Protection Act and this is the same definition as under the Environmental Assessment Act. The “environment” means,

(a) air, land or water,

(b) plant and animal life, including human life,

(c) the social, economic and cultural conditions that influence the life of humans or a community,

(d) any building, structure, machine or other device or thing made by humans,

(e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or

(f) any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario.
Applicant

While not defined an “applicant” means a person who proposes to engage in a renewable energy project.

Application

The ‘application” means an application for a renewable energy approval under the REA regulation - O. Reg. 359/09.
### Appendix 2. Relevant sections of Table 1 from O.Reg. 359/09

<table>
<thead>
<tr>
<th>Consultation report</th>
<th>Set out information relating to consultations conducted in respect of the renewable energy project, including the following:</th>
<th>Any renewable energy project, other than a project in respect of a Class 2 wind facility.</th>
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<tbody>
<tr>
<td>1.</td>
<td>A summary of communication with any members of the public, aboriginal communities, municipalities, local roads boards and Local Services Boards regarding the project.</td>
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<td>2.</td>
<td>Evidence that the information required to be distributed to aboriginal communities under subsection 17 (1) was distributed.</td>
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<td>3.</td>
<td>Any information provided by an aboriginal community in response to a request made under paragraph 4 of subsection 17 (1).</td>
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<td>4.</td>
<td>Evidence that a consultation form was distributed in accordance with subsection 18 (1).</td>
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<tr>
<td>5.</td>
<td>The consultation form distributed under subsection 18 (1), if any part of it has been completed by a municipality, local roads board or Local Services Board.</td>
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<tr>
<td>6.</td>
<td>A description of whether and how, i. comments from members of the public, aboriginal communities, municipalities, local roads boards and Local Services Boards were considered by the person who is engaging in the project,</td>
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<td></td>
<td>ii. the documents that were made available under subsection 16 (5) were amended after the final public meeting was held, and</td>
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<td></td>
<td>iii. the proposal to engage in the project was altered in response to comments mentioned in subparagraph i.</td>
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Appendix 3. List of Projects that require a REA but do not require Public Meetings

1. Wind
   a. Class 2 Wind Facility - Land Based Turbine 3 > 50kW

2. Solar
   a. Class 1 Solar Facility - all ≤ 10 kW
   b. Class 2 Solar Facility - Roof/wall mounted > 10kW

3. Bio-energy (Thermal Treatment)
   a. Class 1 Thermal Treatment Facility - Woodwaste only at a farm operation
   b. Class 2 Thermal Treatment Facility - Not only woodwaste at a farm operation

4. Bio-energy (Anaerobic Digestion)
   a. Class 1 Anaerobic Digestion Facility
   b. Class 2 Anaerobic Digestion Facility
Appendix 4. Contact Information for MOE Regional and District Offices

Northern Region

**Thunder Bay Regional Office**

Suite 331  
435 James St. S.  
3rd Floor  
Thunder Bay ON  
P7E 6S7  
Toll free from area codes 705/807: 1-800-875-7772  
Tel: (807) 475-1205  
Fax: (807) 475-1754

**Kenora Area Office**

808 Robertson St.  
P. O. Box 5150  
Kenora ON  
P9N 3X9  
Toll free from area code 807: 1-888-367-7622  
Tel: (807) 468-2718  
Fax: (807) 468-2735

**North Bay Area Office**

191 Booth Road  
Unit 16 & 17  
North Bay  
P1A 4K3  
Toll free: 1-800-609-5553  
Tel: (705) 497-6865  
Fax: (705) 497-6866

**Sault Ste Marie Area Office**

289 Bay Street  
3rd Floor  
Sault Ste. Marie ON  
P6A 1W7  
Tel: 705-942-6354  
Fax: 705-942-6327

**Sudbury District Office**

Suite 1201  
199 Larch St.  
Sudbury ON  
P3E 5P9  
Toll free from area codes 705/807: 1-800-890-8516  
Tel: (705) 564-3237  
Fax: (705) 564-4180

**Thunder Bay District Office**

Suite 331  
435 James St. S.  
Thunder Bay ON  
P7E 6S7  
Toll free from area code 705/807: 1-800-875-7772  
Tel: (807) 475-1315  
Fax: (807) 475-1754

**Timmins District Office**

Ontario Govt. Complex  
Hwy 101 East  
P.O. Bag 3080  
South Porcupine ON  
P0N 1H0  
Toll free in area codes 705/807: 1-800-380-6615  
Tel: (705) 235-1500  
Fax: (705) 235-1520

Central Region

**Central Region Office**

5775 Yonge St.  
8th floor  
North York ON  
M2M 4J1  
Toll free: 1-800-810-8048  
Tel: (416) 326-6700  
Fax: (416) 325-6345

**Halton-Peel District Office**

4145 North Service Road  
Suite 300  
Burlington ON  
L7L 6A3  
Toll free: 1-800-335-5906  
Tel: (905) 319-3847  
Fax: (905) 319-9902
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<tr>
<th>Metro Toronto District Office</th>
<th>York-Durham District Office</th>
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<tr>
<td>5775 Yonge St. 8th Floor North York ON M2M 4J1</td>
<td>230 Westney Rd. S. 5th Floor Ajax ON L1S 7J5</td>
</tr>
<tr>
<td>Toll free: 1-800-810-8048 Tel: (416) 326-6700 Fax: (416) 325-6346</td>
<td>Toll free: 1-800-376-4547 Tel: (905) 427-5600 Fax: (905) 427-5602</td>
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<tr>
<td>54 Cedar Pointe Dr. Unit 1203 Barrie ON L4N 5R7</td>
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<tr>
<td>Toll free: 1-800-890-8511 Tel: (705) 739-6441</td>
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<tr>
<td>Kingston Regional Office</td>
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<tr>
<td>Box 22032 1259 Gardiners Road Kingston ON K7M 8S5</td>
</tr>
<tr>
<td>Toll free for area codes 613, 705, and 905: 1-800-267-0974 Tel: (613) 549-4000 Fax: (613) 548-6908</td>
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<th>Cornwall Area Office</th>
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<tr>
<td>113 Amelia St. Cornwall ON K6H 3P1</td>
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<tr>
<td>Toll free number for area code 613: 1-800-860-2760 Tel: (613) 933-7402 Fax: (613) 933-6402</td>
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<tr>
<td>2430 Don Reid Drive Ottawa ON K1H 1E1</td>
</tr>
<tr>
<td>Toll free: 1-800-860-2195 Tel: (613) 521-3450 Fax: (613) 521-5437</td>
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<tr>
<td>300 Water Street, Robinson Place Peterborough ON K9J 8M5</td>
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<tr>
<td>Toll free from area codes 613, 705, and 905: 1-800-558-0595 Tel: (705) 755-4300 Fax: (705) 755-4321</td>
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<td>Hamilton Regional Office</td>
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<th>Guelph District Office</th>
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<tr>
<td>1 Stone Road W.</td>
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</table>
119 King St. W.
Hamilton ON
L8P 4Y7

Toll free: 1-800-668-4557
Tel: (905) 521-7640
Fax: (905) 521-7820

Hamilton District Office

9th floor
119 King St. W.
Hamilton ON
L8P 4Y7

Toll free: 1-800-668-4557
Tel: (905) 521-7650
Fax: (905) 521-7806

Southwestern Region

London Regional Office

2nd Floor.
733 Exeter Road
London ON
N6E 1L3

Toll free number from area code 519: 1-800-265-7672
Tel: (519) 873-5000
Fax: (519) 873-5020

Owen Sound Area Office

101 – 17th Street East
Owen Sound ON
N4K 0A5

Toll free number from area code 519: 1-800-265-3783
Tel: (519) 371-2901
Fax: (519) 371-2905

Guelph ON
N1G 4Y2

Toll free: 1-800-265-8658
Tel: (519) 826-4255
Fax: (519) 826-4286

Niagara District Office

9th floor
301 St. Paul St.
St. Catharines ON
L2R 3M8

Toll free: 1-800-263-1035
Tel: (905) 704-3900
Fax: (905) 704-4015

Windsor Area Office

4510 Rhodes Drive
Unit 620
Windsor ON
N8W 5K5

Toll free number: 1-800-387-8826
Tel: (519) 948-1464
Fax: (519) 948-2396

Sarnia District Office

1094 London Rd.
Sarnia ON
N7S 1P1

Toll free number: 1-800-387-7784
Tel: (519) 336-4030
Fax: (519) 336-4280
Appendix 5. Template for a Notice of Proposal to Engage in Project and Notice of Public Meetings

Renewable Energy Approval

Notice of a proposal to engage in a Renewable Energy Project
s. 15(1)(a) Ontario Regulation 359/09

Ce formulaire est disponible en français

Ministry of the Environment

NOTICE OF A PROPOSAL

by [Insert Applicant Name] to Engage in a Renewable Energy Project

Project Name: [Insert Project Name]
Project Location: [Insert a description of the lands on which the project is being proposed]
Dated at [insert local municipality] this the [Insert day] of [Insert month and year]

[Insert Name of applicant] is planning to engage in a renewable energy project in respect of which the issuance of a renewable energy approval is required. The distribution of this notice of a proposal to engage in this renewable energy project and the project itself are subject to the provisions of the Environmental Protection Act (ACT) Part V.0.1 and Ontario Regulation 359/09 (Regulation). This notice must be distributed in accordance with section 15 of the Regulation prior to an application being submitted and assessed for completeness by the Ministry of the Environment.

Project Description:
Pursuant to the Act and Regulation, the facility, in respect of which the project is to be engaged in, is considered to be a [insert type of renewable energy source] Facility [if the facility is classified under the Regulation, include the classification here]. If approved, this facility would have a total maximum name plate capacity of ___MW. The project location is described in the map below.

This project is being proposed in accordance with the requirements of the Act and Regulation. The Draft Project Description Report titled [Insert Title of document] describes the facility as [Insert a brief description of the proposed facilities, equipment or technology that will be used to convert the renewable energy source or any other energy source to electricity.]. A written copy of the Draft Project Description Report is being made available for public inspection at [insert public location where documents can be inspected or Insert applicants website address].

Project Contacts and Information:
To learn more about the project proposal or to communicate concerns please contact:
[insert proponent and/or consultant contact information]
[insert project website address if applicable]
NOTICE OF PUBLIC MEETING
To be held by [Insert Applicant Name] regarding a Proposal to Engage in a Renewable Energy Project

Project Name: [Insert Project Name]
Project Location: [Insert a description of the lands on which the project is being proposed]
Dated at [insert local municipality] this the [Insert day] of [Insert month and year]

[Insert Name of applicant] is planning to engage in a renewable energy project in respect of which the issuance of a renewable energy approval is required. The proposal to engage in the project and the project itself is subject to the provisions of the Environmental Protection Act (ACT) Part V.0.1 and Ontario Regulation 359/09 (Regulation). This notice must be distributed in accordance with section 15 of the Regulation prior to an application being submitted and assessed for completeness by the Ministry of the Environment.

Meeting Location:
DATE: [Insert Date]
TIME: [Insert Time]
PLACE: [Insert facility name, address and municipality]

Project Description:
Pursuant to the Act and Regulation, the facility, in respect of which this project is to be engaged in, is a [insert type of renewable energy source and classification, if the facility is classified under the Regulation] Facility [if the facility is classified under the Regulation, indicate the classification as well]. If approved, this facility would have a total maximum name plate capacity of ___MW. The project location is described in the map below.

Documents for Public Inspection:
The Draft Project Description Report titled [Insert Title of document] describes the project as [Insert a brief description of the proposed facilities, equipment or technology that will be used to convert the renewable energy source or any other energy source to electricity.] A written copy of the Draft Project Description Report was made available for public inspection on [Insert date] at [Insert public location where documents can be inspected or Insert applicant’s website address if the document has been posted there].

Further, the applicant has obtained or prepared, as the case may be, the following supporting documents in order to comply with the requirements of the Act and Regulation. Written copies of the draft supporting documents will be made available for public inspection on [Insert date] at [Insert public location where documents can be inspected or Insert applicants website address].

Project Contacts and Information:
To learn more about the project proposal, public meetings, or to communicate concerns please contact: [insert proponent and/or consultant contact information] [insert project website address if applicable]

[Insert map showing the project location and lands within 300 meters]

[Insert project location]
[Insert scale bar and north arrow]
Appendix 6. Consultation Form: Municipalities, Local Authorities

Ontario

Renewable Energy Approval
Consultation Form: municipalities, local authorities
ss. 18(2) Ontario Regulation 359/09

Ce formulaire est disponible en français

Ministry of the Environment

PART A: TO BE COMPLETED BY THE APPLICANT BEFORE SUBMITTING TO MUNICIPALITY OR LOCAL AUTHORITY

Section 1 - Project Description

<table>
<thead>
<tr>
<th>1.1 - Renewable Energy Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name (Project identifier to be used as a reference in correspondence)</td>
</tr>
</tbody>
</table>

Project Location

Same as Applicant Physical Address?  ☐ Yes  ☐ No (If no, please provide site address information below)

Civic Address - Street information (includes street number, name, type and direction)  Unit Identifier (i.e. apartment number)

Survey Address (Not required if Street Information is provided)

Lot and Conc.: used to indicate location within a subdivided township and consists of a lot number and a concession number.

Lot  Conc.  Part  Reference Plan

Part and Reference: used to indicate location within unorganized territory, and consists of a part and a reference plan number indicating the location within that plan. Attach copy of the plan.

Location Information (includes any additional information to clarify physical location) (e.g. municipality, ward/ township)

Geo Reference (e.g. southwest corner of property)

Map Datum  Zone  Accuracy Estimate  Geo Referencing Method  UTM Easting  UTM Northing

Project Phasing (outline construction, operation and decommissioning activities)

1.2 - Environmental Context

Describe any negative environmental effects that may result from engaging in the project (consider construction, operation and decommissioning activities.)
Propose early avoidance/prevention/mitigation concepts and measures.

1.3 - Renewable Energy Generation Facility

Type of Facility / Operation (select all that apply & complete all appropriate sections)

- Wind Facility (Land Based)
- Wind Facility (Off-Shore)
- Biogas Facility (Anaerobic Digesters)
- Biomass Facility (Thermal Treatment)
- Biofuel Facility
- Solar Photo Voltaic Facility
- Other Describe:
- Class (if applicable):

Name Plate Capacity | Expected Generation | Service Area | Total Area of Site (hectares)

Provide a description of the facilities equipment or technology that will be used to convert the renewable energy source or any other energy source to electricity.

1.4 – Renewable Energy Generation Activities

Describe the activities that will be engaged in as part of the renewable energy project.

Section 2 – Supporting Documents

<table>
<thead>
<tr>
<th>2.1 – Requirement</th>
<th>Name of Draft documents distributed for consultation</th>
<th>Date available to Municipal or Local Authority Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAFT Project Description Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRAFT Design and Operations Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRAFT Construction Plan Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRAFT Decommissioning Plan Report</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Section 3 – Applicant Address and Contact Information

**3.1 - Applicant Information (Owner of project/facility)**

<table>
<thead>
<tr>
<th>Applicant Name (legal name of individual or organization as evidenced by legal documents)</th>
<th>Business Identification Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Name (the name under which the entity is operating or trading - also referred to as trade name)</td>
<td>same as Applicant Name</td>
</tr>
<tr>
<td>Civic Address- Street information (includes street number, name, type and direction)</td>
<td>Unit Identifier (i.e. apartment number)</td>
</tr>
<tr>
<td>Survey Address (Not required if Street Information is provided)</td>
<td></td>
</tr>
<tr>
<td>Lot and Conc.: used to indicate location within a subdivided township and consists of a lot number and a concession number.</td>
<td>Part and Reference: used to indicate location within an unsubdivided township or unsurveyed territory, and consists of a part and a reference plan number indicating the location within that plan. Attach copy of the plan.</td>
</tr>
<tr>
<td>Lot</td>
<td>Conc.</td>
</tr>
<tr>
<td>Municipality</td>
<td>County/District</td>
</tr>
</tbody>
</table>
PART B: TO BE COMPLETED BY THE MUNICIPALITY OR LOCAL AUTHORITY

Section 4 - Municipal or Local Authority Contact Information (check the one that applies)

<table>
<thead>
<tr>
<th>Local Municipality</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Municipality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clerk’s Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clerk’s Phone/Fax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-Mail Address</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Upper Tier Municipality</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Municipality</td>
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<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clerk’s name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clerk’s Phone/Fax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-Mail Address</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Local roads area</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of local roads board</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secretary-treasurer’s Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secretary-treasurer’s Phone/Fax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-Mail Address</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Board Area</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Local Service Board</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secretary’s name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secretary’s Phone/Fax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-Mail Address</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 5: Consultation Requirement

5.1 - Project Location
Provide comment on the project location with respect to infrastructure and servicing.

5.2 – Project Roads
Provide comment on the proposed project’s plans respecting proposed road access.

Identify any issues and provide recommendations with respect to road access

Provide comment on any proposed Traffic Management Plans

Identify any issues and provide recommendations with respect to the proposed Traffic Management Plans
### 5.3 – Municipal or Local authority Service Connections
Provide comment on the proposed project plans related to the location of and type of municipal service connections, other than roads.

Identify any issues and provide recommendations with respect to the type of municipal service connections, other than roads.

### 5.4 – Facility Other
Identify any issues and recommendations with respect to the proposed landscaping design for the facility

Provide comment on the proposed project plans for emergency management procedures / safety protocols.

Identify any issues and recommendations with respect to the proposed emergency management procedures / safety protocols.

Identify any issues and recommendations with respect to any Easements or Restrictive Covenants associated with the Project Location

### 5.5 Project Construction
Identify any issues and recommendations with respect to the proposed rehabilitation of any temporary disturbance areas and any municipal or local authority infrastructure that could be damaged during construction.
<table>
<thead>
<tr>
<th>Identify any issues and recommendations with respect to the proposed location of fire hydrants and connections to existing drainage, water works and sanitary sewers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify any issues and recommendations with respect to the proposed location of buried kiosks and above-grade utility vaults</td>
</tr>
<tr>
<td>Identify any issues and recommendations with respect to the proposed location of existing and proposed gas and electricity lines and connections</td>
</tr>
<tr>
<td>Provide comment on the proposed project plans with respect to Building Code permits and licenses.</td>
</tr>
<tr>
<td>Identify any issues and recommendations related to the identification of any significant natural features and water bodies within the municipality or territory.</td>
</tr>
<tr>
<td>Identify any issues and recommendations related to the identification any archaeological resource or heritage resource.</td>
</tr>
</tbody>
</table>
Technical Bulletin Six
Required Setbacks for Wind Turbines
as part of an application under O.Reg.359/09

Draft document posted for public comment on the Environmental Registry March 1, 2010

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PIBS 7441e

Protecting our environment.
Disclaimer: This technical bulletin should not be construed as legal advice. Please review Ontario Regulation 359/09. If you have any questions about the application or interpretation of this regulation you should consult a lawyer.
1. Purpose of this Technical Bulletin
The purpose of this update is to clarify the requirements for setbacks under the Renewable Energy Approval Regulation (O. Reg. 359/09) as they apply to locating wind turbines. Setbacks are specified minimum horizontal separation distances between the base of a turbine and the planning feature of interest such as a noise receptor, property line, or road or railway right of way. Setbacks have been established to protect the environment, through conservative, science-based calculations. This enhances transparency and clarifies expectations while reducing burden on applicants to perform separate assessments for every project.

2. Noise-Based Setbacks
Setbacks for noise have been defined for all wind facilities not located in direct contact with surface water generating ≥50kW and using one or more turbines with a sound power level ≥102 dBA (subsection 54(1) of O.Reg. 359/09). Facilities that have a lower name plate capacity or use turbines with lower sound power levels are not subject to minimum setbacks, though they may still require a Renewable Energy Approval (REA). Applications in respect of small wind projects will still be considered for their potential to cause adverse effects.

2.1. Minimum Setbacks
All wind turbines that meet the criteria of 54(1) of O.Reg 359/09 must be located at least 550 m from the nearest noise receptor. The only exception to this is if a turbine is located near a noise receptor where the ambient noise from road traffic is consistently greater than 40 dBA. This exception is discussed in Section 2.4 of this bulletin.

The minimum setback of 550 m was developed by modeling propagation of turbine noise towards a receptor. Wind conditions and other factors affecting sound propagation were selected to represent a worst-case scenario to give a conservative estimate of setbacks. Further detail on the rationale and modeling methodology used to arrive at noise setbacks is provided in the Ministry of the Environment’s 2009 publication “Development of Noise Setbacks for Wind Farms”.

2.2. Definition of Noise Receptors
2.3. Multiple/Louder Turbines
2.4. Exception when Ambient Noise is >40 dBA due to Road Traffic

3. Setbacks from Property Lines

4. Setbacks from Roads and Railways

5. Setbacks for Associated Transformers

6. Off-shore Wind

7. Guidance for Demonstrating Adherence to Setbacks
2.2. Definition of Noise Receptors

Noise receptors are defined in O.Reg. 359/09 as the centre of buildings or structures used for overnight accommodation or those used as an educational facility, day nursery, or place of worship. Examples of structures that the MOE would consider overnight accommodations include permanent or seasonal residences, hospitals, hotels/motels, and nursing/retirement homes.

Public or privately owned campsites or campgrounds are included in the definition of noise receptors requiring setback distances.

For calculation of setback distances, the centre of the building is used to locate the position of the noise receptor.

In addition to existing buildings or structures, those that are planned for construction and have been issued a building permit under the Building Code Act are also considered to be noise receptors.

All noise receptors should be identified by the proponent through reasonable inquiry prior to submitting the application.

Setback distances apply to noise receptors if they are located on land owned by a non-participating land owner. Noise receptors on land owned by a proponent of a wind energy facility or by someone who has entered into an agreement to permit all or part of the facility on their land are not considered noise receptors for the purposes of determining noise setbacks.

REA setbacks also protect future use of vacant land where that land is zoned to allow construction of potential noise receptors. Noise receptors on vacant lots are identified as the centre of the lot as defined in O.Reg.359/09

2.3. Multiple/Louder Turbines

Certain noise receptors may face cumulative effects from the siting of multiple specified turbines (those specified according to the criteria of section 54(1) of O.Reg. 359/09). Increased setback distances have been calculated to reflect this combined effect based on the number of turbines proposed within a 3 km radius of a noise receptor. Greater numbers of turbines within the 3 km radius result in higher required setback distances applied to the nearest turbine.

For the purpose of calculating the number of turbines within the 3 km radius, proponents must consider existing and proposed turbines with a sound power level greater than or equal to 102 dBA. This includes:

- Turbines proposed by the applicant as part of the wind facility
- Existing turbines from other wind facilities that fall within the 3 km radius
- Turbines proposed to be constructed in other wind facilities which have either been approved with a renewable energy approval or certificate of approval
Turbines proposed to be constructed in other wind facilities where a renewable energy approval notice of proposal has been posted to the Environmental Registry (www.ebr.gov.on.ca).

For sites where more than one project is under development, proponents are encouraged to consult with neighbouring developers to ensure projects will meet the requirements for combined effects of multiple turbines.

Setbacks have also been adjusted to account for differences in the sound power level emitted from various turbines on the market. Sound power level is a specification of turbine design determined by the manufacturer through calculation in accordance with standard CAN/CSA-C61400-11-07, “Wind Turbine Generator Systems – Part 11: Acoustic Noise Measurement Technique”. Specifications for sound power level used for determining setbacks correspond to the sound emitted while operating at 95% of the name plate capacity rounded to the nearest whole number. If different turbine types are used in a wind energy facility the sound power level of the loudest turbine is used for determining noise setback distances applied to the project as a whole.

The range of setbacks for wind facilities with one or more specified turbines is given in section 55 of O.Reg.359/09 and summarized in the following table:

**Table 1:** Setback distances for multiple turbines and various turbine sound power levels

<table>
<thead>
<tr>
<th>Sound power level</th>
<th>Number of turbines within 3km</th>
<th>1 to 5</th>
<th>6 to 10</th>
<th>11-25</th>
<th>26+</th>
</tr>
</thead>
<tbody>
<tr>
<td>102 dBA</td>
<td></td>
<td>550 m</td>
<td>650 m</td>
<td>750 m</td>
<td></td>
</tr>
<tr>
<td>103-104 dBA</td>
<td></td>
<td>600 m</td>
<td>700 m</td>
<td>850 m</td>
<td></td>
</tr>
<tr>
<td>105 dBA</td>
<td></td>
<td>850 m</td>
<td>1000 m</td>
<td>1250 m</td>
<td></td>
</tr>
<tr>
<td>106-107 dBA</td>
<td></td>
<td>950 m</td>
<td>1200 m</td>
<td>1500 m</td>
<td></td>
</tr>
<tr>
<td>&gt;107 dBA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Noise study required</td>
</tr>
</tbody>
</table>

The table of noise setbacks are used to illustrate the closest distance the base of any turbine can be from a noise receptor. While the minimum setback of 550 m must be met in all cases, proponents are given the option of conducting a noise study to prove that siting turbines closer than the setbacks in Table 1 will not cause adverse effects. Such a study must be prepared in accordance with the Ministry of the Environment’s 2008 “Noise Guidelines for Wind Farms”. A Noise Assessment Report demonstrating that reduced setbacks comply with these guidelines must be submitted as part of the REA application.

As indicated in subsection 54(4) of O.Reg.359/09, Noise Assessment Reports prepared in accordance with the Ministry’s “Noise Guidelines for Wind Farms” are also required under any of the following circumstances:

- if a wind energy facility is comprised of 26 or more specified turbines (unless all turbines have a sound power level < 102 dBA);
- if the project would result in 26 or more specified turbines located within a 3 km radius of a noise receptor; or
- if any of the turbines in a wind energy facility have a sound power level greater than 107 dBA.
2.4. Exception when Ambient Noise is >40 dBA due to Road Traffic

Road traffic can cause ambient sound levels at noise receptors to be greater than the minimum levels used as a basis for the noise setbacks. If traffic noise causes the lowest hourly ambient sound level at a receptor to exceed 40 dBA, a reduced setback may be used.

As per subsection 54(2) of O.reg.359/09, to rely on this exception in respect of a particular noise receptor, proponents must measure or calculate hourly ambient sound levels at the receptor when wind speeds are less than 4 m/s. This analysis must be performed in accordance with the Ministry of the Environment’s 1995 publication NPC-206 “Sound Levels due to Road Traffic”.

If the measurements or calculations of the analysis establish that the ambient noise from road traffic is greater than 40 dBA, the proponent must determine an appropriate reduced setback distance. This is done by conducting a noise study and submitting a report in accordance with the Ministry of the Environment 2008 publication “Noise Guidelines for Wind Farms”. The report must demonstrate that the wind turbine noise will not be greater than the lowest hourly ambient sound level at the receptor.

Both the analysis of ambient noise from road traffic and the noise study report in accordance with the 2008 “Noise Guidelines for Wind Farms” must be submitted as part of an application for a REA.

3. Setbacks from Property Lines

To ensure safety on neighbouring properties all wind energy facilities with a name plate capacity of 50 kW or greater (classes 3, 4, and 5 in O. Reg. 353/09) must be located a minimum setback distance from neighbouring property boundaries. This distance is equivalent to the height of the turbine which is considered as the distance from the ground to the top of the turbine hub without including the blades. As with noise setbacks, the distance is calculated from the base of the turbine to the nearest property boundary.

The property boundary setback does not apply to a boundary where the abutting property is owned by:

- the proponent of the wind energy facility; or
- a person who has entered into an agreement with the proponent that permits the location of a wind turbine closer than the turbine height. It is recommended that any agreements with landowners provide sufficient detail to meet this requirement.

In the absence of an agreement with a neighbouring land owner specifically permitting a closer setback, the proponent may consider applying to reduce the property line setback to the length of the turbine blade plus 10 metres. In order to do so, the REA application must include a Property Line Setback Assessment Report. This report must be developed to demonstrate that siting the turbine in such a location will not result in any adverse impacts on neighbouring businesses, infrastructure, or land use activities. Specifically,
this assessment should evaluate the land use in the vicinity of the turbine. This should confirm the presence of structures (i.e. barns, storage buildings, stables) and if there will be any expected adverse impacts associated with the turbine being located closer than the turbine hub height setback. If there are potential adverse impacts, a description of preventative measures to address the potential adverse impacts must be included. Such an assessment must be performed separately for each turbine that is sited within the specified property line setback.

4. Setbacks from Roads and Railways
Safety setbacks from public roads and railways are also required for wind facilities 50 kW and greater (classes 3, 4, and 5 in O. Reg. 353/09). Turbines must be located a minimum distance of the blade length plus 10 m from the boundary of the right-of-way for any public road or railway. This is a requirement for which there is no exception.

5. Setbacks for Associated Transformers
Transformer stations that are part of a wind facility and are capable of operating at a nominal voltage of 50 kV or more require siting considerations to avoid impacts from transformer noise. To mitigate noise impacts transformers can be set back 1000 m from the nearest noise receptor. An alternative setback of 500 m is permitted if the transformer is surrounded by an acoustic barrier with a density of $20 \text{ kg/m}^2$. The acoustic barrier must break the line of sight from top of the transformer to the nearest noise receptor.

As a further alternative, the proponent of a wind facility may opt to submit a noise study in accordance with the Ministry of the Environment’s 2008 “Noise Guidelines for Wind Farms” that covers the noise from the transformer.

6. Off-shore Wind
Under O.Reg.359/09, class 5 wind facilities or “off-shore wind projects” are those where one or more turbine is located in contact with surface water other than a wetland. The regulation does not specify minimum setback distances for noise, property, or roads. If certain project components of offshore wind facilities are located onshore, such as transformers or transmission lines, these may be subject to the setback requirements that protect natural features as described in Section 5.

While O.Reg. 359/09 does not specify setback distances, turbine siting will be an important factor assessed in the Off-shore Wind Facility Report required for application for the REA. This report requires applicants to provide a comprehensive assessment of the existing environment where the project will be located, identify any negative environmental effects caused by the project, and describe measures to mitigate identified impacts. Wind turbine location will influence the assessment of environmental effects including noise and increasing setback distances from noise receptors can be used as a mitigation approach. Applicants are strongly encouraged to meet with the Environmental Assessment and Approvals Branch of the Ministry of the Environment prior to preparing this report.

7. Guidance for Demonstrating Adherence to Setbacks
To allow the Ministry of the Environment to evaluate how a proposed wind energy project meets the setback requirements described in O. Reg. 359/09, information on the project location must be included in the REA application. A Design and Operations Report required for all wind facilities with name plate capacity 50 kW and greater. This report should include information that clearly demonstrates compliance with setbacks. To do this, the following should be provided:

**On the Site Plan**
- The location of all turbines (including turbine identification number/code)
- The location of all transformers
- The location of all “non-participating” noise receptors (including noise receptor identification number/code)
- All property lines, public roads and rail right of ways
- The location of all other project components that comprise the wind energy facility and the project location boundary
- The outer boundaries and classification of all natural features and water bodies
- Linear representation of setback distances

The site plan must clearly show that turbines are located outside of the noise, property line, and road/railway setbacks. Setbacks from the boundary of the project location to natural features and water bodies should also be demonstrated. Where setbacks are not met through preparation of a noise, property line setback assessment, environmental impact study, water body assessment or through an agreement with a neighbouring landowner in respect of property line setbacks, this should be referenced and the studies or agreements provided.

**In a Table or Tables**
- A list of all turbines with identification numbers/codes
- The location of turbines in UTM coordinates
- The make and model of all turbines
- The identification number/code of the nearest noise receptor and the distance to the turbine
- Distances from the base of the turbine to the closest noise receptor, all property lines (regardless of agreements), and road and railway right of ways for each turbine

If adhering to the noise setback matrix for greater numbers of turbines, a separate table with:
- All noise receptors with identification numbers/codes
- The number of turbines within a 3 km radius of each noise receptor
- The identification number/code of the closest turbine to the noise receptor
- The distance to the nearest noise receptor