



PENN ENERGY RENEWABLES, LTD.

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## Decommissioning Plan Report

In support of an application for a  
**Renewable Energy Approval (REA)**  
Pursuant to Ontario Regulation 359/09

For the

### **Penn Energy – Ridgefield**

#### **SOLAR ENERGY FACILITY**

FIT Contract No. F-001549- SPV-130-505

FIT Application No. FIT-FITRZ1



In the  
**City of Kawartha Lakes**  
**ONTARIO, CANADA**

August 23, 2012

***(Revised October 31, 2012)***



*Printed on 100% recycled paper*

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**A note regarding REA application requirements and additional Project Information:**

This document is one component of a series of reports and other related documents that, collectively, constitute a complete Renewable Energy Approval (REA) application package which will be submitted to the Ministry of the Environment (MOE) for review and approval. As such, this report is intended to compliment the other documents and may reference and/or rely upon information contained in them; therefore, the contents herein should not be considered independently.

<b>Table of Contents</b>		<b>Page</b>
<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>3</b>
<b>2.0</b>	<b>PROCEDURES FOR DISMANTLING/DEMOLISHING THE R.E.G.F. ....</b>	<b>4</b>
2.1	Decommissioning After Ceasing Operation.....	4
2.2	Decommissioning During Construction.....	4
<b>3.0</b>	<b>RESTORATION OF LANDS/WATERS NEGATIVELY AFFECTED BY THE R.E.G.F. ....</b>	<b>5</b>
3.1	Lands.....	5
3.2	Waters.....	7
<b>4.0</b>	<b>PROCEDURES FOR MANAGING EXCESS MATERIALS AND WASTE DURING DECOMMISSIONING PHASE... 7</b>	<b>7</b>
<b>5.0</b>	<b>MISCELLANEOUS INFORMATION .....</b>	<b>8</b>
5.1	Emergency Response and Communications Plan.....	8
5.2	Decommissioning Notification .....	8
5.3	Other Approvals.....	8
5.4	Financial Assurance .....	8

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## 1.0 INTRODUCTION

Penn Energy Renewables, Ltd. (Penn) has executed a Feed-In-Tariff (FIT) contract with the Ontario Power Authority (OPA) for the construction of an 8 megawatt (MW), ground-mounted, Class 3 solar energy facility west of the village of Dunsford, within the City of Kawartha Lakes, Ontario. The subject lands are located in part of Lot 5 Concession 10, in the City of Kawartha Lakes, geographic village of Fenelon. The proposed Renewable Energy Generation Facility (REGF or the Facility) would consist of a collection of solar photovoltaic (PV) modules (each approximately 1.00 m x 1.67 m or 1.00 m x 2.00 m in dimension) that are grouped into arrays tilted and facing south. These stationary arrays are strung together forming a series of rows oriented east to west. The Environmental Protection Act (EPA or the Act) administered by the Ministry of the Environment (MOE) regulates Renewable Energy Approvals (REAs) under Part V.0.1 of the Act, pursuant to Ontario Regulation 359/09. A proponent of a renewable energy project is required to submit numerous reports as part of an REA application; one of which is a Decommissioning Plan Report (DPR).

According to the MOE's publication "Technical Guide to Renewable Energy Approvals Chapter 7: Guidance for preparing the Decommissioning Plan Report" (2011)...

*[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*

Although components of the REGF have an estimated useful lifetime in excess of twenty years, twenty years is the term of the FIT contract. If power generation from this facility is no longer necessary at the point of the FIT contract's expiration, the REGF may be decommissioned. This DPR, therefore, is based on the scenario that the FIT contract has expired and not been renewed and that there is no demand for power generation on the site. In such event, upon the request of the landowner, the REGF will be dismantled, any lands and water negatively affected by the REGF will be restored, and the site will be left in a safe and clean condition. It is difficult to predict precise demolition activities, procedures and technologies that may become available over time. Assumptions have been made, therefore, and some task descriptions generalized to allow for a degree of flexibility and innovation regarding dismantling/ demolition means and methods.



The REGF project location is in a rural area with marginal (non-prime) agricultural land. The current state of the subject lands is a cleared former grazing areas. There are no natural or aquatic features within the project location. Dependent upon the landowner's proposed land-use following the REGF's lifespan, the site will likely be reverted back to grazing use or allowed to naturalize on its own.

## **2.0 PROCEDURES FOR DISMANTLING/DEMOLISHING THE R.E.G.F.**

Decommissioning will most likely occur after operations have ceased and the REGF is no longer generating power. It will consist primarily of dismantling and removing facilities, wiring and equipment as well as land restoration, if necessary. This section also briefly addresses procedures for the unlikely event that the project is abandoned during construction.

### **2.1 Decommissioning After Ceasing Operation**

The likely decommissioning tasks are as follows:

1. The Facility is disconnected from the Hydro One Networks, Inc. (HONI) grid, according to federal and/or provincial requirements and in accordance with HONI procedures and policies.
2. Individual PV modules or panels are disconnected and removed from the site, and shipped, to the extent possible, to recycling facilities for recycling, or for disposal.
3. Electrical cables and equipment owned by Penn shall be removed and recycled, re-used or disposed of off-site. This includes all above-ground electrical structures and wiring, inverters, combiners, low voltage switch gear and transformers and the interconnection substation equipment, if applicable.
4. The collection houses and their foundations (if necessary) shall be removed and recycled, re-used or disposed of off-site.
5. All above-grade PV module array support posts and structures shall be removed and recycled or disposed of off-site.
6. The safety and security fencing shall be removed and recycled, re-used or disposed of off-site.
7. Road connections and internal lanes (and their sub-base materials) used for the project, drainage structures, etc. may be removed, depending on the wishes of the landowner.
8. The site could be converted to other uses in accordance with applicable land use regulations and the landowner's wishes.

### **2.2 Decommissioning During Construction**

It is unlikely that the Facility will have to be dismantled during construction. Should this occur, similar procedures as outlined above and throughout the rest of this report (regarding decommissioning after ceasing operations) would be followed.



### **3.0 RESTORATION OF LANDS/WATERS NEGATIVELY AFFECTED BY THE R.E.G.F.**

Following decommissioning the Facility site will be restored, to the extent possible, to pre-Facility conditions in accordance with local land use laws or regulations and pursuant to the landowner's desires. It is not anticipated that construction, operation or decommissioning of the Facility will have negative effects on water bodies and wetlands. As a result, restoration of water courses or bodies or wetlands either during construction or decommissioning, is not anticipated.

#### **3.1 Lands**

The indirect impacts to the land from decommissioning are considered to be local, short-term and negligible. The principal potential impact to the woodland associated with decommissioning this project is unintended harm to trees that are not planned for removal. For instance, during this decommissioning phase, the security fence will be removed and the machinery used for this activity has the potential to harm the area of the woodland closest to the fence. Therefore during decommissioning Penn plans, to the extent possible, to carry out the following preventive measures:

##### Modifications of Construction Activities:

- Clearly delineate the limits/perimeter of the area to be cleared to prevent the loss of woody vegetation not intended for removal;
- No removal of woody vegetation (trees or shrubs) between April 15th and July 31st, inclusive, unless a biologist has walked the site no earlier than five days prior to the planned clearing and has indicated that no nesting activity is occurring within the area to be cleared;
- Install, monitor and maintain silt fence around the project location boundary (excluding site accesses) to prevent sediment from traveling to neighboring properties;
- Instruct personnel onsite to respect the project location boundaries and any additional setbacks;
- Dust suppression to be utilized when necessary;
- Utilize small machinery outside of perimeter fence during all activities to avoid accidental damage to the root system of trees (drip lines) not intended for removal and minimize soil compaction; and
- Ensure that properly operating mufflers (i.e. standard OEM, or similar) are used on all project machinery and vehicles to minimize noise impacts.

##### Additional Modifications of Construction Activities – Reptile Hibernacula

If Reptile Hibernacula is confirmed is confirmed by Spring 2013 surveys as scheduled in the NHA/EIS, the following shall also be implemented:

- 30 m area will be established around the hibernacula. No work would take place within this area;
- The 30 m area will be flagged and demarcated (in field and on construction drawings);
- Construction crew would be educated about the location and significance of these features and will be trained to avoid snakes by conducting a visual inspection of the work site prior to the



commencement of the daily activities. The crew would be made aware that they need to avoid harming snakes. Workers will be provided with an ID manual of snakes and protocol of what to do if snakes are present (i.e. wait for snakes to pass, avoid snakes). The contact information of a SAR biologist who will be responsible for safely transporting snakes will be provided. Construction crew will record the number and species of any snakes observed;

- The access road use and vehicular speeds will be minimized during September and October (when snakes are moving towards the hibernacula) and between March 15 and May 15, when snakes are leaving the hibernacula. During these same periods a thorough sweep of the work areas within 100m of the hibernacula will be performed daily prior to any work commencing within this area; and
- The 100m buffer area will be flagged and demarcated in field.

#### Additional Modifications of Construction Activities - Turtle Wintering and Nesting Area

If Turtle Wintering and Nesting Area is confirmed by Spring 2013 surveys, the following shall also be implemented:

- Construction crew would be educated about the location and significance of this feature and will be trained to avoid turtles by conducting a visual inspection of the work site prior to the commencement of the daily activities. The crew would be made aware that they need to avoid harming turtles. Workers will be provided with an ID manual of turtles and protocol of what to do if s are present (i.e. wait for turtles to pass, avoid turtles). The contact information of a SAR biologist who will be responsible for safely transporting turtles will be provided. Construction crew will record the number and species of any turtles observed.
- The access road use and vehicular speeds will be minimized during mid-October to November (when turtles are moving towards the wintering area) and early spring (i.e. after ice melt till mid-end of June, when turtles leave the wintering area for nesting sites). During these same periods a thorough sweep of the work areas within 100m of the wintering area will be performed daily prior to any work commencing within this area.

#### Additional Modifications of Construction Activities – Amphibian Breeding Habitat (Woodland)

If Amphibian Breeding Habitat (Woodland) is confirmed by Spring 2013 surveys, mitigation measures will follow the above measures that protect the Wetlands within 120m of the project location. The following shall also be implemented:

- Construction crew would be educated about the location and significance of this feature and will be made aware that they need to avoid harming frogs.
- The access road use and vehicular speeds will be minimized between April and June (when frogs are moving towards the breeding area).

#### Additional Modifications of Construction Activities – Generalized Significant Wildlife Habitat

Pursuant to the NHA, mitigation for this feature is included in the above mitigation for wetlands and woodlands. For reinforcement the following specific mitigation measures are to be implemented:



- No natural vegetation other than the fencerows will be removed
- No work will occur within the drip line of Woodland 1 as identified in the NHA.
- Sediment fence will be installed around the perimeter of the project location.

Treatment Technologies:

- Fueling and maintenance activities would occur within an area where sediment erosion control measures and all precautions have been made to prevent oil, grease, antifreeze or other materials from inadvertently entering the ground or the surface water flow. Such activities will be a minimum of 30 m from any significant natural feature as identified in the NHA;
- Develop a spill response plan as part of final engineering and train staff;
- Keep emergency spill kits onsite;
- Disposal of waste shall be in accordance with governmental regulation;
- Monitor area for leakage, in the unlikely event of spillage halt all construction activities and corrective measures must be implemented. Any spills must be immediately reported to the MOE Spills Action Centre (1.800. 268.6060).

Scheduling and Operational Changes:

- Conduct construction activities during daylight hours whenever possible to minimize light and noise impacts to wildlife.

Refer to the Natural Heritages Assessment Report for potential, additional mitigation measures during decommissioning if needed.

As indicated earlier, depending on the proposed land-use following decommissioning, the site could be reverted back to agricultural use, naturalized with native trees and shrubs or allowed to naturalize on its own.

### **3.2 Waters**

No potential impact, there are no water bodies on or within 120m of the project location nor any lake trout lakes within 300m of the project location.

## **4.0 PROCEDURES FOR MANAGING EXCESS MATERIALS AND WASTE DURING DECOMMISSIONING PHASE**

As indicated above, the REGF consist of numerous materials that are potentially recyclable, including glass, semiconductor material, steel, and (copper) wiring. After operations have ceased and the REGF is no longer generating power, the component parts after having been dismantled will ideally be recycled or re-used following decommissioning. Beyond the project components, it is not anticipated there will be additional materials or waste as part of decommissioning. Section 3.0 of this report details the steps Penn will take to recycle or dispose of project components following decommissioning.



## **5.0 MISCELLANEOUS INFORMATION**

### **5.1 Emergency Response and Communications Plan**

For further information on the Emergency Response and Communications Plan please reference the Design and Operations Report.

Given the relative lack of risk involved in dismantling the Facility, it is not anticipated that emergency situations (fire, spills of operating fluids, etc.) will take place. Nevertheless, Penn may prepare a detailed Emergency Response and Communications Plan prior to decommissioning in coordination with local, and municipal authorities prior to the start of any decommissioning activity. Such plan could detail communication procedures including a list of relevant emergency contact numbers for Penn and local fire, police and medical agencies, directions to the nearest hospital, and evacuation procedures for each type of emergency. During decommissioning, among other things, signage will be posted listing emergency contact numbers for Penn along with the agencies referenced above.

Prior to the commencement of decommissioning, a fire response plan may be implemented. This will include the notification of appropriate emergency personnel, including the Township Fire Department, to be contacted if a fire occurs at the site.

Similarly, a spill response plan may also be formulated prior to decommissioning. Spills of operating fluids (gasoline, diesel fuel, lubricants) are possible from construction equipment and vehicles. Further, spills of transformer insulating oils are possible.

### **5.2 Decommissioning Notification**

For further information about Decommissioning Notification, please reference the Design and Operations Report. Prior to decommissioning Penn will notify the Ministry of the Environment, the Township (police, fire, medical, etc), the County, and Hydro One Networks, Inc.

### **5.3 Other Approvals**

At decommissioning, it could be a requirement that a Record of Site Condition (O. Reg 153/04) be filed with the MOE. All required local permits with respect to decommissioning will be obtained by Penn.

### **5.4 Financial Assurance**

In consultations with the Ministry of the Environment during the early stages of Penn's due diligence process, it was advised that financial assurance of decommissioning plans would likely not be required. There has since been no information discovered to the contrary.

