



## **Decommissioning Plan Report**

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

For the

### **Penn Energy – Hamilton\_Port Hope-4**

#### **SOLAR ENERGY FACILITY**

FIT Contract No. F- 000687-SPV-130-505

FIT Application No. FIT- FQWKQZF



In the  
**Township of Hamilton**  
**Northumberland County**  
**ONTARIO, CANADA**

April 2011  
**(Revised July 11, 2011)**



*Printed on 100% recycled paper*

**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.

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**Notice:**

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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 a 10 megawatt (MW), ground-mounted, Class 3 solar energy facility near the Town of Baltimore, northeast of Cobourg, in Northumberland County, Ontario. The subject lands are located in Lot 3 Concession 2 in the Township of Hamilton. 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 Bulletin #4: Guidance for preparing the Decommissioning Plan Report as part of an application under O.Reg.359/09," among other things:

*[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 consisting primarily of crop land. The site is bordered by Community Centre Road to the north, Payne Road to the east and south, and cropland and natural areas to the west. It is divided roughly in half by an easement containing two underground pipelines. Aquatic features include the headwaters of tributaries to Brook Creek including an isolated pond. No named watercourses are located on or



adjacent to the study area. Much of the information herein is taken from other reports prepared for this REA application, for example, the *Natural Heritage Assessment and Environmental Impact Study Report* by Bowfin Environmental Consulting (**NHA/EIS**), the *Archaeological Assessment (Stages 1-3) Report* by Northeastern Archaeological Associates (**AA**) and the *Water Assessment and Water Bodies Report* by Bowfin Environmental Consulting (**WA/WB**).

Dependent upon the landowner's proposed land-use following the REGF's lifespan, the site could be reverted back to agricultural use or allowed to naturalize on its own.

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

Decommissioning 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 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.**

Due to the significant buffers (at least 30m) from all significant natural features, it is anticipated that construction, operation or decommissioning of the Facility will have negligible effects on the woodlands, valleylands, wildlife habitat, water bodies and wetlands. All activities associated with the construction, operation and decommissioning of the REGF will occur within the land that is currently used as croplands. In fact, since most of the minimum 30m buffer is also within the existing croplands, this project will create a larger setback from all of the natural features – enhancing their protection and essentially resulting in a long-term positive impact, according to the **NHA/EIS** and **WA/WB**. As a result, there would be no need for restoration of any significant natural features, water bodies or wetlands during decommissioning. Following decommissioning of the Facility, the 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.

#### **3.1 Lands**

It should be noted that given the current agricultural land-use practices of clearing and working the soil immediately adjacent to the woodlands, providing a 30m buffer from the woodland areas “would result in a net gain in terms of protection of the woodland” according to the NHA/EIS. The NHA/EIS also concluded that “the larger buffer around the valleylands will result in a local, long term positive impact,” and “the increase in the buffer from the current conditions is considered a benefit to this feature”.

Nevertheless, one potential indirect impact that could occur during the decommissioning phase would come from removal of the security fence. The machinery used for this activity has the potential to harm the woodlands and valleylands. This impact, however, is still unlikely, given the 30m buffer from the woodland areas and may be eliminated through the use of small machinery within 25m of woodlands/valleylands to remove the fencing, and by keeping all stockpiling or infilling activities outside of the drip lines. This will minimize potential damage to root systems of trees, reduce soil compaction, and prevent sedimentation from entering the valleylands.

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**

There is a possibility for stormwater runoff impacts due to decommissioning phase activities, but can be eliminated by implementing typical best management practices. Major re-grading is not anticipated, but will be done properly in conjunction with temporary erosion and sediment controls if necessary. Watering will only be implemented to the extent necessary for dust control and will not result in the excessive formation of puddles, rutting by equipment or vehicles or siltation of watercourses.



## **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 2.0 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 relatively low 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 would 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 start 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**

While it is not anticipated to be required, a Record of Site Condition (O. Reg 153/04) may be filed with the MOE upon decommissioning of the Facility. 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.

