



Canadian Solar Solutions Inc. and
UC Solar Ltd.

Decommissioning Plan Report

For

2176050
Solar Energy Project

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Rev. 1
January 13, 2012

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Project Report

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2176050 - Solar Energy Project

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1. Introduction

1.1 Project Description

Canadian Solar Solutions Inc. (“Canadian Solar”) in partnership with UC Solar Ltd. (“UC Solar”) is proposing to develop a 9 megawatt (MW) solar photovoltaic project titled UC Solar 2176050 Solar Energy Project (the “Project”). The Project Location¹ is situated on approximately 25 hectares (ha) of land on Part of Lot 25, Concession 5, Township of Elizabethtown-Kitley (lower tier municipality), United Counties of Leeds and Greenville (upper tier municipality).

The Project is proposed to be constructed on privately owned land consisting of former agricultural lands and other lands covered by successional vegetation. The Project is located immediately west of Burnbrae Road (County Road 7), immediately north of County Road 29, south of Pleasant Lane and approximately 1.9 km west of the hamlet of Spring Valley.

The Project is a renewable energy generation facility which will use solar photovoltaic technology to generate electricity. Electricity generated by solar photovoltaic panels will be converted from direct current (DC) to alternating current (AC) by inverters and then stepped-up (via pad-mounted inverter transformers and a main substation transformer) to a voltage of 44 kV prior to being connected to the existing local distribution line. In order to meet Ontario Power Authority (OPA)’s Feed-In-Tariff (FIT) Program requirements, a specific percentage of equipment will be manufactured in Ontario.

The construction of the Project will begin once the Renewable Energy Approval (REA) has been obtained. The construction period is estimated to be approximately 8 months, with Project commissioning anticipated in October 2012. It is anticipated that the Project will be operational for at least the duration of the 20-year power purchase agreement with the OPA, after which it may be decommissioned if no arrangement for further use is determined.

1.2 Renewable Energy Approval Legislative Requirements

Ontario Regulation (O. Reg.) 359/09 – *Renewable Energy Approvals Under Part V.0.1 of the Act*, (herein referred to as the REA Regulation), came into force on September 24, 2009 and identifies the Renewable Energy Approval (REA) requirements for renewable energy generation facilities in Ontario. The REA Regulation has since been amended by O. Reg. 521/10, which came in effect as of January 1, 2011. As per the REA Regulation (Part II, Section 4), ground mounted solar facilities with a name plate capacity greater than 12 kilowatts (kW) are classified as Class 3 solar facilities and require an REA.

Section 13 of the REA Regulation requires proponents of Class 3 solar facilities to complete a Decommissioning Report to identify:

- decommissioning activities upon completion of operations
- decommissioning activities should the project be abandoned during construction

¹ “Project Location means, 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 proposed to engage in the project” (O. Reg. 359/09, s. 1 (1)).

- restoring land negatively affected by the facility.

A draft of the Decommissioning Plan Report must be made available to the public, the local municipality and identified Aboriginal communities, at least 60 days prior to the final public consultation meeting in accordance with O. Reg. 359/09.

1.3 Purpose of Report

This Report explains how the Project developer proposes to restore the Project Location to a clean and safe condition at the end of the Project. This includes retiring the elements of the renewable energy generation facility, restoring the land and water and managing the excess materials and waste. Other separate reports have been prepared that describe the activities, negative environmental effects and mitigation for the construction and operation phases of the Project.

Section 2 of the report describes the decommissioning plan upon the completion of the Project's operation. Section 3 describes the decommissioning plan if Project abandonment takes place during construction prior to operation of the Project. Section 4 provides the activities to be completed in order to restore the land to pre-construction conditions and Section 5 provides the references.

2. Decommissioning After Ceasing Operation

Figure 2.1 depicts the site plan and the proposed Project facilities. It is anticipated that the Project equipment will have a useful lifetime of at least 20 years, which can be extended up to 30 years or more with proper maintenance, component replacement and repowering.

For this section of the Report, it is assumed that the Project will be decommissioned after the 20-yr power purchase agreement with the Ontario Power Authority concludes and that the process of decommissioning will take approximately 6 months or less. The Proponent of the Project will ensure that the entire Project Location is restored back to its pre-construction condition (successional vegetation land use or as may be appropriate at that time) and that the decommissioning is conducted in accordance with the applicable local, provincial and federal requirements. The

Potential negative effects due to Project decommissioning and mitigation measures are discussed in the following sections. In addition, potential effects and mitigation pertaining to significant natural features on and/or in proximity to the Project Location are documented in the Natural Heritage Assessment Environmental Impact Study Report (Hatch, 2011a). The Project Description Report (Hatch, 2011b) provides a tabular summary of all potential negative environment effects and mitigation for the decommissioning phase.

During decommissioning, mitigation measures similar to those used for a construction site (e.g., sediment and erosion controls) will be implemented and maintained by the Contractor and inspected by the Contractor's Environmental Site Inspector. The Contractor will be responsible for preparing and submitting environmental monitoring reports to the Proponent's Project Manager to ensure conformance with applicable regulatory requirements.

Overall, no significant adverse impacts to the environment are expected as a result of decommissioning the Project.

2.1 Equipment Dismantling and Removal

All decommissioning of electrical devices, equipment, and wiring/cabling will be in accordance with local, municipal, provincial and federal agencies standards and guidelines. Any electrical decommissioning will include obtaining the required permits and following lockout/tag out procedures before de-energizing, isolating, and disconnecting electrical devices, equipment and wiring/cabling.

2.1.1 PV Modules

There will be approximately 47,034 230 watt (W) PV modules, each weighing approximately 20 kg, with dimensions of 1638 mm long by 982 mm wide by 40 mm thick. Each module contains 60 polycrystalline solar cells. All modules will be disconnected, removed from the racks, packaged and transported to a designated location for resale, recycling or disposal. If the modules are not to be reused in a different location, the glass and silicon will be reclaimed and the aluminum frames will be recycled. Any disposal or recycling will be done in accordance with local by-laws and requirements. The connecting underground cables and the junction boxes will be de-energized, disconnected and removed.

The steel lattice racks supporting the modules will be unbolted and disassembled by labourers using standard hand tools, possibly assisted by a small portable crane. The vertical steel posts supporting the racks and all steel support piles (driven or screwed) will be completely removed by mechanical equipment and transported off-site for salvage (driven piles) or reuse (screw piles). Any demolition debris that is not salvageable will be transported by truck to an approved disposal area. Other salvageable equipment and/or material will be removed from the site for resale, scrap value or disposal depending on market conditions.

2.1.2 *Electrical Equipment, Buildings and Foundations*

All decommissioning of electrical devices, equipment, and wiring/cabling will be in accordance with local, municipal, provincial and federal agencies standards and guidelines. Any electrical decommissioning will include obtaining the required permits, and following lockout/tag out procedures before de-energizing, isolating, and disconnecting of electrical devices, equipment and wiring/cabling.

Decommissioning will require dismantling and removal of the electrical equipment, including inverters, transformers, underground cables and overhead lines, the prefabricated inverter enclosures and substation electrical building. The equipment will be disconnected and transported off-site by truck. The larger slab-on-grade concrete foundations and support pads will be broken up by mechanical equipment (backhoe-hydraulic hammer/shovel, jackhammer), loaded onto dump trucks and removed from the site. Smaller pre-cast concrete support pads will be removed intact by cranes and loaded onto trucks for reuse or be broken up and hauled away by dump trucks.

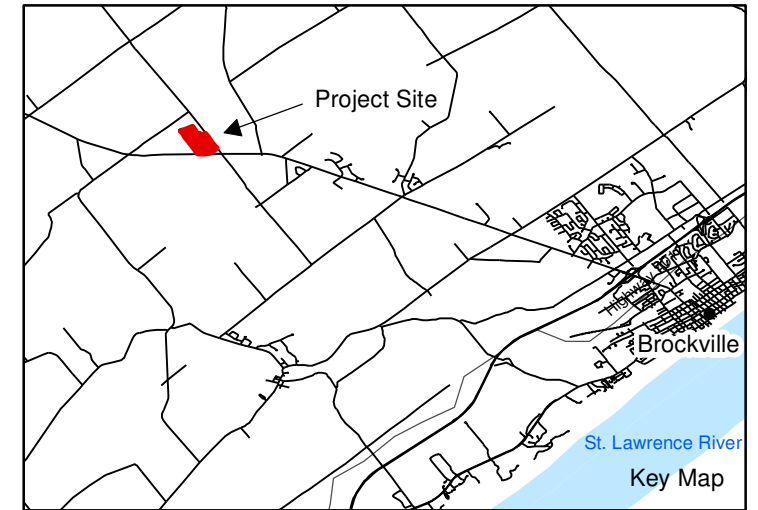
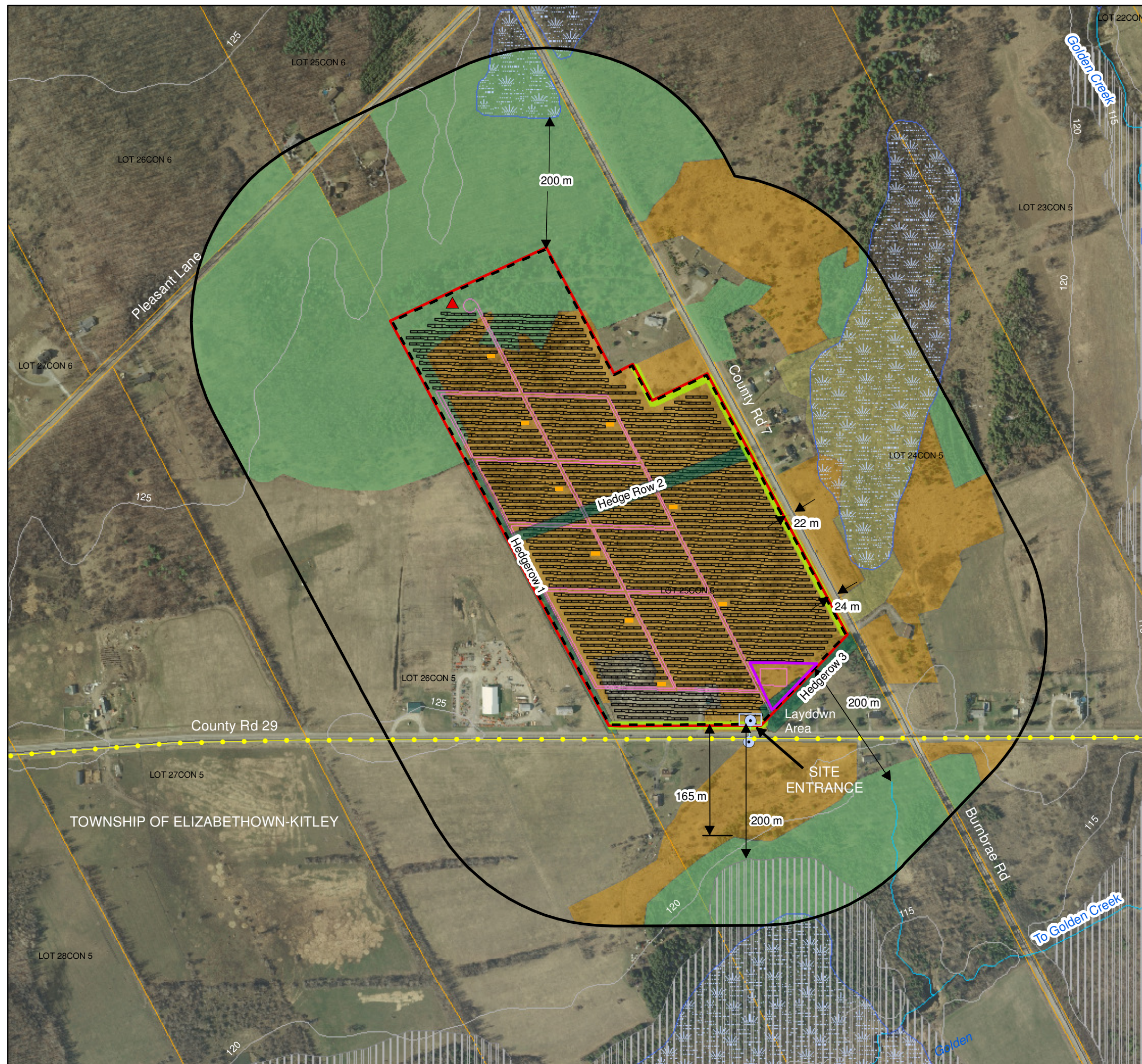
Prior to removal of the transformers, the oil will be pumped into a separate industry approved disposal container and sealed to prevent any spill during storage and/or transportation. Equipment and material may be salvaged for resale or scrap value depending on the market conditions.

2.1.3 *Roads, Parking Area and Substation Yard*

Unless retained for other purposes, all access roads, the parking area and the substation yard will be removed to allow for the complete restoration of these areas. Typically, the granular base covering these areas would be removed using a wheel loader to strip off the material and dump trucks to haul the aggregate to a recycling facility or approved disposal facility. The underlying subsoil, if exhibiting significant compaction (more likely for the site entrance road than the interior access roads) will then be disced using a tractor and disc attachment to restore the soil structure and to aerate the soil. Clean topsoil would be imported on-site by dump truck, replaced over the area and levelled to match the existing grade. Depending upon the time of year and the planned use of the land, the area will be seeded with native grass species for the purpose of erosion control.

2.1.4 *Other Components*

Unless retained for other purposes, removal of all other facility components from the site will be completed, including but not limited to surface drains, culverts, and fencing. Anything deemed usable shall be recovered and reused. All other remaining components will be considered as waste and managed according to federal, provincial and municipal requirements. For safety and security, the security fence will be the final component dismantled and removed from the site.



LEGEND

Existing Features

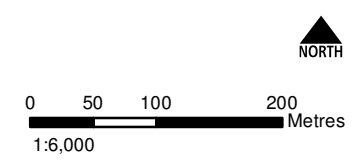
- Road
- Topographic Contour (5 m Interval)
- Watercourse
- Transmission Line
- ▭ Parcel
- ▭ Project Site
- ▭ Project Location
- ▭ 300 m from Project Location

Natural Features

- ▨ Provincially Significant Golden Creek-Lambs Pond Complex Wetland
- ▨ Unevaluated Wetland (LIO Mapping)
- ▨ Significant Woodland
- ▨ Cultural Hedge Row
- ▨ Gray Dogwood Cultural Thicket
- ▨ Gray Dogwood Organic Thicket Swamp

Proposed Project Components

- ⊙ Substation
- ⊙ Connection Point
- ▲ Communication Tower
- Inverter
- Transmission Line
- Panel Layout
- Access Roads
- Fence
- Tree Planting
- ▭ Laydown Area



Notes:
 1. OBM and NRVIS data downloaded from LIO, with permission.
 2. Spatial Referencing UTM NAD 83.
 3. Air photos from CRCA, flown Spring 2008, scale 1:2000.

Figure 2.1
 UC Solar Ltd.
 2176050
 Site Layout Plan **HATCH**

2.2 Site Restoration

The Project doesn't include any permanent changes to the original use of the land. Therefore, it will be possible to restore the site to its pre-construction, successional vegetation condition by ensuring:

- Site cleanup followed by general surface grading and, if necessary, restoration of surface drainage swales and ditches. Any damage to tile drains (if present) will be repaired/restored.
- Any excavation and/or trench caused by the removal of building or equipment foundations, rack supports and underground electrical cables will be backfilled with the appropriate material and levelled to match the ground surface.
- The roads, parking areas and substation yard will be removed completely, filled with suitable sub-grade material and levelled.
- Any compacted ground will be tilled, mixed with suitable sub-grade materials and levelled.
- Prepared soil, with all the nutrients required for crops to grow will be spread as necessary.
- Native vegetation will be planted as appropriate to provide a rapid return of nutrients and soil structure, and protect against erosion.

2.3 Management of Wastes and Excess Materials

All waste and excess materials will be disposed of in accordance with municipal, provincial and federal regulations. Waste that can be recycled under municipal programs will be done accordingly. Waste that requires disposal will be disposed of in a provincially licensed facility by a provincially licensed hauler. It is not anticipated that hazardous waste that requires special disposal will be generated, with the exception of the transformer oil, which is to be disposed of in accordance with federal, provincial and municipal requirements.

2.4 Emergency Response and Communications Plans

The following describes the Project Emergency Response and Communications Plan as it pertains to the decommissioning phase of the Project. As noted in Section 2.5, prior to initiating any decommissioning activities, the Proponent will notify the local authorities, public, and relevant government agencies of the Proponent's intent to decommission the Project.

During decommissioning, the Proponent will coordinate with the local authority, public and others as required to provide them with information about the ongoing activities. Besides regular direct/indirect communication, a sign will be posted at the gate of the facility which will include the Proponent's contact information (telephone number, e-mail and mailing address) should the public have any questions, inquiries or complaints. All inquiries will be directed to the Proponent's Project Manager who will respond to the inquiry accordingly. All inquiries will be logged electronically with the following information: date of question, inquiry or complaint, name, phone number, email address of the individual, response, date of response, and any follow-up issues.

Three potential emergency scenarios including fire, personal injury and spills are discussed with regard to the emergency response and communications procedures to be used. In the event of an emergency, the Proponent will mobilize its resources to the site to respond to the event. All Project personnel will be trained in the emergency response and communications procedures.

2.4.1 Fire

Fire extinguishers will be located in strategic locations such as Project vehicles and the switch house yard electrical building, and a sign will be erected near the front gate of the facility. The sign will include instructions to call 911 and a Project phone number should a passerby notice an emergency.

If a fire occurs, Project personnel will attempt to extinguish it, only if it is safe to do so. If there is any risk of personal injury, extinguishing the fire will not be attempted. If a fire cannot be extinguished using the hand-held extinguishers, the Project area will be evacuated and Project personnel will immediately call 911 to summon the local fire department (and ambulance if required). Project personnel will notify inhabitants at all adjacent properties if the fire appears able to move off of the Project site. All staff on site during the life of the Project will be trained in the procedure to deal with a fire and the use of an extinguisher.

All incidents will be documented and kept on file. Documentation will include date of incident, date of reporting, name of reporter, description of the incident, cause of the incident, actions taken, communications to outside groups and internal personnel and follow-up required.

2.4.2 Personal Injury

During the decommissioning phase, the work will be completed by Contractors, who will establish their own Health and Safety (H&S) program in accordance with the *Ontario Occupational Health and Safety Act*.

Should a personal injury occur that does not require an ambulance, the injured worker will be treated on-site and if necessary, transported to the hospital. First-aid supplies and maps to the local hospitals will be kept in the construction trailer. If the injury is more severe, the Contractor will call 911 and assist the injured worker until emergency personnel arrive.

In all cases of personal injury, the Project Construction Manager and the Project Facility Manager will be notified immediately. All incidents will be documented and kept on file. Documentation will include date of incident, date of reporting, name of reporter, name of injured, description of the incident, cause of the incident, actions taken, communications to outside groups and internal personnel and follow-up required, as required by Health and Safety Regulations.

2.4.3 Spills

The following spills procedures are as outlined in the Ministry of Environment's (MOE) "Spills Reporting – A Guide to Reporting Spills and Discharges" dated May 2007. Spills and the types of spills that require reporting are defined in the Ontario Environmental Protection Act and Ontario Regulation 675/98 Classification and Exemption of Spills and Reporting of Discharges.

Spills are the unintended release/discharge of material to air, land or water. The most likely decommissioning spill scenarios include: the release of sediments to waterbodies, sewage from portable washrooms and hazardous materials (e.g., compressed gases and petroleum hydrocarbons) from containers or vehicles.

Should a spill occur, the following will be implemented:

- Evaluate the scene for risks to human health and safety.

- Stop the spill, if it is safe to do so.
- If there is immediate danger to human health, contact 911 for assistance, and notify anyone who may be directly impacted or is in harm's way.
- Notify the Contractor's Site Manager and if applicable, the Project Facility Manager.
- Contain and clean-up the spill using on-site spill kit.
- If required, contact outside spill response contractor for assistance.
- Document and report the spill to outside agencies, as required.

A spill kit will be available on-site during the decommissioning phase and will contain equipment necessary for spills response. This will include absorbent pads, an absorbent broom, polyethylene bags, neoprene gloves, protective goggles, plastic bins or metal drums, and multipurpose granular sorbents.

Spills that could potentially occur during the life of the Project, and may need to be reported to the MOE include:

- Non-approved releases/discharges (including those to land, air and water).
- Discharge of fluids greater than 100 L from a vehicle.
- Mineral oil releases greater than 100 L from an electrical transformer.
- Discharges (including sediment) to waterbodies.

The MOE Spills Action Centre phone number (1-800-268-6060) will be posted at the Project trailer. Documentation for all spill incidents will be kept on file and sent to the MOE, as required.

Documentation will include date of incident, date of reporting, name of reporter, description of the incident, cause of the incident, type and amount spilled, actions taken, disposal of contaminated material, communications to outside groups and internal personnel and follow-up required.

2.5 Decommissioning Notification

Prior to initiating any decommissioning activities, the Proponent will notify the local authorities (municipality, conservation authority, fire department, etc.), public, the MOE and other relevant Ontario Ministries of the Proponent's intent to decommission the Project. Notification will be placed in local newspaper(s) and mailed to the aforementioned local authorities, government agencies and to all landowners within 120 m of the Project.

The Notice will provide information regarding the expected start date and duration of decommissioning activities and the Proponent's contact information, including a telephone number, e-mail, website and mailing address for those seeking more information about the planned decommissioning activities and/or reporting emergencies and complaints. In addition, a sign will be erected at the gate of the facility which will provide this same information.

Should such conditions arise that the public requires re-notification due to Project changes, they will be notified through the local newspaper(s) and/or direct mail to nearby landowners. Should agencies such as the local municipality or the MOE require re-notification, they will be sent the information

directly by email, mail or telephone conversation. All communications will be documented and kept on file by the Proponent.

2.6 Other Approvals

Subject to confirmation, the following permits and/or approvals, but not limited to, may need to be obtained by the Proponent prior to initiating the decommissioning of the Project:

- A permit issued by the local Ministry of Natural Resources District Office or Conservation Authority if any proposed works are to take place in or near a watercourse or an area regulated by a Conservation Authority.
- A Record of Site Condition under MOE's Records of Site Condition Regulation, O. Reg. 153/04 made under the Environmental Protection Act.

Typically, a demolition permit from a Municipality is only required for demolishing a residential structure occupying an area greater than 10 square metres.

3. Decommissioning During Construction (Abandonment)

In the event that construction and associated work is not completed, all equipment, foundations and imported material (including roads) will be removed from the site in accordance with applicable municipal, provincial and federal requirements. The process of decommissioning the Project is assumed to take approximately 6 months, but could be less depending upon what stage of completion the Project is at prior to decommissioning.

3.1 Equipment Dismantling and Removal

Equipment dismantling and removal will be determined according to the activities completed and components installed at the time of Project cancellation. Therefore, the plan and related activities as outlined in Section 2.1 will be the same activities implemented if the Project were to be abandoned prior to commencing operations.

3.2 Site Restoration

Site restoration will be determined according to site development to date. Therefore, the plan and related activities as outlined in Section 2.2 and Section 4 will be the same activities if the Project were to be abandoned prior to commencing operations.

3.3 Management of Wastes and Excess Materials

Management of waste and excess material will be determined by activities completed and components installed at the time of abandonment. Therefore, the plan and related activities as outlined in Section 2.3 will be the same activities if the Project were to be abandoned prior to commencing operations.

3.4 Emergency Response and Communications

The same procedure described in Section 2.4 will be followed if the Project is to be abandoned prior to commencing operations.

3.5 Other Approvals

The same possible approvals as described in Section 2.6 may be required if the Project is to be abandoned prior to commencing operations.

4. Restoration of Land Negatively Affected by the Facility

Following decommissioning of the Project, if any land or water features are negatively affected by the Project, the Proponent is committed to restoring these features as necessary and as practically feasible. This would be subject to environmental requirements and in consultation with the landowner. Note that as per the environmental studies completed for the REA, significant negative impacts to land and water features are not expected.

The following actions are anticipated to restore the Project Location lands and address any potential negative effects:

- All equipment, foundations and imported material (including roads) will be removed from the site in accordance to applicable local, municipal, provincial and federal guidelines and regulations.
- Any damage to existing tile drains (if found to be present on the site) caused by the Project will be repaired/restored.
- Any excavation and/or trench caused by the removal of building or equipment foundations, rack supports and underground electrical cables will be backfilled with the appropriate material and levelled to match the ground surface.
- Should the subsoil be negatively affected and compromise the future productive use of the land, the following will be implemented: first the topsoil will be removed and stockpiled, then the subsoil may be ripped and tilled prior to grading it; topsoil will then be replaced to its original condition and revegetated.
- Should the soil be negatively affected and compromise the future productive use of the land, nutrients may be added or fertilizers deployed.
- Topsoil and compost will be blended where required, spread and replaced to original depth.
- Hydroseeding with approved seed mixture and mulching during the appropriate seasonal conditions based on the final intended use of the land (e.g., agricultural crop production, fallow, successional vegetation, other).

5. References

Government of Ontario. 2009. Ontario Regulation 359/09 made under the Environmental Protection Act 2007, Renewable Energy Approvals under Part V.0.1. of the Act. September 8, 2009 version. Printed in the Ontario Gazette: October 10, 2009. Available on-line at:

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