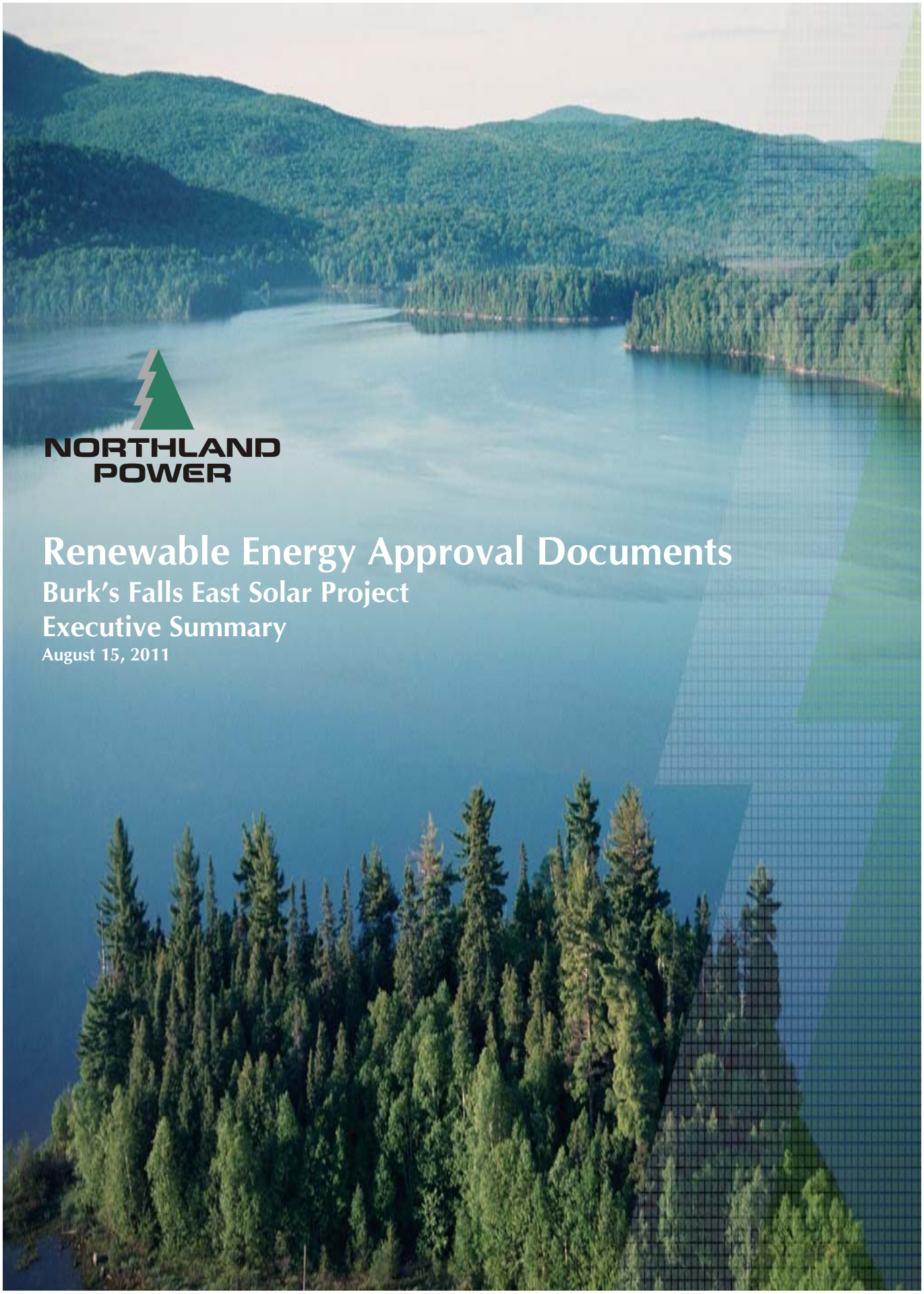


NORTHLAND POWER

Renewable Energy Approval Documents

Burk's Falls East Solar Project

Executive Summary

August 15, 2011

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Executive Summary

Table of Contents

1. Introduction

The Burk's Falls East Solar Project (hereinafter referred to as the "Project") is a proposed 10-megawatt (MW) solar farm in the Municipality of Armour Township. The Project is being developed by Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland"). As required, Northland is commencing with the Renewable Energy Approval (REA) described in Ontario Regulation 359/09 under the *Environmental Protection Act*.

Northland is the proponent of the Project. The contact information is as follows:

Tom Hockin
Development Manager - Renewables
Northland Power Inc.
30 St. Clair Ave. West, 17th Floor
Toronto, ON
M4V 3A1

Tel: 647-288-1046
Fax: 416-962-6266
Email: Tom.Hockin@Northlandpower.ca

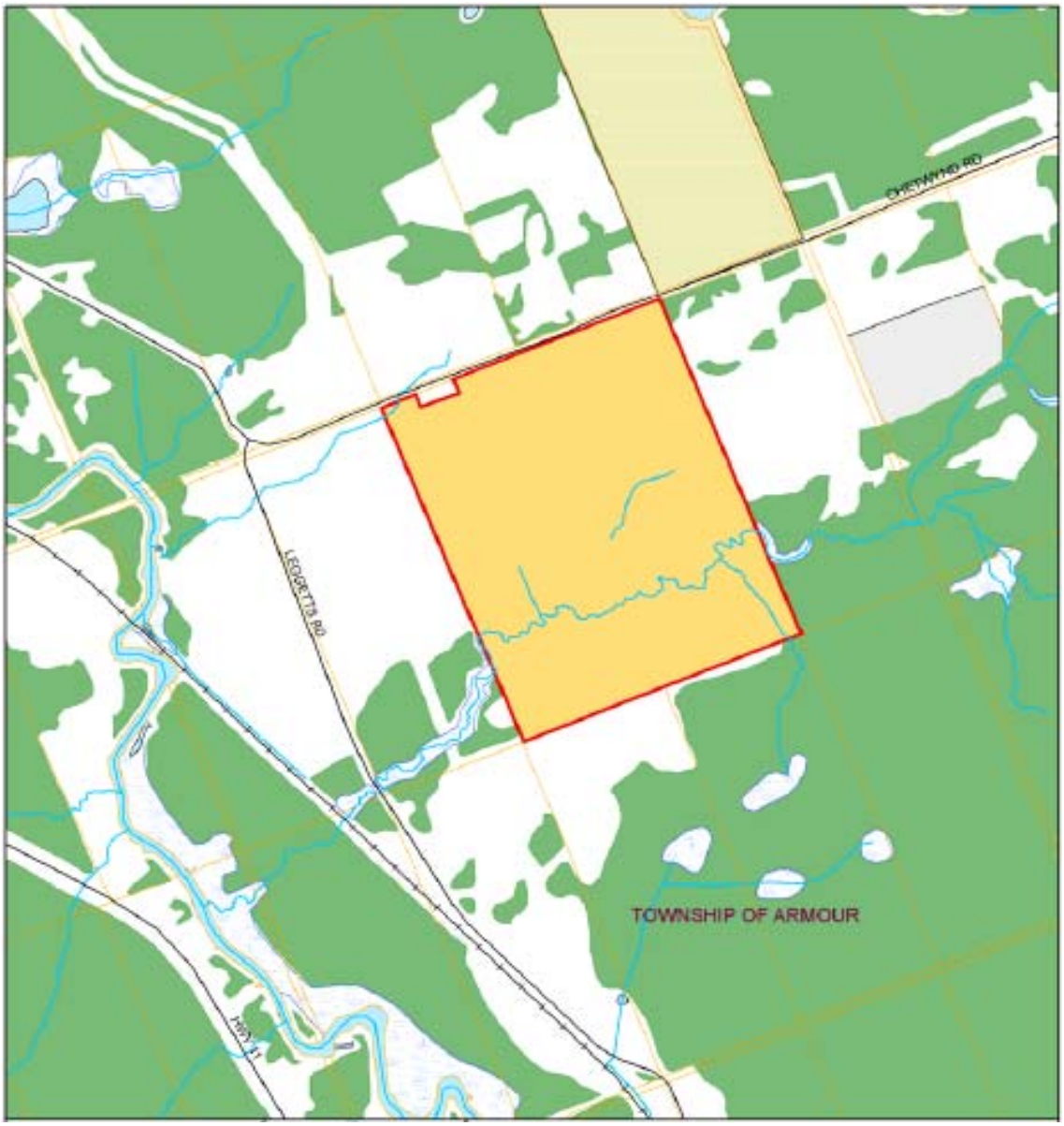
Northland has retained Hatch Ltd. (Hatch) to assist Northland in meeting the REA requirements. Contact information for Hatch is as follows:

Sean Male, MSc
REA Coordinator
Hatch Ltd.
4342 Queen Street, Suite 500
Niagara Falls, ON
L2E 7J7

Tel: 905-374-0701, Ext. 5280
Fax: 905-374-1157
Email: smale@hatch.ca

1.1 Project Location

The Project is located to the east of Burk's Falls and is proposed to be constructed on a parcel of land that is approximately 80 hectares (ha) in size, southeast of the intersection of Leggetts Road and Chetwynd Road.



1.2 Project Proponent

Northland Power develops and operates clean and green power generation projects, mainly in the provinces of Ontario and Quebec, with Saskatchewan being added to that list shortly. Our facilities produce about 900 MW of electricity. Northland has been in business since 1987, and has been publicly traded on the Toronto Stock Exchange since 1997.

Sustainability is a core value at Northland Power. All of their development efforts and operational practices focus on ensuring the ability to provide long term benefits to their customers, investors, employees, communities and partners.

Sustainability has many dimensions for Northland Power.

- Environmental: Northland Power was founded on the belief that clean and green energy sources are vital to the future of our planet. Northland Power produces nothing else. Their construction and operational practices are engineered to meet the highest environmental standards, even in jurisdictions where lower standards are legislated.
- Health and Safety: Northland Power ensures that their staff has the knowledge, tools and time to work safely. This is Northland's first priority. Their culture of safety, respect and independence helps to ensure they attract and retain the people that they need to perform.
- Operational: Northland Power maintains and reinvests constantly in their operating assets to achieve maximum efficiency and economic life.
- Community: Northland Power takes an active interest in its host communities, to ensure they remain vibrant, healthy places to live.
- Financial: Northland Power consistently chooses long term success over short term gain. Northland Power only pursues projects that meet strict return thresholds and have creditworthy customers. As a result, they have paid stable monthly dividends since 1997.

Northland's business model is to develop, finance, construct, own and operate its facilities for the duration of the project's useful life. As such, Northland considers itself to be members of the local community in which it operates and has a track record of being a good neighbour.

1.3 Project Benefits

Green Energy Act and Feed in Tariff Program

The Ontario Government passed the "Green Energy and Green Economy Act" into law on May 14, 2009. The Act is expected to boost investment in renewable energy projects and increase conservation, creating green jobs and economic growth.

The Ontario Government lists the following objectives for the Ontario Green Energy Act:

- Spark growth in clean and renewable sources of energy such as solar, wind, hydro, biomass and biogas in Ontario.
- Create the potential for savings and better managed household energy expenditures through a series of conservation measures.
- Create 50,000 jobs for Ontarians in its first three years.

The Feed-in-Tariff (FIT) program was launched on October 1, 2009 to encourage use of renewable energy sources, and promote growth within the environmental industry. The Green Energy and Green Economy Act (2009) enabled the creation of the FIT program. Taken from the Program's website, the FIT program will create new jobs, boost economic activity and further the development of renewable energy technology and expertise in Ontario, while helping to phase out coal-fired electricity generation by 2014.

The Ontario Power Authority awarded 184 FIT contracts to renewable power developers in Ontario on April 8, 2010. Northland Power was awarded a total of 13 ground mount solar contracts for proposed development throughout the province. These projects are currently proceeding through the REA process.

Advantages of Solar Energy

Solar power has a multitude of advantages compared to fossil fuel powered energy plants. Most simplistically, the fuel is free. As many fossil fuels are expected to increase in price, having solar energy on the grid at a set price will give greater stability to future energy prices. Another key benefit is the lack of polluting emissions. With solar PV there are no emissions; this ensures that the surrounding local community will not have to live with poor air quality, disruptive sounds or noxious odours. Also, since solar PV is modular, it is well suited to distributed generation, meaning the power can be produced close to where it will be consumed. In addition, the solar PV systems are comprised of safe, common materials that will not affect the lands on which they are located, allowing for easy remediation upon decommissioning, unlike the vast majority of power plants.

As a source of electricity, solar PV has even more advantages when compared to other types of electricity generation. Peak power production with solar PV coincides with peak demand, during the middle of the day, reducing the need for gas fired peaking power plants.

Solar PV does not require any moving parts or water, unlike most other generation technologies, which greatly reduces its impact on the environment, its maintenance costs and its noise levels.

1.4 Project Description

Northland proposes to install ground mounted stationary photovoltaic panels which, when exposed to sunlight, will generate DC (direct current) electricity. The DC electricity will be conveyed through underground cabling to an inverter which converts the DC electricity to AC (alternating current) electricity. The electricity will then be conveyed to a single substation which will increase the voltage to 44 kV and a short transmission line will transfer the electricity to a connection tie-in point with the local distribution grid. The tie-in point is located on Chetwynd road at the north of the Project. The construction period is estimated to be approximately 6 months in duration, with Project commissioning anticipated in November 2012.

2. REA Process

Ontario Regulation (O. Reg.) 359/09 – Renewable Energy Approvals Under Part V.0.1 of the Act, (herein referred to as the REA Regulation) made under the *Environmental Protection Act* identifies the Renewable Energy Approval (REA) requirements for renewable energy projects in Ontario. The

Project is considered to be a Class 3 facility, as it is ground mounted and has a name plate capacity greater than 10 kW, and therefore requires a REA.

The REA Regulation details the required activities and reports to be completed and submitted in order to obtain the REA. The activities include Aboriginal, public, municipal and agency consultation in order to provide information on the Project to these groups and obtain feedback. Upon completion of these activities, they will be documented in the Consultation Report and submitted to the Ontario Ministry of the Environment (MOE) as part of the REA application.

The REA Regulation requires the preparation of reports, including:

- Project Description Report
- Construction Plan Report
- Design and Operations Report
- Decommissioning Plan Report
- Noise Report
- Natural Heritage Records Review, Site Investigations, Evaluation of Significance and Environmental Impact Study Reports
- Water Body Records Review, Site Investigation and Environmental Impact Study Reports
- Stage 1 and 2 Archaeological Assessment Reports.

As per Sections 16 and 17 of the REA Regulation, these draft documents are to be made available to the Aboriginal communities greater than 60 days from the second Public Meeting and to the public at least 60 days from the second Public Meeting. In addition, a summary of each document is to be prepared and sent to the Aboriginal communities.

In addition, a Letter of Confirmation is to be obtained from the Ontario Ministry of Natural Resources based on their review of the Natural Heritage Reports and is to be provided to the same groups aforementioned, at the same time as the draft documents. Similarly, a Letter of Confirmation is to be obtained from the Ontario Ministry of Tourism and Culture based on their review of the Stage 1 and 2 Archaeological Assessment Report and provided to the same groups and at the same time as the draft documents.

Also, as per Section 20 of the REA Regulation, a determination is to be made as to whether or not a heritage resource is located on the project site and whether an assessment is required.

Therefore, this package has been prepared to meet these requirements and the reports as listed above are contained within. For clarity and ease of understanding, the Natural Heritage and Water Body Reports should be read in the order in which they appear below.

2.1 Brief Summary of the Burk's Falls East Solar Project REA Reports

A brief summary of some of the Burk's Falls East Solar REA Reports is provided below. A description of the purpose of each of the REA Reports is provided in Figure 2, while Figure 3 provides the

location of the complete summary of each REA report, along with the required confirmation letters and report on heritage considerations.

The Natural Heritage and Waterbody reports have been prepared to identify potential negative environmental effects the Project may have on existing significant natural features or waterbodies, respectively.

Environmental Impact Studies have been prepared to identify potential negative environmental effects that all phases of the Project may have on the significant natural features and waterbodies. Mitigation measures have been proposed to prevent these effects from occurring or minimize the magnitude, extent, duration and frequency in the event that they do occur to an acceptable level.

A Confirmation Letter from the Ontario Ministry of Natural Resources is included in Appendix O that confirms that the Natural Heritage reports satisfy the REA Regulation criteria.

An archaeological assessment has been conducted on the Burk's Falls East project location which included a Stage 1 background study of past archaeological investigations and known archaeological sites within a 2 km radius of the Burk's Falls East Solar Project location. It also included a systematic 5-m interval Stage 2 archaeological survey of all of the Leased Lands in the property.

The office of the Ministry of Tourism and Culture has reviewed the Archaeological Assessment Report in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18, and accepted its findings.

Research and agency consultation undertaken has not identified the need for a heritage impact assessment under Section 23 of the REA Regulation. A noise study has also been undertaken and indentifies mitigation measures the project will incorporate in order to meet MOE requirements.

3. Next Steps

A second Public Meeting will be held for the Project on Saturday, May14, 2011 at the Armour, Ryerson and Burk's Falls Memorial Arena and Community Centre, 220 Centre Street, Burk's Falls, Ontario. Everyone is welcome to attend this meeting and they are also welcome to ask questions about the Project during this 60 day comment period. Questions or concerns related to these reports should be sent to:

Sean Male, MSc
REA Coordinator
Hatch Ltd.
4342 Queen Street, Suite 500
Niagara Falls, ON
L2E 7J7

Tel: 905-374-0701, Ext. 5280
Fax: 905-374-1157
Email: smale@hatch.ca

Once the comments have been received, a Consultation Report will be prepared to show how those comments have been addressed and included in the design of the Project.

After the second Public Meeting, all the Reports and a REA Application Form will be sent to MOE for review and processing. The MOE has 6 months to review and make a decision on the Project. The MOE's decision will be posted for a 15-day review period on the Environmental Registry. Provided no appeal requests have been submitted, the Project will commence, pending receipt of all other required permits and approvals.

Figure 1: Site Layout

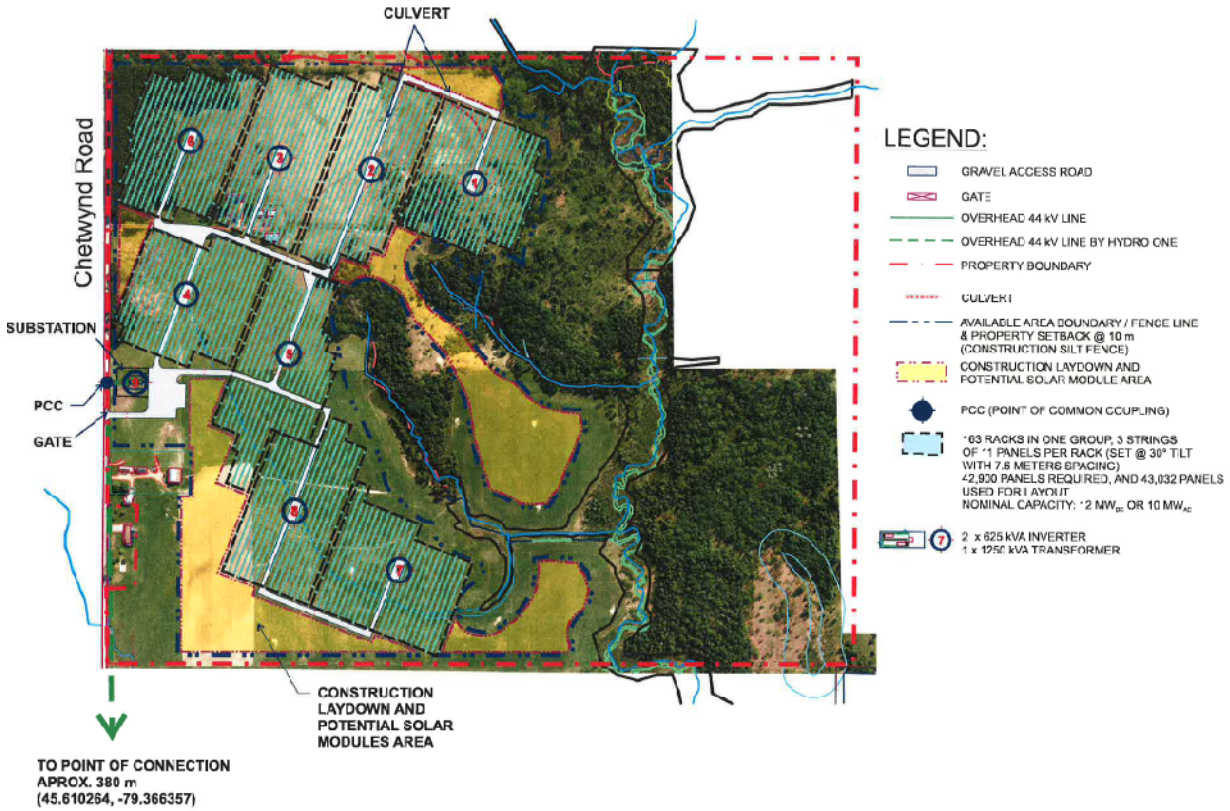


Figure 2: Report Name and Purpose

Report Name	Purpose
Project Description Report	Summarizes Project location, construction and operational activities, potential environmental effects and mitigation, and social and environmental benefits.
Construction Plan Report	Provides details on the construction activities, timelines, materials, temporary uses of land and waste materials generated and environmental effects, mitigation and monitoring during construction.
Design and Operations Report	Provides the site layout plan, Project components, operations and maintenance activities, communications and emergency response plan, and environmental effects monitoring plan.
Decommissioning Plan Report	Provides the activities to be undertaken during decommissioning and restoring the Project site.
Natural Heritage Records Review Report	Provides information from existing documentation on natural heritage features including woodlots, valleylands, wetlands, Areas of Natural and Scientific Interest and wildlife habitat.
Natural Heritage Site Investigations Report	Documents the results of the site investigations to identify and confirm natural heritage features on and within 120 m of the Project.
Natural Heritage Evaluation of Significance Report	Evaluates the significance of any natural heritage features located within 120 m of the Project.
Natural Heritage Environmental Impact Study	Identifies potential adverse environmental effects on significant natural heritage features, proposes mitigation measures to prevent or minimize adverse effects and provides monitoring program.
Water Body Records Review Report	Provides information from existing documentation on waterbodies including lakes, permanent and intermittent streams and groundwater seepage areas.
Water Body Site Investigation Report	Documents the results of the site investigations to identify and confirm water body features on and within 120 m of the Project.
Water Body Environmental Impact Study	Identifies potential adverse environmental effects on waterbodies, proposes mitigation measures to prevent or minimize adverse effects and provides monitoring program.
Stage 1 & 2 Archaeological Assessment Report	Documents the results of the Stage 1 assessment which is a desktop study identifying any archaeological potential and the Stage 2 assessment which is a site investigation confirming the archaeological potential.
Heritage Resources	Documents the results of the assessment of potential effects on protected properties and heritage resources.
Noise Assessment Study Report	Documents the results of noise modeling to identify noise emissions levels at nearby sensitive receptors and mitigation requirements to meet MOE noise emissions guidelines.

Figure 3: Appendices of Project Report Summaries

Contained as appendices to this Executive Summary are as follows:

- Appendix A: Project Description Report Summary
- Appendix B: Construction Plan Summary
- Appendix C: Design and Operations Report Summary
- Appendix D: Decommissioning Plan Summary
- Appendix E: Natural Heritage Records Review Report Summary
- Appendix F: Natural Heritage Site Investigation Report Summary
- Appendix G: Natural Heritage Evaluation of Significance Report Summary
- Appendix H: Natural Heritage Environmental Impact Study Summary
- Appendix I: Water Body Records Review Report Summary
- Appendix J: Water Body Site Investigation Report Summary
- Appendix K: Waterbodies Environmental Impact Study Summary
- Appendix L: Stage 1 and 2 Archaeological Assessment Report Summary
- Appendix M: Noise Assessment Study Summary
- Appendix N: Protected Properties and Heritage Resource Information
- Appendix O: Letter of Confirmation – Ontario Ministry of Natural Resources
- Appendix P: Letter of Confirmation – Ontario Ministry of Tourism and Culture

Appendix A

Project Description
Report Summary

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Project Description Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Project Description Report for the Burk's Falls East Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

Table 1 of the REA Regulation requires proponents of Class 3 solar projects to prepare a Project Description Report (PDR). The PDR is prepared as one of the first Project documents once the REA process commences and is made available for public review prior to the first public meeting. The purpose of the PDR is to provide preliminary information regarding the Project to members of the public, Aboriginal groups, municipalities and other government agencies. The contents of the PDR are summarized in the following sections.

2. Summary of Project

The proposed Project consists of a 10-MW Class 3 solar facility, constructed on privately owned land in Armour Township. Northland Power has obtained a contract from the Ontario Power Authority (OPA) to buy the power produced by the proposed facility under the Feed-In-Tariff (FIT) program for a period of 20 years. The facility is expected to remain in commission for approximately 35 to 40 years. Following the expected lifespan of the Project, decommissioning of the facility will occur to remove all of the Projects components and regrade the Project site back to original conditions, to the extent possible.

It is anticipated that the time for construction is 4 to 8 months, depending on time of year and various other factors. This time frame includes site preparation, access road construction, installation of solar panels (including footings, support structures and panels), installation of inverters and transformer and all electrical cabling and site rehabilitation following construction.

The facility would operate 365 d/yr, generating electricity when sufficient solar irradiation conditions exist. The Project will typically be scheduled for maintenance every 2 to 3 months. Typically, maintenance includes checking the structures, and interconnections. The proposed facility would not consume any fuels nor produce any waste as a result of generation activities.

3. Potential Environmental Effects

The PDR summarized the existing environmental features on the Project. The site primarily consists of agricultural land with a portion of wooded area and tributaries of the Magnetawan River on and within 120 m of the Project location.

The PDR also identified preliminary potential environmental effects of the Project including

- potential erosion and sedimentation due to construction activities
- temporary loss of agricultural lands
- removal of tree species in the wooded area
- noise emissions from the invertors and transformer.

Mitigation measures were identified to prevent or eliminate those effects. Potential effects and mitigation measures were assessed in more detail in other Project reports.

Appendix B

Construction Plan
Report Summary

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Construction Plan Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Construction Plan Report for the Burk's Falls East Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

The proposed Project will use solar photovoltaic technology to generate electricity. The solar modules will be mounted on fixed steel supports and arranged in the form of eight arrays, each of 1.25 MW. Electricity generated by solar photovoltaic modules from each array will be converted from direct current (DC) to alternating current (AC) by an inverter, and subsequently stepped up from a medium voltage to 44 kV in order to connect to the nearby distribution line. The connection point will be on Chetwynd Road, north of the Project location. The Project will connect to a distribution line that Hydro One will extend approximately 30 m from its current location.

2. Construction

The construction process of the Project consists of four phases:

- Phase 1 – Site Preparation
- Phase 2 – Construction and Installation of Plant
- Phase 3 – Testing and Commissioning
- Phase 4 – Site Restoration.

The site work is scheduled to start in early summer of 2012 and have an estimated 6 to 8 month construction period.

2.1 Phase 1 - Site Preparation

Site preparation refers to all necessary activities prior to the construction of foundations, substation, and installation of the PV modules. It includes surveying/staking, site clearing and grubbing,

construction of access roads and drainage systems, installation of security gate and fencing, and construction of a staging area.

The site preparation work will take place in May 2011.

2.2 Phase 2 - Construction and Installation of Plant

Construction and installation of the facility consists of building foundations, trenches for cabling, structural support and finally installation of the panels on the structural support. The substation and associated electrical equipment will also be installed. This includes the underground and above ground cabling on the Project site. In addition, an overhead distribution line to transmit power from the Project substation to the local distribution network will be installed.

The construction and installation of the plant will take place from June 2012 to October 2012.

2.3 Phase 3 – Testing and Commissioning

Testing and commissioning will be performed on the installation prior to start-up and connection to the power grid. Solar modules, inverters, collection system, and substation will be checked for system continuity, reliability, and performance standards. If problems or issues are identified, modifications will be made prior to start-up.

The testing and commissioning will take place in November 2012.

2.4 Phase 4 – Site Restoration

Site restoration will be applicable for the entire Project location. The main objective will be to re-instate the area to the original pre-construction condition, such as the ecosystem, vegetation, and drainage. All construction material, equipment, temporary facilities, and waste will be removed from the site. Topsoil will be backfilled where required, including landscaping to achieve proper drainage. Revegetation will include planting of native plants and hydro-seeding where required.

The revegetation where possible will take place in October 2012.

3. Environmental Effects

Environmental effects and proposed mitigation measures are summarized in the table below.

Environmental Feature	Anticipated Impact	Proposed Mitigation
Soils	Negative effects on soil quality, loss of soils due to erosion and soil compaction.	Erosion and sedimentation control measures will be implemented and soil loosening measures could be applied, if necessary.
Groundwater	Pumping of groundwater could lower water table locally.	Limited impacts due to the duration of pumping (e.g., only during excavations). Any pumped water will be treated.
Surface Water Quality	Surface water quality could be impacted by erosion/ sedimentation of excavated or exposed soils, erosion caused by increased runoff from impervious or less pervious areas, or deposition of fugitive dust.	Erosion and sedimentation control measures, spill prevention and response plan, air quality measures will all mitigate impacts

Environmental Feature	Anticipated Impact	Proposed Mitigation
Aquatic Habitat and Biota	Limited impacts, as a 30 m setback from all watercourses.	N/A
Vegetation	Minor removal of vegetation and trees from a wooded area to occur. Dust deposition and spills could also impact vegetation.	In order to minimize potential losses from surrounding vegetation communities, areas where clearing is required will be well marked, and workers will be instructed not to enter areas of natural vegetation.
Wildlife	Impacts to wildlife could occur as a result of loss of habitat, disturbance from construction activities, or incidental mortality as a result of collision with construction vehicles.	In order to minimize the potential for habitat loss, work areas will be demarcated in order to ensure that the contractor does not work beyond those bounds. In order to minimize potential for disturbance or incidental take of wildlife, construction activities will be timed outside of the breeding bird period (generally May through July), wherever possible. Vegetation ground cover to be used on the Project location will be selected in consideration of promotion of wildlife features.
Air Quality and Noise	Dust may become airborne from vehicular traffic, heavy machinery use, and soil moving activities. Dust in the air can have a range of effects including, but not limited to: impacts on human health as a result of irritation to lungs, eyes, etc, which could impact construction workers or nearby residents, impacts on surface water quality and aquatic habitat if the dust is deposited into waterbodies, impacts on vegetation if heavy dust loads build up on photosynthetic surfaces, thereby resulting in mortality of the plants.	These mitigation measures are to include, as required, use of dust suppression (i.e., water) on exposed areas including access roads, stockpiles and work/laydown areas as necessary, hard surfacing (addition of coarse rock) of access roads or other high-traffic work areas, phased construction, where possible, to limit the amount of time soils are exposed, avoid earth-moving works during excessively windy weather. Stockpiles to be worked (e.g., loaded/unloaded) from the downwind side to minimize wind erosion, stockpiles and other disturbed areas to be stabilized as necessary (e.g., taped, mulched, graded, revegetated or watered to create a hard surface crust) to reduce/prevent erosion and escape of fugitive dust, dust curtain to be used on loaded dump trucks delivering materials from off site, workers to utilize appropriate personal protective equipment (e.g., masks, safety goggles) as necessary.
	Construction and installation activities have the potential to result in increased noise levels on and within the vicinity of the Project location.	Construction and installation activities that produce a large amount of noise will be limited to daylight hours. Vehicles will also be regularly checked for properly working mufflers or other noise reducing equipment, and all construction equipment will meet MOE emission standards.

Environmental Feature	Anticipated Impact	Proposed Mitigation
Traffic	Increased traffic volumes and equipment delivery to the Project location and temporary disruption along routes utilized by construction vehicles may result in occasional delays to local community traffic flow during the construction period.	Mitigation measures include: designated transportation routes will be utilized; a police or security escort will be utilized to guide or accompany major equipment deliveries to the Project location if necessary; flagmen will be utilized as required to facilitate traffic flow and control if necessary; construction vehicles will be driven in a proper manner with respect for all traffic laws, signage providing any detour directions will be prominently displayed, vehicle imprints or erosion gullies will be repaired or regraded as necessary.
Municipal Roadways	The use of municipal roadways by construction vehicle traffic may result in some minor damage to roadways during the construction of the Project, given their proximity to the Project location.	Mitigation measures include: designated and appropriate transportation routes will be utilized; construction vehicles will be driven in a proper manner with respect for all traffic laws; roadways will be photographed prior to construction and damage to municipal roadways, above and beyond normal wear and tear, will be repaired as necessary.
Public and Construction Site Safety	Construction of the proposed development poses potential public and construction site safety concerns in the vicinity of the Project location.	Mitigation measures include: public access to the construction area will be prevented through the use of fences, gates, and security procedures; signage will be posted to notify the public of construction in the area; workers will be required to adhere to prescribed safety procedures; proper procedures for construction traffic will be developed, where required.
Waste Management	Construction activities will likely result in the generation of recyclable material, as well as construction and sanitary waste.	Mitigation measures include, construction waste will be properly stored on site prior to disposal off site at local, registered disposal facilities, all sanitary waste is to be contained and hauled off site by a designated hauler throughout the construction period, hazardous wastes will be properly stored in secure containers inside impervious berms or other containment areas until disposal off site at a registered facility, reuse and recycling will be practiced wherever possible.
Land Use	Lands within the Project location will be removed from agricultural production upon Project construction.	Land use could be retained upon completion of the Project.
Protected Properties	No protected properties, as defined in Section 19(1) of O. Reg. 359/09, exist in the vicinity of the Project location.	N/A

Environmental Feature	Anticipated Impact	Proposed Mitigation
Built Heritage and Cultural Heritage Landscapes	No negative effects to built heritage and cultural heritage landscapes are anticipated as no potential impacts to the resources were identified.	N/A
Archaeological Resources	A Stage 1 and 2 Archaeological Assessment was conducted for the Project location. No archaeological resources were found.	N/A
Spills	Spills of petroleum hydrocarbon materials from vehicles/ equipment operating on site, such as fuel or hydraulic oils, or spills of concrete materials from concrete trucks, could occur during the construction process.	Best management practices shall be implemented, including but not limited to: all refuelling and equipment maintenance activities will be conducted at specified locations; equipment is to be monitored to ensure it is well maintained and free of leaks; spill containment and clean-up supplies are to be maintained on site at all times; spills will be cleaned up immediately and reported accordingly.

4. Conclusion

Weekly inspections will ensure conformance with environmental mitigation measures. Overall, no adverse impact to the environment is anticipated when the mitigation measures are implemented.

Appendix C

Design and Operations Report Summary

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Design and Operation Plan Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Design and Operation Plan Report for the Burk's Falls East Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

The proposed Project will use solar photovoltaic technology to generate electricity. The solar modules will be mounted on fixed steel supports and arranged in the form of eight arrays, each of 1.25 MW. Electricity generated by solar photovoltaic modules from each array will be converted from direct current (DC) to alternating current (AC) by an inverter, and subsequently stepped up from a medium voltage to 44 kV in order to connect to the nearby distribution line. The interconnection point will be on Chetwynd Road, north of the Project location. The Project will connect to a distribution line that Hydro One will extend approximately 30 m from its current location.

2. Facility Components

Facility components consist of security gate, fencing and lighting, access roads, drainage systems, foundations, trenches for cabling and instrumentation control, structural support and temporary construction staging area. The Project is designed to generate 10 MW (AC) by using eight arrays of photovoltaic modules. Each array has a nominal capacity of 1.25 MW and is comprised of two sub-arrays, each with one inverter with a nominal capacity of 630 kW. The modules, inverters, intermediate transformers, AC switch, main step-up transformer, and the equipment control and monitoring system are the main electrical components of a solar facility.

3. Facility Operation Plan

The Project does not require any permanent on-site operator as it will be operated remotely. For general monitoring and maintenance purposes, two part-time or full-time local personnel may be

hired and will be dispatched from a central operations office as needed. Any damage or faults with the PV modules and electrical systems will be alerted to staff remotely and repaired (or replaced) by facility staff or qualified professionals. Access to the site will be limited to Project personnel.

3.1 Maintenance

The weather conditions, such as the quantity and frequency of rain and snow at the Project location will determine the frequency of cleaning. At the very most, it is expected that the modules will require cleaning quarterly, but it is possible cleaning the modules will not be necessary at all. If required, water trucks will bring water to the site to supply the water required. No chemicals would be used for cleaning.

The transformers will be visually inspected on a monthly basis and their status recorded. Any leaks will be repaired immediately. Spill response equipment will be left on site or in the maintenance trucks should leaks be observed.

3.2 Environmental Effects Monitoring Plan

The Project Environmental Effects Monitoring Plan will be implemented through all phases of the Project. The purpose of the plan is to ensure that performance objectives and mitigation measures are working as designed to mitigate negative impacts. As well, it provides additional measures, if primary measures are not functioning. Table 5.2 in the Design and Operations Report provides the details of the proposed monitoring plan to monitor the impacts to the natural and social environments.

3.3 Emergency Response Plan

The Project Emergency Response Plan will be implemented through all phases of the Project. The purpose of the plan is to establish and maintain emergency procedures required for effectively responding to accidents and other emergency situations, and for minimizing associated losses. The Plan provides the emergency response and communications procedures to be used in response to these three potential emergency scenarios (i.e. fire, personal injury and spills).

All Project personnel will be trained in emergency response and communications procedures.

Appendix D

Decommissioning Plan
Report Summary

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Decommissioning Plan Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Decommissioning Plan Report for the Burk's Falls East Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

The proposed Project will use solar photovoltaic technology to generate electricity. The solar modules will be mounted on fixed steel supports and arranged in the form of eight arrays, each of 1.25 MW. Electricity generated by solar photovoltaic modules from each array will be converted from direct current (DC) to alternating current (AC) by an inverter, and subsequently stepped up from a medium voltage to 44 kV in order to connect to the nearby distribution line. The interconnection point will be on Chetwynd Road, north of the Project location. The Project will connect to a distribution line that Hydro One will extend approximately 30 m from its current location.

As required, two scenarios were taken into consideration for the Decommissioning Plan which includes decommissioning after ceasing operation and decommissioning during construction should the Project be cancelled/abandoned during construction. The following provides the activities to be completed for the former scenario. For the latter scenario, the decommissioning activities depend on when the construction has ceased; however, the following provides a complete list of potential decommissioning activities under the latter scenario.

It is anticipated that the Project will have a useful lifetime of at least 20 years, which can be extended up to 50 years or more with proper maintenance, component replacement and repowering. It is assumed that the Project will be decommissioned after the 20-yr power purchase agreement with the Ontario Power Authority concludes.

2. Decommissioning Activities

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.

2.2 Site Restoration

The proposed Project area will be restored to its pre-development state, subject to environmental requirements and the wishes of the landowner. The following will be undertaken:

- any trenches/drains excavated will be filled with suitable materials and leveled
- any roads or embankments will be removed completely, filled with suitable sub-grade material and leveled
- any compacted ground will be tilled, mixed with suitable sub-grade materials and leveled
- any damage to any existing tile drainage system caused by the Project will be repaired/restored
- prepared soil, with all the nutrients required by the crop to grow, will be spread wherever necessary.

2.3 Management of Waste and Excess Materials

All waste and excess materials will be disposed of in accordance with municipal, provincial and federal regulations. Waste that requires disposal will be disposed of in a provincially licensed facility by a provincially licensed hauler. Although hazardous waste is not anticipated on site (with the exception of the aforementioned transformer oil), any hazardous waste will be removed from site and disposed of in accordance with federal, provincial and municipal requirements.

2.4 Emergency Response

The Project Emergency Response Plan will be implemented through all phases of the Project. The purpose of the plan is to establish and maintain emergency procedures required for effectively responding to accidents and other emergency situations, and for minimizing associated losses. The Plan provides the emergency response and communications procedures to be used in response to these three potential emergency scenarios (i.e., fire, personal injury and spills).

All Project personnel will be trained in the emergency response and communications procedures.

3. Restoration of Land Negatively Affected by the Project

Following decommissioning of the Project, if any lands or water features are negatively affected by the Project, Northland is committed to restoring the site as close to its pre-construction state as feasible. This would be subject to environmental requirements and wishes of the landowner.

Appendix E

Natural Heritage
Records Review Report Summary

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Natural Heritage Records Review Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Natural Heritage Records Review Report for the Burk's Falls East Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

Section 25 of the REA Regulation requires proponents of Class 3 solar projects to undertake a Natural Heritage Records Review. Records were searched within a minimum distance of 1 km from the Project location and lands within 120 m from Ministry of Natural Resources (MNR), federal government, Township of Ryerson, South East Parry Sound District Planning Board and other relevant sources.

2. Results

Key natural features and points of interest identified during the records review include the following:

- several watercourses on and within 120 m of the Project location
- wetland borders the tributary of the Magnetewan River within 120 m south of the Project location
- wooded areas occur on and within 120 m of the Project location.
- there are deer wintering areas identified on and within 120 m of the Project location
- no ANSIs, Provincial Parks or Conservation Reserves are identified on or within 120 m of the Project location
- records from the Natural Heritage Information Centre (NHIC) identified occurrences for Peregrine Falcon (*Falco peregrinus*)
- Ontario Herpetofaunal Summary Atlas identified several species of reptiles and amphibians whose ranges may overlap with the Project location including the following species at risk/species of conservation concern: Blanding's Turtle (*Emydoidea blandingi*), Milksnake

(*Lampropeltis triangulum*), Eastern Hog-nosed Snake (*Heterodon platirhinos*), Five-lined Skink (*Eumeces fasciatus*), Western Chorus Frog (*Pseudacris triseriata*), Northern Map Turtle (*Graptemys geographica*), Common Musk Turtle (*Sternotherus odoratus*).

- in the Ontario Breeding Bird Atlas, eight species at risk/species of conservation concern were identified within the vicinity of the Project location: Common Nighthawk (*Chordeiles minor*), Whip-poor-will (*Caprimulgus vociferus*), Chimney Swift (*Chaetura pelagica*), Olive-sided Flycatcher (*Contopus cooperi*), Golden-winged Warbler (*Vermivora chrysoptera*), Canada Warbler (*Wilsonia canadensis*), Bobolink (Dolichonyx oryzivorus).

3. Conclusions

Table 3.1 summarizes the results of the records review.

Table 3.1 Summary of Records Review Determinations

Determination to be Made	Yes/No	Description
Is the Project in or within 120 m of a provincial park or conservation reserve?	No	The nearest such features are located more than 120 m away from the Project location.
Is the Project in a natural feature?	Yes	A deer wintering area, a type of wildlife habitat, is present on the Project location.
Is the Project within 50 m of an ANSI (earth science)?	No	The nearest earth science ANSI is located several kilometres from the Project location.
Is the Project within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	Wetlands and deer wintering area, a type of wildlife habitat, are present within 120 m of the Project location.

Therefore, some components could potentially be located within 120 m of a natural feature. As per Section 26 of the REA Regulation, a site investigation will be required to confirm the features identified during this records review. The site investigation will (i) identify if any corrections to the information presented herein are required, (ii) determine whether any additional natural features exist on or adjacent to the Project location, (iii) confirm the boundaries of the natural features within 120 m of the Project, and (iv) determine the distance from the Project to the natural feature boundary.

Appendix F

Natural Heritage
Site Investigation Report Summary

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Natural Heritage Site Investigations Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Natural Heritage Site Investigations Report for the Burk's Falls East Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

Section 26 of the REA Regulation requires proponents of Class 3 solar projects to undertake a Natural Heritage Site Investigation for the purpose of determining if the information provided in the Natural Heritage Records Review Report is correct and identifies any knowledge gaps, if any additional natural heritage features are present within 120 m of the Project, and if the borders and distance of the natural heritage features from the Project location are correct. To obtain this information a site visit was completed.

2. Results

The Project location is characterized by its rolling topography and mix of upland and lowland vegetation communities. The Project location consists of a mix of poorly drained and well drained sandy loam and loamy sand soils. The majority of the Project location is used for agricultural purposes including an active livestock (i.e. cattle) operation. The agricultural fields are used as cattle pasture and for the production of hay. The areas that are not in agricultural production are comprised of natural features such as woodlands, thicket swamps and unevaluated wetlands.

Three main woodland communities were found on the Project location. This included Dry-Fresh White Birch-Poplar-Conifer Mixed Forest Community (FOM5), found scattered throughout the Project location, ***Coniferous*** Forest Communities (FOC), found along the southern boundary and following the wetland and Tributary A in the Project location, Coniferous Plantation (CUP3), found on and within 120 m of the northeast boundary of the Project location.

An unevaluated wetland follows the length of a tributary of the Magnetawan River which flows east to west within 120 m south of the Project location. Appendix B further describes the wetland.

Meadow communities were also present on the Project location, including a cultural meadow (CUM) and a cultural hedgerow (CUH).

The Significant Wildlife Habitat Technical Guide (SWHTG) (MNR, 2000) identifies four main types of wildlife habitat that can be classified as significant:

- habitat for seasonal concentrations of animals
- rare vegetation communities or specialized habitats for wildlife
- habitat for species of conservation concern
- wildlife movement corridors.

Candidate significant wildlife habitat determined during the site investigation includes

- specialized habitats for wildlife (e.g., seepage areas)
- habitat for species of conservation concern (Milksnake, Northern Ribbonsnake, Northern Map Turtle, Snapping Turtle)
- animal movement corridors.

The site investigation determined that there are no Stratum 1 Deer Wintering Areas on or within 120 m of the Project location.

3. Conclusions

The following natural features are present on and within 120 m of the Project location and will require an evaluation of significance is required:

- wildlife habitat on and adjacent to the Project location including
  - seepage areas
  - habitat for species of conservation concern (Milksnake, Northern Ribbonsnake, Northern Map Turtle, Snapping Turtle)
  - animal movement corridors
- wetland communities within 120 m of the Project location.

Appendix G

Natural Heritage
Evaluation of Significance
Report Summary

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Natural Heritage Evaluation of Significance

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Natural Heritage Evaluation of Significance for the Burk's Falls East Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

Section 24 of the REA Regulation requires proponents of Class 3 solar projects to undertake an Evaluation of Significance for each natural heritage feature identified in the records review and site investigations reports within 120 m of the Project. These reports identified the need to complete an Evaluation of Significance for

- wildlife habitat on and adjacent to the Project location including
  - seepage areas
  - habitat for species of conservation concern (Milksnake, Northern Ribbonsnake, Northern Map Turtle, Snapping Turtle)
  - animal movement corridors
- wetland communities within 120 m of the Project location.

2. Results

2.1 Wildlife Habitat

Specialize Habitat for Wildlife

Seepage Areas

The northern and eastern seepage areas have surface water throughout the year. While the southern and eastern seepage areas have naturalized areas present and are located within a woodland. The seepage areas were determined to be significant.

Habitat for Species of Conservation Concern

Milksnake

Given that Milksnake are habitat generalists, the entire Project location was considered to be suitable habitat for Milksnake. As Milksnake are difficult to detect, use of the area was unconfirmed, and the size of the population is uncertain. The site is located on private land and therefore long-term protection cannot be assured, though lands located on the Project location will be protected by Northland Power during the life of the Project. Milksnake are identified as a species of Special Concern on the Species at Risk in Ontario (SARO) list, and therefore though use is unconfirmed, the area is treated as significant wildlife habitat and carried forward in the EIS.

Northern Ribbonsnake

Suitable habitat for Northern Ribbonsnake was found within the watercourses within 120 m of the Project location. As Ribbonsnake are difficult to detect, use of the area was unconfirmed, and the size of the population is uncertain. As the habitats are associated with a watercourse, long-term protection is possible. Ribbonsnake are identified as a species of Special Concern on the SARO list, and therefore though use is unconfirmed, the area is treated as significant wildlife habitat and carried forward in the EIS.

Northern Map Turtle and Snapping Turtle

Both turtle species are listed as Special Concern on the SARO list, and may use the watercourse within 120 m south of the Project location as a movement corridor. As the habitat is that of a movement corridor, and would not provide critical habitat functions for either of these species, this area will be considered in relation to animal movement corridors (see Section 3.1.4), and is not considered to be significant habitat for species of conservation concern.

Animal Movement Corridor

Hedgerows – Section 8.7 of the SWHTG states that "fence and hedgerows should not be considered significant unless they provide the only animal movement corridors in the planning areas". Given that there is a large animal movement corridor present in the local area (represented by the woodland surrounding the Project location), these features are not considered to be significant wildlife habitat.

Woodland/watercourse within 120 m south of the Project location – This corridor encompasses the wetland which is being treated as a Provincially Significant Wetland, and links Three Mile Lake and the Magnetawan River. There are no target species identified for this corridor, though likely deer, moose, coyotes, other mammals, birds, and species of amphibians and reptiles use the corridor. The corridor is mostly continuous (excepting the right of way for the gas pipeline), wide, and the risk of mortality is low. The corridor is located on private land, and therefore long-term protection cannot be assured. There are no other related values identified for this corridor. As several criteria appear to be met, this feature is considered to be a significant animal movement corridor.

Other woodlands within 120 m of the Project location – Though there are other woodland areas identified within 120 m of the Project location, they form part of large contiguous woodland feature and though animal movement occurs within the feature, movement would be diffuse given the abundance of suitable cover and therefore no true animal movement corridor is expected. As a result, this habitat type is not found.

2.2 Wetlands

In accordance with the Natural Heritage Assessment Guide (NHAG) for Renewable Energy Projects (MNR, 2010), the wetland within 120 m of the Project location is treated as a Provincially Significant Wetland, and an Environmental Impact Study will be required.

3. Conclusions

Table 3.1 summarizes the results of the evaluation of significance report.

Table 3.1 Significant Natural Features on and within 120 m of the Project Site

Natural Feature		Project Location	Adjacent Lands (within 120 m)
SIGNIFICANT	Wildlife Habitat	Yes	Yes
PROVINCIALLY SIGNIFICANT	Wetland	No	Yes (wetland treated as provincially significant)
	Earth Science ANSI	No	No
	Life Science ANSI	No	No

Therefore, of the natural heritage features evaluated, the wildlife habitat and wetland features will require an Environmental Impact Study as per Section 38 of the REA Regulation.

Appendix H

Natural Heritage Environmental Impact Study Summary

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Natural Heritage Environmental Impact Study

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Environmental Impact Study – Natural Heritage Features for the Burk's Falls East Solar Project.

Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project location will be on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

Section 38 of the REA Regulation requires proponents of Class 3 solar projects to complete an Environmental Impact Study (EIS) for all significant natural heritage features determined to be within a specified setback in order to obtain a REA. The EIS is required in order to determine (i) any potential negative environmental effects on the natural features (ii) identify mitigation measures (iii) describe how the environmental effects monitoring plan in the Design and Operations Report addresses any negative environmental effects and (iv) describe how the Construction Plan Report addresses any negative environmental effects.

Specific wildlife habitats on and within 120 m of the Project site were identified as significant and therefore an EIS was completed. It has been determined that there are no significant environmental effects to these features as a result of the Project.

2. Results

The results of the EIS on the significant natural features are summarized in Table 2.1.

Table 2.1 Summary of Potential Negative Environmental Effects and Proposed Mitigation

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Milksnake Habitat		
Construction	Direct encroachment Milksnake habitat; incidental take	Habitat lost represents a fraction of the available habitat for Milksnake within the region, and no hibernacula features are known from the Project location. It is not possible to mitigate this effect, however, this effect is not expected to impact the

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
		form or function of Milksnake habitat present within the regional area beyond the lands on the Project location. To prevent incidental take of wildlife, speeds on access roads of the Project location will be restricted. Further, daily visual monitoring of the project location and construction machinery will be completed to search for wildlife to ensure that potential impacts to these species are minimized.
Operation	Incidental take	Milksnake may be at risk of incidental take during maintenance activities, such as site maintenance and vegetation management. Similar to construction, speeds on access roads of the Project location will be restricted. Further, daily visual monitoring of work areas and maintenance machinery will be completed to search for wildlife to ensure that potential impacts to these species are minimized.
Decommissioning	Direct encroachment Milksnake habitat; incidental take	Habitat lost represents a fraction of the available habitat for Milksnake within the region, and no hibernacula features are known from the Project location. It is not possible to mitigate this effect, however, this effect is not expected to impact the form or function of Milksnake habitat present within the regional area beyond the lands on the Project location. To prevent incidental take of wildlife, speeds on access roads of the Project location will be restricted. Further, daily visual monitoring of the project location and construction machinery will be completed to search for wildlife to ensure that potential impacts to these species are minimized. As a result of decommissioning, habitat will be restored to pre-existing conditions, providing an overall benefit to the species.
Seepage Areas		
Construction	Groundwater impacts (e.g., excavations, accidental spills and soil compaction)	Given the very small size of the excavations required for transformer/inverter pads and the limited duration that they will be exposed (2 weeks or less), it is not anticipated that pumping of groundwater will have an effect on the seepage areas.

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
		Accidental spills include a variety of mitigation measures (e.g., A barrier will be erected around the storage area to prevent accidental damage to containers). Soil compaction restoration efforts (e.g., discing or other soil loosening methods) will be undertaken as required to prevent long-term impacts due to excessive amounts of compaction, as required.
Operation	Groundwater impacts (e.g., accidental spills)	Use of fuels, lubricants and other potentially hazardous materials during the operations phase will be limited to those materials brought on site during periodic maintenance activities. Maintenance vehicles will all have spill kits.
Decommissioning	Groundwater impacts (e.g., accidental spills)	Given the mitigation proposed (as mentioned above) and the small volume of fluids that will actually be used on site, no negative effects on groundwater quality are anticipated to occur as a result of small accidental spills that may occur.
Eastern Ribbonsnake Habitat/Animal Movement Corridor		
Construction	Surface water quality/quantity impacts (from dust; erosion and sedimentation and accidental spills)	Increased runoff is expected, mitigation measure (e.g., use of rock flow check dams) will limit impact. An erosion and sedimentation plan to be implemented. Dust and accidental spills will be further prevented through the use of best management practices.
Operation	Surface water quality/quantity impacts	General site monitoring to ensure erosion and sedimentation control measures are functioning properly. Cleaning of panels is not anticipated to impact surface water, as only water is to be used and the amount to be used is less then a typical rain event.
Decommissioning	Surface water quality/quantity impacts (from dust; erosion and sedimentation and accidental spills)	Increased runoff is expected, mitigation measure (e.g., use of rock flow check dams) will limit impact. An erosion and sedimentation plan to be implemented. Dust and accidental spills will be further prevented through the use of best management practices.
Wetlands		
Construction/Operation/ Decommissioning	Groundwater, surface water quality, or surface water runoff	As previously discussed. A 30-m buffer will further protect the wetland from any direct impacts. Mitigation measures for potential indirect impacts have been previously described in relation to other significant natural heritage features.

As discussed in the Design and Operations Report, environmental effects monitoring is proposed with respect to any negative environmental effects that may result from engaging in the Project. The monitoring plan in the Design and Operations Report identifies: performance objectives with respect to the negative environmental effects; mitigation measures to assist in achieving the performance objectives; and, a program for monitoring negative environmental effects for the duration of the time the Project is engaged in, including a contingency plan to be implemented if any mitigation measures fail.

In addition, the Construction Plan Report details the construction and installation activities, location and timing of construction and installation activities, any negative environmental effects that result from construction activities within 300 m of the Project and mitigation measures for the identified negative environmental effects.

3. Conclusions

The EIS has been prepared to identify potential negative environmental effects that all phases of the Project may have on the significant natural features. Mitigation measures have been proposed to prevent these effects from occurring or minimize the magnitude, extent, duration and frequency, in the event that they do occur, to an acceptable level. Monitoring measures have been proposed to confirm that mitigation measures are having the intended effect and that performance objectives are being met.

Appendix I

Water Body
Records Review Report Summary

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Water Body Records Review Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Water Body Records Review Report for the Burk's Falls East Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

Section 30 of the REA Regulation requires proponents of Class 3 solar projects to undertake a Water Body Records Review. The focus of the assessment was on identifying whether or not the Project was located within or adjacent to any of the specified water features (e.g., within 120 m of the average annual high water mark of a permanent or intermittent stream). Records were searched from the Ministry of Natural Resources (MNR), Ontario Ministry of Agriculture, Food and Rural Affairs, federal government, Southeast Parry Sound District Planning Board, Armour Township, and other relevant sources.

2. Results

Key water body features and points of interest identified during the records review include the following:

- six unnamed watercourses on and within 120 m of the Project location
- all of these watercourses ultimately flow into the Magnetawan River, approximately 1 km west of the Project location
- Tributary A runs within 120 m south of the Project location, entering from the east and exiting in the southwest.
- Tributary B originates in the agricultural field on the property north of the Project location and flows through the northwest corner of property on which the Project is located, within 120 m of the Project location.
- Tributary C is shown on LIO mapping as running for approximately 150 m through the property on which the Project is located, within 30 m of the Project location, draining into Tributary A.

- Tributary D originates within a woodlot on the property on which the Project is located and flows for approximately 120 m before draining into Tributary A.
- Tributary E appears on the drainage mapping as occurring on the Project location, but flows through the agricultural fields and it is unclear from these records if it would be defined as a watercourse.
- Tributary F runs into Tributary A within 120 m southeast of the Project location.
- Kernick Lake (also called Pike Lake on other mapping) is located approximately 1 km northeast of the Project site and Three Mile Lake is located approximately 1.3 km east of the Project site
- Fisheries and Oceans Canada (DFO) referenced Lake Sturgeon as potentially found in the Magnetawan River, although their proximity to the Project site is unknown

3. Conclusions

Table 3.1 summarizes the results of the records review.

Table 3.1 Summary of Records Review Determinations

Determination to be Made	Yes/No	Description
Is the Project in a water body?	No	The Project will not be located in a water body.
Is the Project within 120 m of the average annual high water mark of a lake, other than a lake trout lake that is at or above development capacity?	No	No lakes are present within 120 m of the Project location.
Is the Project within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity?	No	No lake trout lakes are present within 300 m of the Project location.
Is the Project within 120 m of the average annual high water mark of a permanent or intermittent stream?	Yes	There are six watercourses located on and within 120 m of the Project location
Is the Project within 120 m of a seepage area?	No	No seepage areas are known to be present on or within 120 m of the Project location.

A site investigation, as required in Section 31 of the REA Regulation will be completed to (i) confirm the features identified during this records review, (ii) identify if any corrections to the information presented herein are required, (iii) determine whether any additional waterbodies exist in the Project area, (iv) confirm the boundaries of any water feature within 120 m of the Project and (v) determine the distance from the Project to the water boundary.

Appendix J

Water Body
Site Investigation
Report Summary

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Water Body Site Investigations Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Water Body Site Investigations Report for the Burk's Falls East Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

Section 31 of the REA Regulation requires proponents of Class 3 solar projects to undertake a water site investigation for the purpose of determining if the information provided in the Water Body Records Review Report is correct and identifies any knowledge gaps, if any additional waterbodies are present on or within 120 m of the Project site, and if the borders and distance of the waterbodies from the Project site are correct. A site visit was completed to obtain this information.

2. Results

Seven waterbodies, all tributaries of the Magnetawan River, were identified on and within 120 m of the Project site.

Tributary A

- runs in an east to west direction across the southern half of the Project site
- substrate consists of a mix of loamy sand, sandy loam and poorly drained muck (decomposed organic material) soils with scattered organic debris (e.g., leaves, sticks, logs)
- were several small beaver dams observed within the portion of the stream that flows through the Project site
- stream meanders through a low-lying, relatively open meadow marsh, bordered by some shrub thicket and surrounding forests
- evidence of erosion and undercutting to the stream bank was observed along portions of the watercourse

- Tributary A appears to be a permanent watercourse capable of providing habitat for a coldwater fish community, comprised of salmonids such as brook trout and common associates such as mottled sculpin
- an Environmental Impact Study (EIS) will be required

Tributary B

- originates in an area of low topography on the property immediately north of the Project site, on the opposite side of Chetwynd Road
- tributary runs for approximately 70 m across the northwestern corner of the Project site before running onto the adjacent property
- consists of a poorly defined channel dominated by a variety of grasses and sedges
- intermittent and likely serves primarily to convey stormwater runoff off the Project site during periods of high precipitation and snow melt
- Tributary B is identified as an intermittent watercourse, and therefore an EIS will be required

Tributary C

- originates in the agricultural fields and woodlands to the east of the Project site
- flows in a southwesterly direction through a small woodland that extends onto the Project site
- tributary emerges from the woodland and flows through a narrow vegetated corridor through the adjacent agricultural fields for approximately 175 m before entering the woodland on the southern portion of the Project site and draining into Tributary A
- within the woodland at the upstream end of Tributary C that extends onto the Project site
- groundwater seepage area was observed within this section of the channel
- number of small baitfish were observed within the section of channel immediately upstream from the edge of the shrub thicket that Tributary C flows into
- Tributary C may be a permanent watercourse and appears to provide aquatic habitat for some fish and benthic invertebrate species, and therefore an EIS will be required

Tributary D

- originates on the adjacent property within the agricultural fields and woodland that extend onto the eastern boundary of the Project site
- flows in a westerly direction, before turning south to flow into Tributary A
- runs for approximately 80 m on the Project site along the edge of a wooded area and the low-lying meadow marsh and shrub thicket adjacent to Tributary A
- substrate was predominantly muck and sandy loam soils with some organic debris observed at the surface
- brook trout was observed in Tributary D approximately 40 m upstream from its mouth at Tributary A

- the portion of Tributary D on the Project site provides at least seasonal habitat for fish and benthic invertebrates, and therefore an EIS will be required

Tributary E

- mapping shows that Tributary E originates in the agricultural fields immediately east of the Project site and flows in a westerly direction into the Project area, where it joins with Tributary C
- only a portion of this tributary is considered to be a watercourse as defined in the REA Regulation
- the majority of Tributary E is a grassed waterway with an intermittent watercourse identified along a reach that extends approximately 100 m downstream before draining into Tributary C
- the portion of Tributary E that is identified as a grassed waterway does not have a defined channel and vegetation within the area is not consistent with species that require or prefer submerged or continuously saturated soil conditions
- portion of Tributary E that is identified as a watercourse is an approximately 100-m long reach at the downstream end of Tributary E where it drains into Tributary C
- considered to be an intermittent watercourse, and therefore a EIS will be required

Tributary F

- is located southeast of the Project location. It arises in a wooded area south of the Project location and flows in a northerly direction, before draining into Tributary A near the southern edge of the Project location
- potential adverse effects and mitigation that will be discussed in the EIS to protect Tributary A will also protect Tributary F

Tributary G

- is located 30 m from the southeast boundary of the Project location, was observed during the site investigation.
- originates in the woodlot east of the Project location and flows for approximately 220 m before draining into Tributary A.

Groundwater Seepage Areas

- three seepage areas were located during the site investigation
- seepage area 1 is located approximately midway along Tributary C and consists of groundwater bubbling up from the muck and sand channel bed
- seepage area 2 was observed approximately 60 m south of Tributary A along the border of the Project site and consists of groundwater emerging as diffuse flow on the upper slopes of the watercourse valley
- a third seepage area, evidenced by presence of iron precipitates, was observed along the shoreline of Tributary A, near the eastern border of the Project location
- groundwater seepage areas are identified as waterbodies in the REA Regulation and therefore both will require an EIS

3. Conclusions

Based on the results of the site investigation discussed above, there are several corrections to the results of the Water Body Records Review (Hatch Ltd., 2010a) required, including

- addition of a small, unnamed tributary to larger Tributary D as occurring between 30 and 120 m of the Project location
- reduction in the length of Tributary E that is identified as a water body per the REA Regulation
- addition of Tributary G, the unnamed tributary of Tributary G and Tributary F as occurring between 30 and 120 m of the Project location
- addition of three groundwater seepage areas not identified in the Water Body Records Review Report (Hatch Ltd., 2010a).

Based on the results of the site investigation and the proposed Project components and boundaries, some components of the Project will be located between 30 and 120 m of Tributaries A, B, C, D, E, F and G, and three groundwater seepage areas. Therefore, an EIS will be required to assess the potential effects of the Project and the required mitigation measures to prevent or minimize adverse effects on these waterbodies.

Appendix K

Waterbodies Environmental Impact Study Summary

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Water Body Environmental Impact Study

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Waterbodies Environmental Impact Study for the Burk's Falls East Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

Sections 39 and 40 of the REA Regulation require proponents of Class 3 solar projects to complete an Environmental Impact Study (EIS) for all waterbodies determined to be within a specified setback in order to obtain a REA. The EIS is required in order to determine (i) any potential negative environmental effects on the natural features (ii) identify mitigation measures (iii) describe how the environmental effects monitoring plan in the Design and Operations Report addresses any negative environmental effects and (iv) describe how the Construction Plan Report addresses any negative environmental effects.

This EIS was completed on the impact to (i) surface water runoff (patterns and rates), (ii) surface water quality, (iii) aquatic and riparian habitat and biota and (iv) groundwater from the presence of the Project.

2. Results

The results of the EIS on the water bodies are summarized in Table 2.1.

Table 2.1 Summary of Potential Negative Environmental Effects and Proposed Mitigation

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Surface Water Runoff		
Construction	Altered surface water runoff pattern and rate causing an increase in surface water runoff to the receiving waterbodies due to land grading and ditching, soil compaction, and vegetation removal	Install flow dissipation measures near the 30-m setback from the waterbodies. Ditches will be vegetated with appropriate grass species to aid in flow dissipation and water uptake. Enhanced vegetation swales will be used in roadside ditches to promote ponding in order to decrease turbidity and

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
		increase water retention. Vegetated filter strips will be used where runoff enters agricultural lands or where the ditches discharge in close proximity to watercourses. Discing or other soil loosening methods will be used on compacted areas. Long-term ground cover will be planted
Operations	Altered surface water runoff pattern and rate causing an increase in surface water runoff to the receiving waterbodies due to land grading and ditching, impervious and less pervious soils, and changes in vegetation	Minor grading will occur and take into consideration current land grade to replicate present storm water flow patterns. Long-term ground cover will be planted. Impervious and less pervious soils will allow runoff into ditches or localize points and discharge into vegetation to allow flow dissipation; therefore no appreciable impact to local drainage patterns
Decommissioning	Altered surface water runoff pattern and rate causing an increase in surface water runoff to the receiving waterbodies if land grading and ditching are left in place after decommissioning	All infrastructure will be removed, including access roads and drainage ditches, thereby bringing the site back to pre-construction conditions
Surface Water Quality		
Construction	Increase soil erosion and sedimentation may cause an increased in turbidity in the receiving waterbodies due to land grading and ditching, soil compaction, and vegetation removal	Erosion and Sediment Control plan to be created and implemented. Examples of key components of the plan are: minimize size of cleared and disturbed areas, phase construction to minimize time of exposed soils, adequate supply of erosion and sediment control, divert runoff through vegetated areas, install flow velocity control measures in drainage ditches, revegetate and stabilize exposed soils, grade stockpiles to stable angle, stockpiles placed in suitable areas away from the receiving water body
Construction/ Decommissioning	Heavy dust may impact surface water quality	Use of dust suppressant, phased construction and decommissioning, stockpiles to be stabilized and/or covered, hard surfaces for access roads, and avoid earthworks during windy days
Construction/ Operations/ Decommissioning	Accidental spills contaminating surface water	Fuelling stations and hazardous materials storage to be located outside of the 1:100-yr flooding hazard. Emergency spill kit on site at all times and the spill kit will have adequate materials/equipment for spill response. Machinery arriving on site to be clean and free of leaks. Contractor to have spill response procedure and all workers will be properly trained on the procedure. No cement products to be placed into any watercourse. Concrete truck rinsing station

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
		at least 120 m away from any known watercourse. Cement storage to be raised and placed in a waterproof shelter
Operations	Increase soil erosion and sedimentation may cause an increased in turbidity in the receiving waterbodies due to land grading and ditching, and changes in vegetation	Storm water flow patterns will be replicated. Long-term ground cover will be planted. Impervious and less pervious soils will allow runoff into ditches or localize points and discharge into vegetation to allow flow dissipation; therefore no appreciable impact to local drainage patterns
Operations	Accidental Spills	Use of fuels, lubricants and other potentially hazardous materials during the operations phase will be limited to those materials brought on site during periodic maintenance activities. All maintenance vehicles will be equipped with a spill kit and a spill contingency and response plan will be in place for the duration of the operational period. Given this mitigation, and the limited quantity of material on site and the limited frequency and duration that it will be on site, no adverse effects due to accidental spills are anticipated to occur.
Decommissioning	Increase soil erosion and sedimentation may cause an increased in turbidity in the receiving waterbodies due to land grading and ditching, and changes in vegetation	Standard construction site erosion and sedimentation control measures will be installed during the decommissioning process, since heavy equipment may be needed, which will result in some vegetation and ground disturbance and therefore, exposure of bare soil. Once the field is returned to its existing agricultural condition, erosion rates will be similar to existing conditions.
Aquatic Biota and Habitat		
Construction/ Operation/ Decommissioning	Indirect effects to aquatic biota and habitat due to changes in surface water quality, surface water runoff rate and groundwater	Proposed mitigation for surface water quality, surface water runoff and groundwater, as above, is anticipated to be sufficient
Groundwater		
Construction	Recharge or seepage areas may be impacted by altered surface water runoff or excavations	The amount and duration of dewatering for excavations will be minimized to the extent possible
Construction/ Operations/ Decommissioning	Groundwater contamination due to accidental spills	See mitigation measures above for accidental spills contaminating surface water

Table 5.1 in the EIS summarizes the proposed monitoring plan.

As discussed in the Design and Operations Report, environmental effects monitoring is proposed in respect of any negative environmental effects that may result from engaging in the Project. The monitoring plan in the Design and Operations Report identifies: performance objectives in respect of the negative environmental effects; mitigation measures to assist in achieving the performance objectives; and, a program for monitoring negative environmental effects for the duration of the time the Project is engaged in, including a contingency plan to be implemented if any mitigation measures fail.

In addition, the Construction Plan Report for the Project details the construction and installation activities, location and timing of construction and installation activities, any negative environmental effects that result from construction activities within 300 m of the Project and mitigation measures for the identified negative environmental effects.

3. Conclusions

The EIS has been prepared to identify potential negative environmental effects that all phases of the Project may have on waterbodies. Mitigation measures have been proposed to prevent these effects from occurring or minimize the magnitude, extent, duration and frequency in the event that they do occur. The primary mitigation measure that will prevent adverse effects on the water bodies is adherence to the 30-m setback requirement. Certain construction activities may have short-term minor impacts, but these would be temporary in nature. Operational activities are not anticipated to impact the water bodies as the Project will be operated remotely and maintenance is only expected to occur periodically throughout the year. Decommissioning activities will be similar to construction activities and as such they may cause short-term minor impacts yet once the Project site has been restored to its previous condition no long-term impacts are anticipated.

Overall, while the Project will result in some changes to the natural environment, no negative effects on the waterbodies are anticipated to occur following implementation of the mitigation and monitoring measures proposed in this EIS.

Appendix L

Stage 1 and 2
Archaeological Assessment Report
Summary

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Stage 1 and 2 Archaeological Assessment Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Archaeological Assessment Report, prepared by Archaeological Research Associates Ltd. for the Burk's Falls East Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

Section 22 of the REA Regulation requires proponents of Class 3 solar projects to undertake an Archaeological Assessment where there is a concern that an undertaking could impact archaeological resources. The Ministry of Tourism and Culture must review and accept the Archaeological Assessment Report and provide an acceptance letter that will become part of the application for a REA. The purpose of the present assessment was to confirm the presence or absence of significant archaeological resources that could represent potential constraints for the proposed Burk's Falls East Solar Project. The assessment included a Stage 1 background study of past archaeological investigations and known archaeological sites within a 2-km radius of the Burk's Falls East Solar Project site. It also included a systematic 5-m interval Stage 2 archaeological survey of all of the Leased Lands in the property.

2. Results

The background study determined that no previous archaeological fieldwork or discoveries had been documented within the Burk's Falls East Solar Project study limits. Research indicated a high potential for the presence of both pre-Contact and Historic-era sites in the study area. The survey did not uncover any artifacts. As a result, the area is not recommended for any further assessment.

3. Conclusions

The office of the Ministry of Tourism and Culture has reviewed the Archaeological Assessment Report in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18, and accepted its findings.

Appendix M

Noise Assessment Study Report Summary

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Noise Assessment Study Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Noise Assessment Study Report for the Burk's Falls East Solar Project.

Northland Power Solar Belleville North L.P. (hereinafter referred to as "Northland") has retained Hatch Ltd. (Hatch) to prepare a Noise Assessment Study for the Northland Power Burk's Falls East Solar-Photovoltaic facility (hereinafter referred to as the "Project"), with an installed capacity of 10 MW. The Project will be located on approximately 80 hectares (ha) of land, located about 4 km southeast of Burk's Falls town, in the single tier Municipality of Armour Township, Ontario.

This Noise Assessment Study has been prepared based on the document entitled "Basic Comprehensive Certificates of Approval (Air) – User Guide" by the Ontario Ministry of the Environment (MOE). The sound pressure levels at the points of reception (POR) have been estimated using ISO 9613-2, implemented in the CADNA-A computer code. The performance limits used for verification of compliance correspond to the values for rural areas (45 dBA for day time, 40 dBA for night time). The results presented in this report are based on the best available information at this time. It is the intention that, in the detailed engineering phase of the project, certified noise data based on final plans and designs will confirm the conclusions of this noise study.

2. Results

- The main sources of noise from the Project will be the step-up transformer, located at the substation, and eight inverter clusters which also include medium-voltage transformers.
- Presently inverters for the Project consist of the Sunny Central SC1250MV unit which comprises two 630HE inverters (630 kW), contained in an e-house or enclosure. The main sources of noise are the cooling/ventilation fans for the inverters, the electrical components on the inverters and the medium-voltage transformer.
- The Points of Reception (POR) used in this study have been taken from the Ontario Base Map for the surrounding area. Some additional receptors (residential buildings) were added based on satellite imagery from Google Earth Pro (2002). The total number of POR within a 1-km radius from the substation is 29.
- The sound pressure levels at the POR were predicted using procedures from ISO 9613-2, which is a widely used standard for evaluation of noise impact in environmental assessments. The

sound power levels were estimated from the National Electrical Manufacturers Association standards (NEMA) for the substation transformer.

3. Conclusion

Based on the results obtained in this study, we believe that the sound pressure levels at POR will not exceed MOE requirements for rural areas. Any noise issues that might arise during commissioning will be manageable and can be resolved by implementing typical remediation measures as described in this report. It is our intention to verify by field measurements taken on completion of installation and during commissioning that the noise levels at the POR are within the limits set by the MOE.

Appendix N

Protected Properties and Heritage Resource Information

Project Report

August 15, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Protected Properties and Heritage Resources

Table of Contents

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1. Introduction

1.1 Project Description

Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project location will be on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

1.2 REA 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) made under the *Environmental Protection Act* identifies the Renewable Energy Approval (REA) requirements for renewable energy projects in Ontario. As per Section 4 of the REA Regulation, ground mounted solar facilities with a name plate capacity greater than 10 kilowatts (kW) are classified as Class 3 solar facilities and do require an REA.

Section 19 of the REA Regulation requires proponents of Class 3 solar projects to determine whether the project location is on a property described in Column 1 of the Table to Section 19. Table 1.1 has been prepared to meet this requirement.

Section 23 of the REA requires that proponents of Class 3 solar projects, as a result of the consideration mentioned in subsection 20, determine whether engaging in the renewable energy project may have an impact on a heritage resource described in subsection 20 (1). Table 1.2: *The Ministry of Culture – Check Sheet for Environmental Assessments: Screening for Impacts to Built Heritage and Cultural Heritage Landscapes* has been completed to address the requirements described in Section 23.

2. Protected Properties

As discussed in Section 1.2, Table 1.1 has been prepared to address Section 19 of the REA Regulation.

3. Heritage Assessment

As discussed in Section 1.2, Table 1.2 has been prepared to address Section 23 of the REA Regulation.

4. Conclusion

Based on the information presented in Table 1.1 the proposed Project is not located on a Protected Property as described in Column 1 of the Table to Section 19. In addition, research and agency consultation undertaken as described within Table 1.2 has not identified the need for a heritage impact assessment under Section 23 of the REA Regulation.

Table 1.1: Protected Properties Table
Under the Renewable Energy Approval: O. Reg. 359/09 Section 19

19. (1) A person who proposes to engage in a renewable energy project shall determine whether the project location is on a property described in Column 1 of the Table to this Section.

Property: Burks Falls East Solar Project (i.e., the layout)
Address: Longitude 45.61117, Latitude -79.361885
Township and County: Township of Armour

Item	Description of Property	Reference
1	A property that is subject of an agreement, covenant or easement entered into under clause 10(1)(b) of the *Ontario Heritage Act*.	According to the Ontario Heritage Trust website (www.heritagefdn.on.ca) no easement properties are located in the vicinity of the property. In addition, the Ontario Heritage Properties Database did not reveal any easement properties. (Research completed 26May10) The property is not designated under clause 10(1)(b) of the *Ontario Heritage Act*.
2	A property in respect of which a notice of intention to designate the property to be of cultural heritage value or interest has been given in accordance with section 29 of the *Ontario Heritage Act*.	Consultation with the municipality, as per MCL Check Sheet Step 2, Item 8 has not determined that a notice of intention to designate has been given. In addition, The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. According to the MCL Ontario Heritage Properties Database there is no heritage property located within the Municipality of Armour Township. (Website Search: 26May2010). The Project is not proposed to be located on or adjacent to such a property.
3	A property designated by a municipal by-law made under section 29 of the *Ontario Heritage Act* as a property of cultural heritage value or interest.	Consultation with the municipality, as per MCL Check Sheet Step 2, Item 8 has not determined that the Project is located on a property designated by a municipal by-law. According to the MCL Ontario Heritage Properties Database there is no heritage property located within the Municipality of Armour Township. (Website Search: 26May2010). The Project is not proposed to be located on or adjacent to such a property.
4	A property designated by order of the Minister of Culture made under section 34.5 of the *Ontario Heritage Act* as a property of cultural heritage value or interest of provincial significance.	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. According to the MCL Ontario Heritage Properties Database there is no heritage property located within the Municipality of Armour Township. (Website Search: 26May2010). The Project is not proposed to be located on or adjacent to such a property.

5	A property in respect of which a notice of intention to designate the property as property of cultural heritage value or interest of provincial significance has been given in accordance with section 34.6 of the *Ontario Heritage Act*.	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. According to the MCL Ontario Heritage Properties Database there is no heritage property located within the Municipality of Armour Township. (Website Search: 26May2010). The Project is not proposed to be located on or adjacent to such a property.
6	A property that is subject of an easement or a covenant entered into under section 37 of the *Ontario Heritage Act*.	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.
7	A property that is part of an area designated by a municipal by-law made under section 41 of the *Ontario Heritage Act* as a heritage conservation district.	The MCL Ontario Heritage Properties Database includes properties designated under Part V of the *Ontario Heritage Act*. In addition, none of Ontario's Heritage Conservation Districts are located within the Township of Armour according to the MCL's current list. The Project is not proposed to be located on or adjacent to such a property.
8	A property designated as a historic site under Regulation 880 of the Revised Regulations of Ontario, 1990 (Historic Sites) made under the *Ontario Heritage Act*.	National Historic Sites are included within the Ontario Heritage Properties Database (Research completed 26May10). In addition, no sites within the Township of Ryerson are listed on the Canadian Register of Historic Places (Research completed 26May10 www.historicplaces.ca). The property is not designated a historic site under Regulation 880.

Table 1.2: Ministry of Tourism and Culture – Check Sheet for Environmental Assessments

Screening for Impacts to Built Heritage and Cultural Heritage Landscapes

This checklist will help identify potential cultural heritage resources, determine how important they are and indicate whether a cultural heritage impact assessment is needed.

Property: Burks Falls East (i.e., the layout)
Address: Longitude 45.61117, Latitude -79.361885
Township and County: Township of Armour

Step 1 – Screening Potential Resources			
		Built heritage resources	**Comments**
Yes	**No**	Does the property contain any built structures, such as:	The following resources were assessed using Google Earth 5.1.3535.3218 on May 26, 2010.
	√	Residential structures (e.g. house, apartment building, trap line shelter)	There are no residential structures on the Project location.
	√	Agriculture (e.g. barns, outbuildings, silos, windmills)	
	√	Industrial (e.g. factories, complexes)	
	√	Engineering works (e.g. bridges, roads, water/sewer systems)	There is Chetwynd Road adjacent to the north boundary of the Project location.
		Cultural heritage landscapes	
Yes	**No**	Does the property contain landscapes such as:	
	√	Burial sites and/or cemeteries	
	√	Parks	
	√	Quarries or mining operations	
	√	Canals	There are small water bodies within 120 m of the Project location, but no man-made canals.
√		Other human-made alterations to the natural landscape	Lands have been cultivated for agricultural use. Drainage tile may be installed below the surface.

Step 2 – Screening Potential Significance			
Yes	**No**	**A property's heritage significance may be identified through the following:**	**Reference** According to the MCL Ontario Heritage Properties Database there is no heritage property located within the Township of Armour.
	√	1. Is it designated or adjacent to a property designated under the Ontario Heritage Act?	

	√	2. Is it listed on the municipal heritage register or provincial register (e.g. Ontario Heritage Bridge List)?	According to the MCL Ontario Heritage Properties Database there is no heritage property located within the Municipality of Armour Township. (Website Search: 26May2010)
	√	3. Is it within or adjacent to a Heritage Conservation District?	None of Ontario's Heritage Conservation Districts are located within the Municipality of Armour Township according to the MCL's current list. (Research completed 26May10 http://www.culture.gov.on.ca/english/heritage/conservation/conservation_list.htm)
	√	4. Does it have an Ontario Heritage Trust easement or is it adjacent to such a property?	According to the Ontario Heritage Trust website (www.heritagefdn.on.ca) no easement properties are located in the vicinity of the property. In addition, the Ontario Heritage Properties Database did not reveal any easement properties. (Research completed 26May10)
	√	5. Is there a provincial or federal plaque?	There are no provincial plaques located in the Township of Armour (Research competed 26May10 http://www.ontarioplaques.com/index.html). Federal plaques appear at National Historical Sites of Canada, none of which exist within the vicinity of the Project (See Item 6 below).
	√	6. Is it a National Historic Site?	National Historic Sites are included within the Ontario Heritage Properties Database (Research completed 26May10) In addition, no sites within the Township of Armour are listed on the Canadian Register of Historic Places (Research completed 26May10 www.historicplaces.ca).
	√	7. Does documentation exist to suggest built heritage or cultural heritage landscape potential? (e.g. research studies, heritage impact assessment reports, etc.)	
√		8. Was the municipality contacted regarding potential cultural heritage value?	
√		Were any concerns expressed?	The township of Armour has expressed concerns regarding a residential structure found on the property. This building is located outside of the Project location, and no impact will occur.
		9. What are the dates of construction?	N/A
	√	Are the buildings and/or structures over 40 years old?	
	√	Is it within a Canadian Heritage River watershed?	The property is not located within a Canadian Heritage River Watershed (Research completed 26May10).
	√	10. Is a renowned architect or builder associated with the property?	

Note: If you answer "yes" to any of the questions in Step 2, a heritage impact assessment is required.

Step 3 – Screening for Potential Impacts			
Yes	**No**		**Reference**
	√	Destruction of any, or part of any, significant heritage attribute or feature.	Excavations during Project construction may result in the discovery of archaeological resources. Archaeological assessments will be conducted to determine potential. Potential heritage resources will be determined as per the requirements of the Ministry of Culture.
	√	Alteration that is not sympathetic, or is incompatible, with the historic fabric or appearance.	
	√	Shadows created that alter the appearance of a heritage attribute or change the visibility of a natural feature or plantings, such as a garden.	
	√	Isolation of a heritage attribute from its surrounding environment, context or a significant relationship.	
	√	Direct or indirect obstruction of significant views or vistas from, within, or to a built and natural feature.	
	√	A change in land use such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces.	Current land use will be discontinued within the Project footprint. Installation of the Project will result in a change to the local landscape.
	√	Land disturbances such as a change in grade that alters soils and drainage patterns that adversely affect an archaeological resource.	Reductions in soil quality/loss of soils as a result of accidental spills, erosion, soil compaction during construction. Archaeological assessments will be conducted to determine potential.

Appendix O

Letter of Confirmation – Ontario Ministry of Natural Resources

Ministry of Natural Resources

Ministère des Richesses naturelles

Parry Sound District Office
Southern Region
7 Bay Street
Parry Sound, Ontario P2A 1S4

Telephone: (705) 746-4201
Facsimile: (705) 746-8828

Ontario

February 25, 2011

Sean Male, REA Co-ordinator
HATCH
4342 Queen Street, Suite 500
Niagara Falls, Ont.
L2E 7J7

Dear Mr. Male:

SUBJECT: Burk's Falls East Solar Project: Natural Heritage Reoprts (rev. Feb. 24, 2011)

In accordance with the Ministry of the Environment's (MOE's) Renewable Energy Approvals Regulation (O.Reg.359/09), the Ministry of Natural Resources (MNR) has reviewed the natural heritage assessment and environmental impact study submitted by Northland Power for the Burk's Falls East Solar Project located in Armour Township.

In accordance with Sections 28(2) and 38(2)(b) of the Renewable Energy Approvals (REA) regulation, MNR provides the following confirmations following our review of the natural heritage assessment and environmental impact study reports (as dated February 24, 2011):

1. The MNR confirms that the determination of the existence of natural features and the boundaries of natural features was made using applicable evaluation criteria or procedures established or accepted by MNR.

2. The MNR confirms that the site investigation and records review were conducted using applicable evaluation criteria or procedures established or accepted by MNR.

3. The MNR confirms that the evaluation of the significance or provincial significance of the natural features was conducted using applicable evaluation criteria or procedures established or accepted by MNR.

4. The MNR confirms that the project location is not in a provincial park or conservation reserve.

5. The MNR confirms that the environmental impact assessment report has been prepared in accordance with procedures established by the MNR.

In accordance with Sections 28(3)(c) and 38(2)(c) of the REA regulation, we also note that in the Site Investigations Report and the Evaluation of Significance Report the 2 Appendix C maps should be relocated to immediately follow their respective cover pages.

MNR is providing this confirmation letter based on reviewing the information provided in your

Continued on Page 2 ...

natural heritage assessment reports. Applicants should be aware of the transition provisions under Section 62 of the amended REA regulation and fulfil natural heritage assessment requirements accordingly.

This confirmation letter is valid for the project as proposed in the natural heritage assessment and environmental impact study (dated February 24, 2011), including those sections describing the environmental effects monitoring plan and construction plan report. Should any changes be made to the proposed project that would alter the natural heritage assessment, MNR would need to undertake additional review of the natural heritage assessment.

Where specific commitments have been made by the applicant in the natural heritage assessment with respect to project design, construction, rehabilitation, operation, mitigation or monitoring, MNR expects that these commitments will be considered in MOE's Renewable Energy Approval decision and, if approved, be implemented by the applicant.

In accordance with Section 12(1) of the REA Regulation, this letter must be included as part of your application submitted to the MOE for a Renewable Energy Approval.

If you wish to discuss any part of this confirmation letter, please contact Dorothy Shaver, District Planner (telephone: 705-773-4231; e-mail: dorothy.shaver@ontario.ca).

Sincerely,

Ian Duggan

for Andy Heerschap
District Manager
Parry Sound District

cc. Jim Beal, Renewable Energy Provincial Field Program Coordinator, Regional Operations Div'n, MNR;
Rebecca Dixon, Southern Region Planning Unit, MNR;
Narren Santos, Environmental Assessment and Approvals Branch, MOE

Appendix P

Letter of Confirmation – Ontario Ministry of Tourism and Culture

Ministry of Tourism and Culture

Culture Programs Unit
Programs and Services Branch
Culture Division
435 S. James St., Suite 334
Thunder Bay, ON P7E 6S7
Tel.: 807 475-1638
Fax: 807 475-1297

Ministère du Tourisme et de la Culture

Unité des programmes culturels
Direction des programmes et des services
Division de culture
Bureau 334, 435 rue James sud
Thunder Bay, ON P7E 6S7
Tél.: 807 475-1638
Téléc.: 807 475-1297

Ontario

November 1, 2010

Kimberley Arnold
Hatch Ltd.
4342 Queen Street, Suite 500
Niagara Falls, ON L2E 7J7

RE: Burk's Falls East Solar Project

Location: Lots 13-14, Concession 6, Armour Township, District of Parry Sound

FIT #: F164P1F

MTC File #: HD00530

Dear Ms Arnold,

This letter constitutes the Ministry of Tourism and Culture's written comments as required by s. 22(3)(a) of O. Reg. 359/09 under the *Environmental Protection Act* regarding archaeological assessments undertaken for the above project.

Based on the information contained in the report you have submitted for this project, the Ministry believes the archaeological assessment complies with the *Ontario Heritage Act*'s licensing requirements, including the licence terms and conditions and the Ministry's 1993 Archaeological Assessment Technical Guidelines. Please note that the Ministry makes no representation or warranty as to the completeness, accuracy or quality of the report.*

The report recommends the following:

- "Over the course of the Stage 2 archaeological assessment, no materials with significant cultural heritage value or interest were noted. Accordingly, **Archaeological Research Associates Ltd.** feels that no further archaeological study of the area would be productive. It is recommended that the project be released from further heritage concerns. A **Letter of Concurrence** with these recommendations is requested."

The Ministry is satisfied with these recommendations.

This letter does not waive any requirements which you may have under the *Ontario Heritage Act*. A separate letter addressing archaeological licensing obligations under the Act will be sent to the archaeologist who completed the assessment and will be copied to you.

This letter does not constitute approval of the renewable energy project. Approvals of the project may be required under other statutes and regulations. It is your responsibility to obtain any necessary approvals or licences.

Please feel free to contact me if you have questions or require additional information.

Sincerely,

Paige Campbell
Archaeology Review Officer
paige.campbell@ontario.ca

cc. Archaeological Research Associates Ltd.
Shari Prowse, ARO, GEA/REA Coordinator
Tom Hockin, Northland Power

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[*] In no way will the Ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the report or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.