

**FrontCounterBC Kamloops
441 Columbia Street
Kamloops, BC
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Date: August 13, 2014

Investigation Plan: General Commercial (Solar Energy) – Application for Investigative Licence

Site name: Brenda Mine Solar

Applicant: 0887581 B.C. Ltd.

Section A – Project Overview

This Application for a General Commercial Licence is for the purpose of enabling investigation of the solar resource within the Licence area in order to evaluate the potential for the future development of a solar energy project.

A Clean Energy Investigative Licence for the purposes of investigating solar resource does not currently exist in British Columbia which is the reason that this Application is being made as a General Commercial Licence. It is assumed that the term and due diligence requirements will be equivalent to the Investigative Licence for Wind Power.

The proposed Brenda Mine Licence area is in the Okanagan Region of British Columbia on map tile 82E081 (BCGS 20k). The location of the Licence area is indicated in the attached mapping and shapefiles provided as part of the Application. The Licence area has been checked for potential conflicts using the iMap2.0 tool, the ILRR Map Inquiry tool, and the FrontcounterBC Discovery tool. The Licence area is 213 hectares and comprises unencumbered Crown land (there is a small overlap with a tenure purposed for “Miscellaneous Land Uses” held by FLNRO which is not anticipated to be in conflict – please advise if any amendments to the Licence area are required).

The Brenda Mine Solar energy project has been selected specifically for submission into BC Hydro’s Standing Offer Program, which offers guaranteed prices to clean energy projects under 15 megawatts. The Brenda Mine Solar energy project has several key advantages: it is located on brownfield terrain that has previously been disrupted by mining activities, is in close proximity to distribution inter-tie, is in non-complex terrain with low construction costs, has been sensitively sited to eliminate visual constraints, has no nearby dwellings, and has been pre-screened for environmental and technical constraints. The end result is a clean energy project that can be brought quickly to market with low downside risk, low uncertainty, and utilizing brownfield land that would otherwise have limited economic value.

The primary activity during the investigative phase is the collection and analysis of on-site solar irradiance data. The only infrastructure to be installed on-site will be monitoring equipment for the purposes of solar irradiance data collection. This equipment may include a pyranometer, battery bank, and small solar panel for charging. The installation of the solar irradiance monitoring equipment is planned to begin after the Licence is finalized, aiming for January 2015. This equipment will cause no site disturbance whatsoever and will not be anchored to the ground. The site is covered with grass and no site clearing will be required. It is most likely that only a single monitoring location near the centroid of the

anticipated project layout will be required as the terrain is non-complex (the old Brenda Mine tailings dam) and the project is relatively small-scale. The Brenda Mine area was selected in part because it is a brownfield site caused by historical mining activity. Impacts on waterways, wildlife, or archaeological sites are not anticipated.

The following activities will be initiated to help assess the viability of the site:

- a) Installation of a single pyranometer (solar irradiance measurement device), battery and solar panel for charging –
The purpose of this monitoring equipment is the measurement of solar irradiance.
- b) Geology – A physical assessment of the Investigative Licence area may be performed to determine the suitability of the ground to support the installation of solar panel arrays.
- c) Stakeholder Involvement – This will include initial engagement with government agencies, Glencore PLC (operator of Brenda Mine), consultation with First Nations, community groups, and discussions with other relevant stakeholders. First Nations and community group stakeholders will be identified in consultation with FrontCounter BC and the Ministry of Forest Lands and Natural Resources. Detailed screening for additional stakeholders will be undertaken with the goal of engaging with all stakeholders as early as possible in the project development timeline. Initial engagement with all stakeholders will begin as early as possible in the hopes of identifying issues early on and of building strong and mutually beneficial relationships and partnerships. Discussions with FLNRO will be conducted in order to ensure that all relevant stakeholders have been identified and that an engagement framework is agreed upon. A consultation log spreadsheet will be maintained.
- d) Site Access – Site access will be via existing forestry and mining roads. The site is located less than 1 km of highway 97C. Existing access roads will not be modified. No tree cutting or surface disturbance will take place within the Licence area.
- e) Archaeology - The site can be reviewed for Archaeological significance at the request of the identified First Nations or FLNRO, however, as the site consists entirely of a brownfield tailing dam it is unlikely that the area will hold any archaeological significance. It will be determined if the site will need a review for Archaeological significance as part of the early stage consultation with the identified First Nations as well as FLNRO. Once the project solar array layout has been drafted it will be shared with all interested First Nations and FLNRO. Archaeology consultants will be hired based on the recommendations of the affected First Nations and FLNRO.
- f) Water Courses and Fish Habitat – A physical review of the watercourses and fish habitat within the site area will be undertaken. Based on a review of aerial photography and TRIM base mapping there appears to be no stream or wetlands that cross the site. As a result no impacts to watercourses or wetlands are anticipated. As part of the development plan commitments, a thorough review of any affected watercourses will be undertaken by certified biologists/hydrologists. First Nations will be consulted in detail regarding any watercourse assessments, potential impacts from project construction, and in developing mitigation measures for any potential impacts. All timing restrictions with respect to construction will be followed as indicated by the Wildlife Act. Required setbacks to watercourses will be adhered to in all cases. No negative impacts to fish or the aquatic environment are

anticipated during the investigative or project construction phases. Any activity concerning fish habitat will follow all guidelines of the provincial Fish Protection Act and federal Fisheries Act.

- g) *Bird Species and Habitat* – Bird species and habitat will be reviewed within the site area. Specialized consultants will be engaged to aid in the review. Comments specific to the Application Area as provided by Ecosystems (MFLNRO) will be used to help guide what bird species and habitat may be reviewed. Initial species have not yet been identified by Ecosystems. Best management practices as recommended by Ecosystems will be implemented to minimize any adverse effects on the listed species during the investigative phase, including complete adherence to all relevant provincial/federal enactments including Section 34 of the provincial Wildlife Act and the Water Act. A specialized consultant may be engaged to aid in the review of bird species and habitat based on the request of FLNRO, consultation with First Nations, the requirements of the Species at Risk Act (SARA), the Migratory Birds Convention Act, and the commitments made in the Project Development Plan. If required, a complete mitigation plan addressing any possible impacts will be developed in consultation with FLNRO and local First Nations.

Section B – Maps of Area

Please refer to the Application attachments for the General Location Map and Detailed Site Map.

Section C – Investigative Schedule

Activity	Description of Activity	Time Period	Potential Impact
Installation of monitoring equipment including a pyranometer, battery bank, and single solar panel for charging.	Place the monitoring equipment within the licence area. This equipment will be mounted on a stand with a footprint area of less than 4 square meters. Only existing on-site roads will be used to access the site. The equipment will be installed on previously disturbed brownfield land. No site disturbance is anticipated due to this activity. This equipment will cause no site disturbance whatsoever and will not be anchored to the ground. The site is grassed and no site clearing will be	Aiming for initial installation January 2015.	No impacts anticipated.

	required.		
Bird monitoring activities	Will be undertaken as necessary in consultation with FLNRO. May involve on-site observations by bird expert consultants.	Summer 2015, possibly through to end of licence period.	No impacts anticipated. Best management practices as recommended by Ecosystems will be implemented to minimize any adverse effects on the listed species during the investigative phase, including complete adherence to all relevant provincial/federal enactments including Section 34 of the provincial Wildlife Act and the Water Act.
Water Courses and Fish Habitat	A physical review of the watercourses and fish habitat within the site area may be undertaken. As part of the Development Plan commitments, a thorough review of any affected watercourses and fish habitat would be undertaken by certified biologists/hydrologists if required.	Summer 2015, possibly through to end of licence period.	No streams or wetlands are expected to exist on the project site. Required setbacks to watercourses will be adhered to in all cases if streams/wetlands are identified. No negative impacts to fish or the aquatic environment are anticipated during the investigative phase.
Geotechnical work	A physical assessment of the Licence area may be performed by an expert consultant to determine the suitability of the ground to support future solar panel array installation.	Spring 2015 – Spring 2017	No impacts anticipated.
Survey Work	Some preliminary survey work may be required to determine preferred access routes for future solar panel delivery and foundation design. Survey work will use temporary surface based tripods supporting survey equipment. No site disturbance will be required.	Summer 2015, possibly through to end of investigative licence period.	No impacts anticipated.
Archaeology Studies	Archaeology consultants may	Spring 2015, possibly through	No impacts anticipated.

	be engaged at the request of the identified First Nations with respect to any land area that may be disturbed as a result of the future installation of solar panel arrays. Archaeology consultants will be hired based on the recommendations of the affected First Nations and FLNRO.	to end of investigative licence period.	
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The success of the Benda Mine Solar energy project will have strong economic benefits for both the local First Nations and the local community, and will help contribute to our vision of the future where renewable energy makes up the vast majority of Canada's total energy consumption. Solar energy coupled with the existing supply of large hydro-electricity in British Columbia can help ensure that no new carbon emitting generating sources and no nuclear facilities are developed in our Province.

If you require any additional information please contact Mark Green at 778-829-7742 or mark.bc8@gmail.com

Yours Sincerely,



Mark Green

Director of Development