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November 10, 2014

Front Counter BC
Ministry of Natural Resource Operations
441 Columbia Street
Kamloops BC V2C 2T3

Reference: Investigation Plan for Wind Power Investigative License near Arrowstone Mtn.

Section A – Project Overview

The purpose of the Investigative Permit sought is to undertake a feasibility study on the viability of a wind power project on the site. The site under consideration is expected to have potential for renewable energy generation in the area. The location of the project would be on the Crown land north of Cache Creek, BC. This area lies within the Thomson-Nicola Regional District.

The size of a potential project on site will depend on wind resource, developable areas, and transmission line capacities. The anticipated project size would be approximately 15 MW (e.g. 5 x 3.0 MW turbines). Each turbine would have a tower height of approximately 100 metres and a blade radius of approximately 55 metres, giving a total height of approximately 155 metres to the blade tip.

The project would also include access roads to each turbine, a substation, and overhead and/or underground electrical lines to an anticipated point of interconnection along Highway 97C. The proposed investigative area is approximately 930 ha though only a portion of this would be used for actual development should a wind farm prove viable. As a general estimate each turbine would occupy 1 ha of land with new roads and electrical lines requiring a cleared corridor of roughly 5-15 m in width.

Construction and commissioning of the project would take approximately two years, and could potentially begin in spring 2019, although the actual construction date is dependent on the successful negotiation of an electricity purchase agreement, completion of environmental assessment, and public consultation requirements for the project.

Section B – Project Description

When the Investigative License is obtained, further investigations include wind resource studies, public, First Nations, and agency dialogues, wildlife and environmental surveys, and interconnection studies with BC Hydro. After site permitting one meteorological tower will be installed to assess and verify wind speeds and directions over the course of one or more years. An approximate timeline of activities is presented in **Table 1** however the actual timing of activities is dependent on a number of factors including:

- permit approval timelines,
- government energy policy,
- BC Hydro procurement programs,

- First Nation dialogue,
- the results of field and desktop studies, and
- project financing.

As such, the timeline in **Table 1** is preliminary and subject to change and a future permit renewal may be necessary to complete the project. Alternatively, some of these activities may be completed in parallel in order to realize a wind farm at an earlier date.

Table 1: Preliminary schedule of activities

Activity	Approximate Start Date
Site permitting	Q4-2014
First Nations discussions	Q3-2015
Met tower installation	Q2-2016
Environmental & archeological studies	Q2-2017
Interconnection studies	Q2-2017
Geotechnical studies, engineering design, etc.	Q3-2018
Construction and Commissioning	Q2-2019
Operation	2019-2020

One 60-80 m tall meteorological tower will be installed within one of the sites noted in **Table 2**. As much as possible, the meteorological tower sites have been located in anticipated cleared areas away from lakes and streams to minimize potential environmental impacts. In the event that previously unknown roads, streams, obstacles or safety concerns are noted during installation, the meteorological tower may be shifted slightly or moved to one of the other approved areas where none of these issues are noted. The actual physical footprint of the meteorological tower is small. Installation of the meteorological tower will involve excavation of up to fifteen 1 m x 1m x 1m holes at anchor locations and clearing of any brushing or small regrowth on site at anchor locations, and in a narrow strip where tower and guy lines need to be laid on the ground during construction (roughly 2-3 m wide, 60 m in length). Remote sensing equipment, which detects wind speeds and directions using on sonic or light waves, may be deployed in addition to, or in place of, the meteorological tower.

Should any mature trees (DBH > 12.5 cm) need to be cut a License to Cut will be acquired. In order to do so, a Registered Professional Forester would be hired to assess the preferred site(s) prior to installation of the meteorological tower. At present all proposed meteorological sites are located in existing or proposed cut blocks.

Table 2: Potential meteorological tower sites

Site*	UTM Zone 10, NAD 83	
	X	Y
1	617870	5641654
2	617886	5640945
3	618431	5640424
4	618300	5640151

* Sites are numbered 1 – 4 from north to south. Please note that each potential site above is square in shape and centred around the coordinates noted.

Existing forestry roads will be used to access the site for meteorological campaign and environmental assessments to the greatest extent possible. All potential meteorological sites are located adjacent to existing roads however access to the centre of the site by pickup truck and/or excavator may be

required for installation. No new or permanent roads or trails will be constructed for this purpose though some small degree of off-road travel may be required.

A preliminary site visit will be made prior to installation of the meteorological tower in order to determine the most suitable location for installation. Each potential installation site will be visited and given consideration based on the following factors:

- 1) Exposure
- 2) Elevation
- 3) Site preparation requirements including:
 - a. Terrain
 - b. Vegetation
 - c. Nearby obstacles (natural and anthropogenic)
 - d. Tree density, heights, and size
- 4) Proximity to existing roadways/infrastructure

Potential conflicts and constraints within the project area have been determined in advance of the application to FrontCounter BC. Proposed mitigation measures for existing land tenures overlapping with the proposed meteorological tower sites are noted in **Table 3** below. Additional conflicts by The Ministry of Forests, Lands, and Natural Resource Operations will be addressed as necessary.

Table 3: Overlapping tenures and mitigation measures

Location of Conflict	Tenure	Mitigation Measure
All Sites	Trapline – Trapline Area Identifier TR0330T011	Maintain existing vegetation to the extent possible; minimize on-site activities to reduce wildlife disturbance
Site 1-4	Range Tenure – RAN077368	Maintain existing vegetation to the extent possible, maintain existing access to the site

This Investigative Plan provides an overview of the purpose, schedule and anticipated impacts of the Arrowstone Mtn Wind Project. Ultimately, the development of the Arrowstone Mtn Wind Project will be based on on-site findings, feedback from First Nations and other stakeholders, the ability to enter into a long-term Energy Purchase Agreement with BC Hydro, and project financing considerations. For further information please contact MKI.

Sincerely,

0991538 BC Ltd.



Martin Ince, P. Eng, President