Investigative Plan

Please describe the details of your project to the extent known. Consult the guidance document for further information on regulatory requirements, rational for why the information is required, and how to find required information.

The scope and the timing for response will be provided. If information is requested and not received, it may result in the disallowance of the application.

Information on these topics may be required as part of the application processing and if further detail is necessary that is not part of the application and management plan received, you will be contacted and requested to provide additional information.

1.0 Background

1.1 Project Overview

Describe the potential project, including proposed work for the investigative stage and any phased development details:

The purpose of this Investigative Plan is to outline the activities planned by Sunfield Energy Inc. (the Proponent) to undertake a solar energy assessment and feasibility study for a potential utility-scale Solar Photovoltaic (PV) clean energy project located within the boundaries of the Plateau Solar Investigative License under application. The activities will be carried out by the Proponent during the term of a requested 5-year Investigative Licence (IL).

The Application and any subsequent request for replacement for the IL on the area noted in the application is for the sole purpose of investigating the viability of site solar resources and other technical, engineering, environmental, economic and social studies required to determine the feasibility of a possible future Solar PV and Storage clean energy project within the IL boundaries of the proposed Plateau Solar Project.

The BC Clean Energy Act specifies at least 93% of the electricity generated in British Columbia must come from clean or renewable resources. 'Clean or renewable resources' as defined in Section 1 of the Clean Energy Act and the Clean or Renewable Resources Regulation includes solar energy as an eligible resource.

The proposed Plateau Solar Project investigative area is situated on elevated terrain generally adjacent Highway 97 in the Cariboo Regional District approximately 34km North of Williams Lake, and about 45 km south of Quesnel. Long term satellite observation indicates the study area receives solar irradiance values similar to southern Canada and Northern US regions where solar power is in active development. The investigative area provides multiple potential interconnection opportunities to advance electrification and enable further industrial development in the region.

During the coming term of the IL, the Proponent will install a compact solar energy and climate monitoring station on the tenure. The solar monitoring station is a short tubular steel post of approximately 6 inches in diameter and 3 meters in height with a top- mounted solar sensor. The solar sensor will record and relay unimpeded solar radiation measurements. The steel post may also support other climatic sensors on short boom arms. The solar monitoring instrument will be maintained for a minimum of one year. Solar and climatic data from the monitoring station will be collected, analyzed and correlated with long-term satellite and regional climate data.

Technical, engineering and economic feasibility studies related to the study area will also be undertaken during the term of the IL. These non-ground-disturbance feasibility investigations may include preliminary terrain, geotechnical, engineering and environmental screening studies. Consultations will also be held with the Cariboo Regional District, First Nations, grazing tenure holders and other stakeholders. Other than installation of the solar monitoring station at the location set out in this application, investigative work shall not disturb the land and shall avoid riparian areas, wetlands, drainage slopes and water bodies.

The total investigative area under application consists of two related areas truncated by Highway 97 and which total in aggregate area about 3,079 ha. The northern solar study site of approximately 1,406 ha is situated west of Rimrock Lake. The southern solar study site of approximately 1,673 ha is located to the west of McLeese Lake. The study area has BC Hydro primary transmission lines running along the eastern boundary. Investigative studies and consultations to be carried out during the term of the investigative tenure with First Nations and stakeholders will be used to inform a substantial reduction in the investigative area prior to any future permitting or tenure applications for any solar project which may be proposed for this location. The final reduced land area and any proposed project's generating capacity would be documented in a future Development Plan. The future Development Plan and any related future permitting applications would be submitted to FLNRO and other government and regulatory agencies should any future clean energy project appear feasible following the investigative study at this location. All equipment shall be removed prior to the end of the tenure term unless the proponent submits and is granted a replacement application.

If a clean energy Solar PV project is eventually constructed in the investigative area as a result of feasibility studies undertaken within the boundaries of the investigative tenure, the Solar Project may be approximately 1 MW(Megawatt) and up to 50 MW (Megawatts) of total generating capacity. These respective capacities could result in installation of ground mounted solar photovoltaic (PV) panel arrays, inverters, energy storage components, feeder power lines and substation components over a maximum estimated area of approximately 10 Ha to 150 Ha respectively. The estimated Cariboo Regional District investment potential of the new clean energy infrastructure would be approximately $3 million to $100 million respectively, depending on any final project generating capacity. The project if constructed to the two specified capacities would be expected to generate enough low cost clean GHG emissions-free power to support regional industrial expansion and investment, or supply approximately 200 to 10,000 BC homes respectively. Any solar project, if built, may also serve as a centre of excellence for regional Solar Power knowledge, training and education for the greater community.

The Proponent estimates that less than 20% of the total investigative area under study may be suitable for solar development due to land use constraints and conflicts - including potential constraints related to topography, engineering, environmental, economic feasibility, land use, social issues, traditional use and other considerations.

The actual potential developable area and optimum boundaries of any potential future project will be determined in the coming investigative term and its feasibility study. Any proposal for an actual future project and will be extensively detailed in any future Development Plan and potential related project Permitting Applications submitted to provincial and regional approving authorities for review in the event future development is warranted.

Potential future permit applications will be based on investigative work undertaken during the coming term, including solar technical, engineering, economic, interconnection and environmental studies. The proponent will also carry out consultations and discussions with First Nations, grazing licence holders, the Cariboo Regional District, Thompson Rivers University, local industry and other area stakeholders and land users.

The proposed location of the two solar monitoring and climate stations to be installed in each of the two IL study areas is shown on the accompanying Detailed Site Maps. Prior to any changes being made with or to the improvements we will notify the Authorizing Agency as soon as the information is known by us to maintain the tenure in good standing.

1.2 Current Zoning / Land Use

Are there any management plans, zoning or use restrictions in place that limit or preclude your proposed use of the land?

- ○ Yes
- ◉ No

1.3 Confirmation of Safety Plan

Your Project must meet the Occupational Health and Safety (OHS) criteria set out by WorkSafe BC. Does your Project meet these criteria?

- ◉ Yes
- ○ No

1.4 First Nations Consultation

Describe any contact you may have had, including the name of the First Nation(s) and representatives contacted:

The proposed Plateau Solar Investigative Licence study area is located within the traditional territories of First Nations including the Soda Creek Indian Band – Xatsull First Nation. The proponent recognizes there are existing First Nation rights and areas of First Nations community interest and traditional use that must be considered in respect to any proposed project and use of the land.

The proponent will consult with Front Counter to obtain identification of all First Nations whose rights or interests may be impacted by the proposed project. The proponent will then take appropriate steps to inform the First Nations of the investigative study and discuss any potential project that may arise from the study. The proponent will also initiate further consultations and discussions as might be considered appropriate by the First Nations.

2.0 Location

2.1 Description

Provide a general description of the location of any proposed activities shown on the accompanying Detailed Site Map:

The location of the required two solar monitoring stations is shown on the respective Detailed Site Maps. The two locations to be utilized for the installation of the solar monitoring and climate stations are currently free of vegetation and well exposed to the solar horizon. The locations provide the instruments an unimpeded window for solar and climate observation and data acquisition. The solar monitoring stations will be protected from grazing animals by installation of a portable interlocking galvanized metal stock fence enclosure of approximately 4x4 meters. Prior to any changes being made with or to improvements we will notify the Authorizing Agency as soon as the information is known by us to maintain the tenure in good standing. All materials will be removed from the tenure at completion of the term unless a further term is requested and authorized.

2.2 Location Justification

Provide your reasons/justification of the need for this type of project at this location:

The BC Clean Energy Act specifies at least 93% of the electricity generated in British Columbia must come from clean or renewable resources. 'Clean or renewable resources' as defined in Section 1 of the Clean Energy Act and the Clean or Renewable Resources Regulation includes Solar Energy as an eligible resource. Preliminary studies and new data from long term satellite observation indicates the general location of the investigative area may be exposed to commercially viable levels of solar irradiance. The location is also in proximity to multiple opportunities for transmission interconnection including substations and line taps. The project, if feasible and permitted in future, will help combat climate change by enabling emissions free solar power to help serve electrification and the significant and varied industrial electrical loads in the Cariboo region. The project in its location also provides a practical opportunity for new solar jobs and skills transfer to local First Nations and regional communities. It also provides leading edge opportunities for academic and technical training, education and research projects in the new clean solar technology.

Solar PV (photovoltaic) energy is now the fastest growing clean energy sector in North America and worldwide. Utility scale Solar PV projects have been demonstrated economic on select BC solar sites,. Costs of installing utility Solar PV systems are falling year-on-year. Recent studies have shown BC solar projects can be economically developed in select locations and costs are expected to fall further in future.

Solar PV projects have many benefits including no GHG emissions, no sound emissions, low visual effects, few environmental impacts, and high social acceptability. Further, BC utility scale solar projects may be built in smaller capacity sizes than other generation projects - due to solar's modular nature and lower infrastructure costs.

The proposed Plateau Solar Project investigative area is located adjacent multiple interconnection opportunities. The study area and any potential development area is generally elevated approximately 300m or greater above the surrounding terrains and not visible from any surrounding occupied lands or highway. Long term satellite observation indicates the study areas have solar irradiance values similar to the best of Canada and the Northern US regions where low cost solar energy is now in development.

The general topography of the investigative area appears suitable for the potential installation of collection arrays of solar modules required to generate the clean solar energy. Preliminary solar modeling has demonstrated a solar project at this location may be feasible, subject to confirmation by ground-based solar observation and data collection and other feasibility studies as set out in this plan. Solar observation and the collection of ground based solar data will be augmented by other investigative work to be carried out by the Proponent, including non-disturbance engineering, economic, environmental investigative studies, as well as consultation and collaboration with First Nations and area stakeholders. The investigative area has been impacted by previous logging cut blocks, pipelines, livestock grazing and other disturbance. Access is available by existing roads and no new road building is required.

3.0 Infrastructure

3.1 Improvements

Describe any improvements to existing infrastructure, as well as any planned construction or installations:

During the coming term of the IL, the Proponent will install two compact solar energy and climate monitoring stations on the tenure. The solar monitoring and climate stations are a short tubular steel post of approximately 6 inches in diameter and 3 meters in height, which supports top mounted redundant solar sensors and arms which carry other climate sensing instruments. The post may be set in a hand-dug post hole of 6 in diameter, or mounted on a metal ground screw approximately 1m deep, and will be self supporting. The solar and climate sensors will record and relay unimpeded solar radiation and other climate data and measurements.

The solar and climate monitoring instruments will be maintained on site for a minimum of one year. To avoid shading of the sensors, the dimensions of the monitoring station site shall be about 0.2 hectares. The solar monitoring station locations are marked on Detailed Site Maps attached to this application and are currently free of vegetation.

The monitoring stations may be fenced with maximum 2m high stock fence or prefabricated metal stock fence panels for security and protection from grazing animals. The fenced perimeter shall not exceed 4m by 4m (16 sq/m) , leaving the balance of the tenure area available for grazing and other activities.

3.2 Access

How are you planning to provide access to the site during the investigative phase?

During the investigative phase, access into the north study area will be from Rimrock Rd. off Gibralter Mine Rd. and Beaver Lake Rd, which collectively link the study area to Highway 97 north of McLeese Lake. Access to the south study area will be by way of Duckworth FSR off Soda Creek Townsite Rd., which connects to Highway 97 south of McLeese Lake. Multiple resource roads pass through both IL study areas, providing the access required to undertake the feasibility studies.

3.3 Water Use

Identify water requirements and sources for the Investigative Phase. Include any agreements outside of *Water Act* permits identified above, such as Municipal water supply.

No WaterRequired.

4.0 Schedule

4.1 InvestigativeSchedule

Please complete the table showing what types of activities are proposed, which season(s) they will be conducted, the potential impacts of the activity and any mitigation or management of potential impacts. Please reference reduced risk fish windows as required by DFO:

Activity	Brief Description of Activity	Season	Potential Impact	Mitigation / management of potential impact
Install Solar Monitoring Station	Install temporarySolar Monitoring sensors on site.	Spring or Fall 2020	Post or ground screw hole 6 inches diameter x 1 meter deep.	Solar monitoring station removed.Post or ground screw removed and hole refilled.
Install stock fencing at solar monitoring site to protect instruments from grazing animals.	Install approximate 2 meter high stock fence around solar monitoring instrument. Fence perimeter not to exceed 4 metersx 4 meters.	Spring or Fall 2020	None	Removal of stock fence at completion of test or prior to expiry of tenure.
Maintenance of Solar Monitoring Station	Site visit by technician	All seasons periodically as required to maintain integrity of sensors and data collection	None	None
Engagement with First Nations, local government and stakeholder representatives	Provide information about the investigative study and potential project.	All seasons ongoing as required or appropriate	None	None

Activity	Brief Description of Activity	Season	Potential Impact	Mitigation / management of potential impact
Site investigation including topographical and geophysical mapping	Site surveys and modeling to develop solar energy forecast and potential project mounting systems and layouts	Beginning 2020 and ongoing for specific tasking	None	None
Meetings and studies with local industry and BC Hydro in regards to potential acquisition and interconnections	Discussion of potential points of interconnection and power acquisition.	All seasons beginning 2020 and ongoing as system load demands and project cost become more certain	None	None
Facility design, financial plan, permitting plan	Desktop work and including possible site visits	All seasons beginning 2020 and ongoing as project costs and power yields become better understood	None	None
Discussions with BC Hydro on submitting the project for clean energy supply consideration	Possible site visit	All seasons beginning 2020 and ongoing as project costs and power yields become better understood	None	None

Add Field

5.0 Diligent Use

5.1 Evidence of On-going Diligent Use (For Replacements Only)

Review the investigative schedule information and table provided in your previously submitted Investigative Plan for this site, during the previous term of tenure. Provide a report on investigative work completed, incomplete or ongoing.

Activity	Brief Description of Activity	Status (e.g. Complete, incomplete, ongoing	Comments / Milestones

Add Field

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